IV. CORPORATIONS

Over the years I have been involved with organizing and as an officer of several corporations. This work is still going on. These corporations are described below.

A. Nuclear Operators, Inc.

Early in 1962 I received a letter from James R. Herwig asking me to join a proposed company to operate reactors for research and other organizations. Apparently Joe Thie had suggested I might be interested. I answered that I thought this might be a good idea but nevertheless I said "No". I suggested the name of Nuclear Operators, Inc. Herwig was at Elk River, Minnesota and a part of the group put together to act as the startup team for the Elk River reactor.

Later we did set up such a company. Early in June I visited a Mr. Pistner in Minneapolis. He was interested and became a member as did Frederick Beierle, Robert Bailey, Lowell Doxstad, James Herwig, Oadis Jenkins, Charles Richards, and Edward Sanford. At a meeting of the stockholders in Minneapolis I was promptly elected President.

We prepared a brochure and Beierle and I separately visited several organizations that might be interested. We both spent quite a bit of time on sales work. In particular, Beierle visited a group proposing a test reactor at Sandusky, who was very interested in our operating their reactor. We both talked to the Dairyland officials. However, when we got to considering contracts, we never could work things out as the owners had to keep responsibility and yet we wanted to operate the reactors. So we never could agree on who would be responsible in case of a serious accident.

Finally, we gave up and the organization has been disbanded.

B. Indiana Research and Development, Inc.

Later in 1962 and early 1963 I spent considerable time discussing a proposed radioactive waste disposal company with various people. During this same period I decided a shell company might be useful as an aid in starting companies in Indiana. My idea was that such a company might aid in development of ideas for new products suggested

by research at Purdue University, Wabash College, University of Indiana, etc.

I discussed the idea with Dr. Philip Powers of Purdue and Dean Benjamin Rogge of Wabash College. Both agreed and both agreed to act as Directors. So such a company was incorporated 19 February 1963 as Indiana Research and Development, Inc. The following is quoted from the Prospectus dated 8 May 1963:

"Objectives:

The objectives of the corporation will be extremely broad since it will act as a service organization to individuals, industries, and governmental organizations, primarily in Indiana and the Midwest. The specific objectives are:

a. To offer consulting services in all branches and in all phases of technology and business administration to individuals, industries, and governmental organizations.

b. To conduct basic research in various fields as funds become available through profit in consulting and development programs, and from other sources.

c. To conduct development work and prepare reports on technological and other subjects for individuals, industries, and governmental organizations.

d. To offer design, research, and development, manufacture of pilot models, and testing services for all types of devices, including but not limited to instruments, machines, tools, etc.

e. To conduct routine and referee testing for various industries.

f. To prepare marketing, administrative, and economic reports for various individuals and industries."

We set the corporation up as an Indiana corporation and Winnie and I put in enough money to start it. Powers, Dean Rogge, and I were Directors with the following officers:

McLain - President
Powers - Vice President
Rogge - Secretary-Treasurer

I proceeded to talk to a number of people in Indiana, particularly at Purdue and the University of Indiana. Many seemed interested but no one did any work. So the idea for the corporation failed. However, as the fact that the corporation existed became known, we have been able to use the corporation as a basis for discussions and start of:

California Nuclear, Inc.
Bio-Services, Inc.
Mediatech, Inc.

All these corporations are discussed in this chapter. We still have the corporation as an active company. Winifred has always been the only shareholder.

C. California Nuclear, Inc.

On 8 August 1962 Frederick Beierle called me and asked if I would be willing to join him and Mr. William D. Johnson in organizing a radioactive waste disposal company. I told Fred that I would be interested as Walt Rodger and I had planned to do so but we broke up without actually getting started when Walt left to go to Nuclear Fuels Services.

Fred explained that Mr. William Johnson was employed by Nuclear Engineering Company at Walnut Creek, California, and that he was interested in leaving Nuclear Engineering and joining another company because he did not like what Nuclear Engineering was doing. At that time Nuclear Engineering operated radioactive waste burial sites in Nevada and Kentucky and were licensed to dispose of materials at sea. Bill stated that he would drop his connection with Nuclear Engineering and come with us under almost any type of financial arrangement. Bill also stated that he was one of the few technical people in his firm and that he would like to work in a radioactive waste disposal company in which the management personnel were acquainted with radioactive materials, critical masses, the handling of radioactive materials, and decontamination.

I never knew what happened that caused Bill Johnson to leave Nuclear Engineering suddenly. Part of it had to do with Bill's brother who was also working for Nuclear Engineering and who was killed later in an automobile accident in Nevada. As I understood from Bill, his brother had been Manager of the Nevada waste burial site.

He had been pushed by the President of Nuclear Engineering, a Mr. Bruen Hufft, and was nervous and so, according to Bill, the accident occurred. At least Bill believed this even though Bill's brother was killed several months after our initial conversations. However, he was unhappy at the time of our initial conversations about California Nuclear.

Bill stated that Nuclear Engineering was doing a very haphazard job of handling the wastes. He stated he believed a competing company could become very successful.

Then, too, Bill's wife seemed to have had something to do with Bill's leaving Nuclear Engineering. Nuclear Engineering owned a small pleasure boat, and one time they had an evening party on San Francisco Bay. Anyway, Bill was invited to go. There were girls, etc. As I got the story, when Bill told his wife, Doris, about what went on, she informed him that he was not going back to work.

Then in September 1962 Winifred and I drove to California via Hanford to see what interest there was in Nuclear Operators and in a waste disposal company. There was actually little interest in Nuclear Operators, as indicated above. But we did have discussions with Frederick Beierle relative to a waste disposal company.

While on this trip I called on Dr. Alexander Grendon, Coordinator of Atomic Energy, State of California, Sacramento. Dr. Grendon stated that the Advisory Committee for the State of California had stated that a radioactive waste burial site was not needed in California for the present. Dr. Grendon then stated it was his opinion that the fact that the Committee had turned down the application of Nuclear Engineering was not sufficient reason for not submitting a request in the future. He indicated he would be willing to submit a well thought out proposal to the Committee.

Dr. Grendon also referred me to a Stanford University report that discussed burial sites in California and suggested several possible burial areas.

I also called on Dr. John S. Heslep, Chief, Radiological Health Department, Berkeley. He confirmed Dr. Grendon's statements.

It is of interest that both Dr. Grendon and Dr. Heslep did everything possible from that time on to help us.

1. Plans for Incorporation

At the meeting with Fred Beierle in September 1962,

I had told Fred that I believed that William Johnson should resign immediately from Nuclear Engineering where he was employed. This was necessary to avoid a conflict of interest as it would have been obvious that he would carry ideas and customers with him, and this might lead to legal arguments with Nuclear Engineering Company. So Bill had resigned and obtained a position as a Health Physicist with the operating contractor for the Nevada Nuclear Explosive Test Site at Mercury, Nevada.

On 9 February 1963 we had an organization meeting of Johnson, Beierle, and myself in the San Francisco area. This required a bit of travel. I had left Winnie at home in Lafayette and had been at Arvida at Aluminium Laboratories on 7 February. On the 8th I flew back to Chicago. We had just sold our Downers Grove house but we did have a bed and a few things there, so I stayed overnight on 8 February. The morning of the 9th I flew to San Francisco.

Frederick Beierle met me at the airport. Fred had gotten up at 0430 to drive from his home in Elk River to Minneapolis to get a plane to San Francisco. William and Doris Johnson had driven most of the night from Mercury, a distance of about 600 miles to meet with us. So my travel was the easiest of the three.

After a lunch we drove to Pleasanton together where Fred and I rented a room at the El Rancho Motel so we would have a place to talk. Fred and I planned to stay overnight. Since there were three men and one woman, the motel manager gave us the room farthest from the road. The motel had a good reputation and I had stayed there previously; so we were unprepared for our room. It was decrepit to say the best, but we decided to stay. So we pulled a table into the center of the room and proceeded to have the organization meeting of California Nuclear, Inc.

Previously I had prepared a "Prospectus for a Nuclear Service Company". At the meeting we suggested changes:

a. Nuclear Service Company cannot be used.

b. Both Beierle and Johnson agreed to join the new company. I agreed to prepare suitable contracts.

c. We agreed to the following financial arrangements:

(1) Incorporation, legal, license fees,

etc would be paid in full.

(2) Beierle's move from Elk River to the Concord, California area would be paid in full.

(3) Out of pocket expenses would be paid monthly ahead of salaries. This was to include Lafayette and Concord expenses.

(4) Salaries would be paid as follows: Johnson and Beierle, $650/month. These salaries were guaranteed for six months. If we had no work at the end of six months we would disband. Contracts with Johnson and Beierle would include $350/month salary liens at 6% interest, payable before dividends. McLain was to receive no salary but would receive salary liens at $150/day for time actually worked at 6% interest.

(5) Beierle would loan his truck at 13¢ per mile and cars would be loaned at 7¢ per mile.

d. The following tentative organization was agreed to:

President - McLain
Vice President - Beierle
Secretary-Treasurer - Johnson

e. It was agreed to proceed to organize, to obtain an operating license in California, and to operate for six months. If no contracts were obtained in six months we would disband and Beierle and Johnson would forfeit all salary over the $650/month and McLain would forfeit all salary.

f. Insurance for $1,000,000 would be obtained from Melia or NELIA.

g. We agreed to start operations as soon as possible.

After this meeting we went to Mrs. Johnson's folks home near Concord for a very excellent dinner. Then

we drove to Lewis Helgeson's, who lived near Pleasanton. Helgeson decided not to join us but agreed to act as a consultant. He suggested that we rent and insure a warehouse near Concord. It was also agreed to call the company California Nuclear, Inc. We then drove back to our sumptous El Rancho quarters, tired.

Johnson returned to Mercury. He had stated that he expected to be sent to Mississippi for work on a salt dome Plowshare test and then to Cincinnati for a time. (The Plowshare test was never conducted.) During the time spent at Mercury Bill was qualified as an Official Inspector of radioactive areas but I have forgotten the official name of his license.

The next day Fred and I visited Charles Richards and on the following day we visited Aerojet and the state authorities at Berkeley. Dr. Jaffe of Aerojet was interested in both cold waste and hot waste recovery. This, of course, refers to uranium residues in fuel manufacture and the recovery of the irradiated fuels. Dr. Jaffe said he would discuss these things with Mr. Linenberger, his manager. Of course, this was not our problem.

We then went to Berkeley and talked to Dr. Grendon and Dr. Heslep. They suggested that as soon as we had incorporated and applied for the necessary Atomic Energy Commission licenses that we write them for a license to collect and store radioactive wastes in California.

Dr. Grendon stated that they had two applications for opening solid radioactive burial sites in the state. Apparently these were California Salvage and Nuclear Engineering, as both had permits to collect, store, and transport radioactive wastes in the state and to discharge such wastes at sea. He agreed to bring up the subject with the Attorney General, his Advisory Committee, and the State Health Board. He also stated he would discuss the subject with Atomics International, Aerojet General, General Atomics, General Electric, Los Angeles Light and Power, and Pacific Gas and Electric companies. We agreed to prepare criteria for such a burial ground. They both were interested in any ideas about a fuels reprocessing plant.

Later I contacted both Phillips Petroleum Company and Dow Chemical Company but neither were interested in the California company's proposal of a nuclear fuels reprocessing plant in California. Subsequently other companies became interested and I understand at least one has submitted a proposal. This, however, is outside of the main story told here. It is also still very much Business Confidential as

no announcement has been made by either the company or the State of California.

Soon after my return from California I sent a Progress Report to all those persons who were involved in Nuclear Operators. We continued to send Progress Reports to all shareholders all during the life of California Nuclear, Inc. While we received few comments, those comments about the reports we did receive were all favorable.

Subsequently we received comments mostly recommending that we not do anything about reprocessing. Actually we began waste disposal and decontamination work in 1963, as discussed below.

Very brief background data are presented below for Beierle and Johnson.

Frederick P. Beierle. Fred, I believe, had some college work when he started to work at Hanford in 1954. I believe his home was near Yakima. He soon became a Reactor Operator at Hanford and worked as such for three years. He then became a Reactor Technician on reactors and qualified as a Radiation Monitor. He moved to California where he worked as an Operator on the Vallicitos Reactor. Later he was hired at Elk River as Shift Supervisor of Reactor Operations. During this time he took courses at the University of Minnesota and, I believe, nearly completed work for a degree. Later he was hired as a Test Engineer for the Sodium Cooled Reactor at Hallam, Nebraska.

When California Nuclear started we moved Fred and his family to California, then to Hanford, and later to Illinois as Area Manager. When Nuclear Engineering combined with California Nuclear, Fred returned to work near Yakima. Later he formed Chem-Nuclear, of which he was Assistant to the President. Then in September 1973 he joined Nuclear Management. But he took leave immediately to work for his brother in their irrigation equipment plant at Yakima. He has five children.

Fred is a very outgoing person and gets along very well with people. He is also a licensed truck driver.

William D. Johnson. William Johnson began work for Hanford Operations in 1950. He worked as a Chemical Process Operator for five years, Reactor Operator for about two years, and as a Radiation Monitor for three

years. Thus he became very familiar with radiation detection instruments and their use.

Later he worked for Nuclear Engineering. From 1959 to 1963 he was employed as a Supervisor and then later as Manager of Operations. He worked for California Nuclear from 1963 until 1968. I then lost track of him for a time. Later he worked for Chem-Nuclear and is now working again for Nuclear Engineering.

Bill is a very hard worker and is also able to get the best out of those who work for him. I have always regarded him very highly even though he did not agree with everything we did in California Nuclear. Bill is also a licensed truck driver.

2. Incorporation

The nuclear industry is perhaps the most regulated of all industries. What this means in practice is that more licenses are required, more inspections are made by government officials, and more reports are required. In addition, shipments of radioactive materials are controlled, all packages must be clearly marked, and vehicles are marked and are frequently inspected. Even minor infractions of the rules result in long letters of explanation and revised and improved controls and procedures. So prior to incorporation we made plans for obtaining various licenses and permits as well as $1,000,000 of liability insurance.

On 16 February 1963 I sent out a California Nuclear Progress Report. Since I had sent out a preliminary report, I called this one the Second Progress Report. It essentially reviewed the things reported above.

a. Legal Advice

During the past 10 to 12 years we have used members of several law firms in various parts of the country. These lawyers and their firms' names are listed below with discussions concerning the value of the different people. Some of the contacts were through negotiations with other companies and on different corporate boards. Great differences in apparent knowledge and value of the different men were apparent to us.

(1) William K. Bennett of Bennett, Boehning, and Poynter, Lafayette, Indiana.

When we moved to Lafayette, Indiana William Bennett lived next door to us. He represented the other Bennetts from whom we bought the house on South Ninth Street. We, as usual, had no lawyer representing us. But later we asked Bill to help us on other things. He did so and has continued to do so up to the present. Bill is not a "corporation lawyer" but rather real estate, divorces, etc. Nevertheless, we have continued to use him for many things and are friends. As discussed later, he helped us with California Nuclear many times. And I think he has enjoyed working with us. He is honest and frankly says when he cannot help. He reviews notes, mortgages, etc as well as helps with the negotiations at times. Bill is on a first name basis with our San Francisco lawyers, so he calls Bob Williams when he needs advice on corporate matters for us.

(2) Harold Turner of Ring, Turner, Ring and Wright, Walnut Creek, California.

On 23 February 1963 I sent a letter to Mr. Terrance Ring, a member of Ring, Turner, Ring and Wright, requesting that he act as our lawyer in California. He recommended Mr. Harold Turner, and we retained him as our representative for California Nuclear. Just why we chose the firm of Ring, Turner, Ring and Wright to represent us remains a bit of a mystery to me. Apparently the firm was highly recommended to Bill Johnson. Both he and Beierle were impressed when they called on Mr. Turner the first time. I also talked with him and I also was impressed. Retaining Mr. Turner was probably one of the most serious mistakes we made with California Nuclear.

It is difficult to analyze what happened. Mr. Turner certainly handled our legal matters so that it was several years before we discharged him but the time involved in getting any action and the prices charged were in toto out of all proportion to what they should have been. Further, we finally were led to believe that he continually informed Nuclear Engineering people of our plans. This is a serious charge and we can not prove it, but word got to Nuclear Engineering too early and too accurately to have been obtained through rumors. Mr. Turner always seemed to have valid excuses for the delays but now I believe most of these were deliberate and not real. Certainly other lawyers with whom we have worked have not come up with the troubles, delays, and costs that Mr. Turner did.

There are several references to Mr. Turner below. As noted above, I can only say we made a very serious

mistake in retaining him, and I class this action as Major Error I in respect to California Nuclear, Inc.

When we needed to issue more stock in the fall of 1964 Mr. Turner prepared an application to the Federal Securities and Exchange Commission to obtain authority to issue stock. The SEC reviewed our application but refused to approve the sale until we obtained approval of the Richland area burial site. When this approval was finally obtained, we ran into difficulties with obtaining approval by the California Commissioner of Corporations because by that time we were a deficit company. Bill Johnson also voted against an increase in our capitalization. This killed additional stock issues.

(3) Phillip Scaletta, 611 Northridge, West Lafayette, Indiana.

Phillip Scaletta is a Professor of Business Administration at Purdue and a very busy man. He was the lawyer on the Bio-Services Company, as discussed later. His advice is good. The only difficulty is that he is hard to find as he is too busy to be of real help when needed. We had very little contact with him relative to California Nuclear but we do contact him occasionally in respect to Nuclear Management, Inc., and respect his judgment very highly.

(4) ----- Deffenbaugh of Drach, Terrell and Deffenbaugh, Springfield, Illinois.

Deffenbaugh represented us in Illinois when we had California Nuclear. Three things are of interest.

First, the firm was recommended to us by Eugene Bailey, Administrative Engineer of Commonwealth Edison, which they also represented. At that time Mr. Drach, by pure chance, was a State Senator and floor leader. He died several years ago.

Second, the firm stated when we retained them that they would not bill us until we were on a profit basis. As a result, I forgot to include their work in the listing of liabilities in the merger papers of California Nuclear with Nuclear Engineering; so I had to pay the bill myself. Their bill, considering the time spent on the work, including representation at hearings, etc, was low

as it was only $441.00. Branigan spent nearly this much to incorporate Mediatech.

Third, when Branigan had so much trouble in setting up Mediatech to do business in Illinois, I called Deffenbaugh at 1330 one day and told him my problem. He called back in a short time, stating that there was a name conflict. So, after some discussion and the choice of Mediatech, he called back the same afternoon at 1630 and told us we were approved to do business in Illinois. It is now several months later and we have received no invoice for his work.

(5) ----- Taylor of Baker and Daniels, Indianapolis, Indiana.

Mr. Taylor met with Mrs. Hungerford and me one day to discuss some of our financial problems. His advice appeared to be excellent. We made limited use of the firm, mainly by telephone, later.

(6) Robert W. Williams of Crimmins, Kent, Bradley and Burns, San Francisco, California.

When we discharged Mr. Harold Turner we retained the firm of Crimmins, Kent, Bradley, and Burns of San Francisco. One of their older men, a Mr. Porter, was officially our lawyer but Mr. Robert Williams was the person we dealt with most of the time. Mr. Porter was classed as one of the best corporate lawyers in the West but he was very busy and semi retired.

Bob was perhaps 35 when we started using the firm. He was always helpful and he and Mr. Porter were always happy to do what we asked of them. We still have close contacts with the firm. The firm is rated one of the two best ones in the West.

Bob helped us all through the negotiations between California Nuclear and Nuclear Engineering, and also has helped us on our stock sales. His fees have always been reasonable.

(7) Roger G. Branigan of Stuart, Branigan, Ricks, and Schilling, Lafayette, Indiana.

Roger Branigan set up the corporation of Mediatech. The reason he got involved was that Buffy Mayer-

stein was an original stockholder and he recommended Branigan as the best corporation lawyer in Lafayette. He may be. He set up the corporation satisfactorily but after two weeks effort his firm had not been able or had neglected to obtain approval for us to do business in Illinois. He also got us mixed up with the CT Corporation, which charges very high rates for collecting legal documents, etc. Branigan also charges very high rates, so I simply told one of their secretaries we could not afford his firm's services and paid the bill.

In my opinion, what Branigan did for us could have been done and would have been done by Bill Bennett in a couple of hours or even less, and this would have included the right to do business in Illinois. Further, the use of the CT Corporation is always unnecessary.

(8) ----- ----- of McNees, Wallace and Nurick, Harrisburgh, Pennsylvania.

I listed McNees, Wallace, and Nurick of Harrisburgh as we had asked them to represent us in case we could get a waste burial site in Pennsylvania. We also sent them a copy of our preliminary proposal. Later we got a bill for $100 for "review of proposal". We objected to their bill but have paid it. We never received a copy of their review report. Apparently they did nothing but glance at our report and bill us!

(9) Walter G. Olsen of Derrick, Harrington, Rowley and Sutcliffe, San Francisco, California.

Mr. Walter Olsen acted as the regular lawyer for Nuclear Engineering. As such he sat in on all board and shareholder meetings. He was usually partial to the Nuclear Engineering management's views. On the other hand he was friendly and I believe as impartial as most lawyers. Once in respect to the number of board members required in California he was definitely wrong, but this is not a serious fact as he later checked and corrected his error.

His firm is considered one of the best corporation law advisers on the West coast.

(10) Richard Donner of Graubard and Moskovitz, New York, New York.

Mr. Donner and others of the staff of

Graubard and Moskovitz represented Hyman Federman and Nuclear Engineering in negotiations with California Nuclear, Inc. One of the other members of the firm negotiated the final signing of the contract. Mr. Donner was present at one meeting in which Mr. Toy was offered 4500 shares of Nuclear Engineering stock to satisfy the buy back clause in Central States loan contract to California Nuclear. Mr. Toy, after consulting with his law firm in Ft. Wayne, refused this offer. Mr. Donner simply stated, "Central States' demands are unreasonable. Just ask Mr. Toy to leave." We did so. As a result the McLains never paid Central States a cent as their premium. Of course, Lugene had written a clause in their contract which made this unnecessary. We recognized some obligation but we refused to go along with Central States' demands. Lugene deserves extra credit for her foresight in review of the proposed contract. This is discussed later.

I have always had a great respect for Mr. Donner for what he did.

(11) Aaron Katz. Mr. Katz was a friend of Mr. Hyman Federman and, in fact, I believe he set Hy up in business. Aaron came to a few of our negotiating meetings. He appeared honest. We had only a few short contacts with him. He loved to tell Jewish stories.

(12) George C. Butler of Butler, Yencopal and -----, Hanford, Washington. Mr. Butler represented us in the Richland area, including the Nuclear Engineering sponsored Washington nuclear suits against us. Mr. Butler was very helpful at reasonable fees.

(13) ----- Volz of -----, Montgomery, Alabama.

Mr. Volz appears to be excellent but our contacts have been limited to date.

(14) ----- -----, Huntington, West Virginia.

The men in this firm appear to be excellent.

If we try to evaluate our experiences, we must state the following:

(1) Several lawyers really seemed to know what was what. All these were prompt in answering letters, giving advice, etc, and all were reasonable in respect to their fees.

(2) Several of the lawyers were very slow to answer letters, their fees were very high or excessive and, in retrospect, their advice was either worthless or even worse.

(3) Of the lawyers listed above, we can recommend only Bennett (limited in corporate work), Scaletta, Williams, Deffenbaugh, Butler, Volz, and the West Virginia lawyer.

There appears to be no method that will tell a person how to choose a law firm. We can conclude that the best law firms with which we have dealt have charged reasonable fees and the lawyers have gone out of their way to help us.

b. Incorporation in California

Mr. Turner, with help from Bill or Bill and Fred, drew up the incorporation papers. In a letter dated 8 April 1963, I authorized him to incorporate the company in California with a capitalization of $75,000, with myself as President, Frederick P. Beierle as Vice President, and William D. Johnson as Secretary-Treasurer. The objectives were:

> "The businesses which we contemplate entering and which we wish to have listed in the corporate papers are:
>
> a. Collection, transportation, and disposal of low level and intermediate level gaseous, liquid, and solid radioactive wastes.
>
> b. Installation and operation of equipment for concentration and reduction of low level and intermediate level liquid wastes to solids.
>
> c. Decontamination of equipment, buildings, and facilities, (both routine and emergency, our own and others), which have been contaminated with radioactive materials.
>
> d. Consultation, design, and advice in

design of equipment, facilities, and buildings to handle radioactive materials and to collect, store, and prepare radioactive materials for shipment.

e. Own, supply, and transport radioactive isotope and radioactive waste shipping containers.

f. Conduct health physics surveys in respect to radioactive materials.

g. Conduct biological surveys in respect to radioactive materials.

h. Supply special clothing, face masks, gloves, etc. for personnel who handle radioactive materials.

i. Collect and launder, clean, decontaminate, or dispose of contaminated clothing, face masks, shoes, gloves, tools, equipment, etc.

j. Supply film badges or exposure meters for radioactive materials. These will be "read" or developed and analyzed by other firms.

k. Develop and operate or operate solid waste burial grounds.

l. Develop and operate or operate liquid waste dispersal pits, lagoons, cribs, etc. for low and intermediate level liquid wastes.

m. Own, lease, rent, or otherwise obtain transportation facilities and operate transportation facilities for all types of radioactive materials and wastes.

n. Own, transport, store, and supply, by lease, rent, or purchase, radioactive isotopes and source and fissionable materials.

o. Lease, rent, or own and operate radioactive materials handling facilities.

It is understood that the term 'radioactive', as used above, refers to any natural or artificial radioactive isotope that may emit alpha, beta, gamma rays, or combinations

of these rays and that the term refers to various mixes of radioactive materials, including natural materials such as radium, thorium, and uranium plus artificial radioactive materials, including but not limited to fission products and radioactive isotopes.

We desire to have the incorporation papers as broad as possible as we wish to handle all types of radioactive materials, supply pure isotopes for research, carry out design and consulting services, decontaminate materials, collect, store, and dispose of various gaseous, liquid, and solid wastes."

On 16 April 1963 I requested that the Atomic Energy Commission issue California Nuclear a Byproduct, Source and Special Material License. Then on 7 May 1963 we applied to the Nuclear Energy Liability Insurance Association, 60 John Street, New York City, for $1,000,000 of liability insurance.

Actually, Mr. Turner filed our incorporation papers with the California Commissioner of Corporations and the company was incorporated on 1 May 1963. Incorporation in California was Major Error No. II.

At the time we incorporated in California the state law was very rigid and a company that had a deficit financial report could not sell additional stock. So later we could not sell stock even though there were persons who desired to purchase our stock. This law has now been relaxed considerably. Of course, we should have incorporated in some other state as incorporation in California caused many of our difficulties. Since then we have had experience in some other states, as indicated below.

Indiana. We incorporated Indiana Research and Development and Mediatech in Indiana. In both cases there was very little trouble or cost and apparently we can raise money and do what we need to do.

Delaware. We incorporated Nuclear Management in Indiana but changed to Delaware. This was probably a mistake since we are required to have the CT Corporation represent us in Delaware. The CT Corporation does essentially nothing for us except send us a bill each year for $100 and a bill for annual filing fee with the state, I believe of $100 also. In comparison, Indiana Research and Development pays $15 annual registration in Indiana.

c. Finance

We incorporated with a total approved capitalization of $75,000 but with only some $20,000 committed and on hand. This was certainly Major Error No. III. From the date of incorporation on we were always in a very difficult financial bind. This led us finally to attempt to sell the company or combine with another firm.

In respect to finance, we should have had a minimum of $200,000. But if we had tried to sell this much stock we probably would never have started California Nuclear. Unless one is well known, one cannot sell stock to the public. Actually, Beierle handled most of the stock sales in the Elk River area. The McLains put in $3,000 originally.

Once the company began operations we were committed and even though the California Commissioner of Corporations refused to let us sell stock, we had radioactive wastes on hand and we could not go out of business. Further, the prospects of profit or at least sale of the company at a profit had to be compared with a total loss of just closing down the business. Actually, our business grew at a rapid rate and this caused need for more capital.

Two things happened. The McLains put money into the company as we had to until essentially all our funds were in California Nuclear. Second, we obtained money by asking people to loan money to the company on notes that were to be converted into stock when and if we could. Finally, we sold California Nuclear to Nuclear Engineering and converted these notes to California Nuclear stock on the date of sale and also on that date converted this stock to Nuclear Engineering stock at a premium on that date of 1.42 shares of Nuclear Engineering stock for each share of California Nuclear stock. As of this date each $10.00 (mid 1973) par value share of California Nuclear stock is worth about $47.00.

I never took any salary except in stock. I kept track of my time and charged the time at $150.00 per day. At that time I was receiving about $100.00 per day for my half time at Purdue University and $200.00 per day for my consulting time; so I charged $150.00 per day for California Nuclear. This caused considerable argument by the people in Minnesota. They brought the subject up in two board meetings and objected. I refused to go along and finally stated in a board meeting I would resign and walked out. Since everyone on the board knew this meant the end of the company, the board voted to approve the

$150.00 per day. However, this argument left a sore between the Minnesota group of shareholders and the rest of the people.

Actually the McLains' money and my time which was never paid in cash but in stock at the end made up over 50% of the total investment in the company. While we made a large sum of money, I believe that we, with Lugene Hungerford's help, did a great deal for the company but so did Beierle and Johnson. Their efforts were mostly hard work. Lugene also invested both time at low pay and money for several years.

In addition we issued 5,000 shares of $10.00 par value stock to Beierle, Johnson, and McLain. I have forgotten the breakup but I think it was 1500 shares each to Beierle and Johnson and 2000 shares to me. We had an authorized capital of $75,000 with about $20,000 paid in, as noted above.

3. Start of Business

Due to the red tape involved in obtaining licenses and insurance, we decided to start business on 1 September 1963. This date was just one year after Johnson's resignation from Nuclear Engineering Company.

The Atomic Energy Commission approved withdrawal of the Commission's low level waste disposal facilities from commercial use on 14 May 1963. Nuclear Engineering opened its first burial site at Beatty, Nevada in October 1962 and its second site at Morehead, Kentucky in May 1963. Nuclear Fuels Services opened its site at West Valley, New York in November 1963. I do not know when California Salvage of Los Angeles, began dumping in the Pacific Ocean. Also a company operated out of Boston for a time by dumping in the Atlantic Ocean.

On 22 May 1963 we requested a permit from the Coordinator of Atomic Energy of California "to collect, transport and store low level radioactive wastes. The maximum dose rate would be less than 200 mr/hr on the surface of any container, and less than 10 mr/hr at one meter from any container." These requirements and the surface contamination limits were in accordance with the Atomic Energy Commission requirements.

In addition, we applied to the Atomic Energy Commission on 24 May 1963 for a Source Material License for 15 lbs of uranium or thorium. This application required

history of our radiation detection instruments. Also on that date we applied for a Byproduct Material License for handling such items as packaged mixed fission products and miscellaneous radioisotopes as packaged in standard waste shipping containers.

On 6 June 1963 we applied to the State of California for a state Radioactive Material License. This named William D. Johnson as our Radiation Protection Officer.

As an aside, during the spring and summer months of 1963 Walton Rodger and I wrote a chapter for an AEC Handbook on Safety. Our chapter dealt with radioactive wastes. It included handling, processing and disposal of all types of radioactive wastes and cleanup after accidents, including nuclear reactors. This was actually published in a book in December 1973.

Then on 1 June 1963 we submitted a Radiological Physics Safety Manual for California Nuclear, Inc. to the state authorities in California.

Preparation of all these applications, etc took considerable time and effort. Most were only a few pages long but the Safety Manual was 42 pages.

A survey of what we might do indicated that we probably should not start in California. However, we had applications in for permits and licenses which in due time we received; so finally we decided to proceed in California with a pickup and storage service with a continued effort to obtain a waste burial site. Nuclear Engineering had a burial site in Nevada but they increased their rates to bury wastes there to $1.50 per cubic foot, which we could not afford to pay.

One other item was Workmen's Compensation insurance. This was arranged early in August and included major medical after 14 days and $10,000 of life insurance.

Our Radiological Physics Safety Manual for California Nuclear was submitted to the Atomic Energy Commission on 1 October 1963. Professor Paul Ziemer, of Purdue University, helped in review of many of our Safety Manuals but I am not sure that he helped on this one.

a. Facilities

William Johnson left his former employment and

began full time work on 1 August 1963 for California Nuclear, Inc. His first job was to rent storage space in an old warehouse near Concord, California. This warehouse was about 150 ft long, 50 ft wide and 20 ft clear space. We rented a space about 50 x 100 ft. The other end of this warehouse was rented by Nuclear Engineering Company. So each of us could watch the other.

Johnson cleaned the space up and started to construct a small office area in one corner. After Fred Beierle reported on 1 September, work proceeded rapidly so that by about the 10th they were set up to do business. Instruments had been purchased and calibrated. They had a couple of old second hand desks, etc.

We received approval from NELIA on our $1,000,000 insurance policy in August. We had also arranged other forms of insurance, as noted.

b. Operations

Soon after 1 September we sent letters to all the large radioisotope users, etc in California and postal cards with return cards to all the small radioisotope users. Also soon after 10 September we received the necessary licenses and permits. Then nothing happened.

Actually, it was 1964 before we obtained any significant work. So the first four months in 1963 were ones of continued frustration, particularly for Bill and Fred. After they got things fixed up at Cowell, Bill particularly was upset about no business. So he wanted to close shop and quit. I kept telling them that we expected little business at first and not to be discouraged. However, this went on for over four months. Our total cash receipts for these first four months of operation and first year of business was very small. Total receipts the first 2 1/2 months was $31.25. We did nearly $2,000 of work in November and zero in December.

Meanwhile, I had tried to hire John Schraidt, who was working at Argonne National Laboratory, to set up a solid waste collection and, if possible, a burial site in Illinois or at least in the midwest. John decided against joining us.

We also presented a formal proposal to the State of California on 23 October 1963 to open a radioactive burial site in that state. I also attempted to

arouse interest in a reprocessing plant in California. Kerr-McGee actually agreed to proceed if Dow Chemical would join them but Dow decided they were fully committed to other work. As an aside, Kerr-McGee's interest continued and later they entered the nuclear fuel manufacturing field. We also obtained a permit in California to do decontamination work. This proved later to be important.

Meanwhile I worked at Purdue and also spent some time on travel in an attempt to arouse interest in California Nuclear.

Then on 24 October 1963 we submitted a Proposal to the State of Illinois to Build and Operate a Radioactive Waste Burial Site. As discussed later, this was a very important step but it was a few years before we opened the Illinois site at Sheffield. This is discussed later.

c. California Waste Burial Site

While it was noted above that no waste burial site has been opened in California, it would appear worth while to review some of the discussions.

Around 26 to 28 October 1963 Beierle met with Gene Blanc relative to our proposal to open a waste burial site in California. Gene was very interested in our proposal. As noted above, he indicated he had other applications but these were more in the form of letters and were not as specific as ours.

Then Public Hearings were announced by a Legislative Subcommittee to be held on 2 December 1963 relative to the need for a waste burial site in California. The announcement stated the following subjects would be covered:

"a. Should the recommendation be summarized into a bill?

b. Reasons for opening a site."

Blanc stated he was to testify in detail but suggested I testify as having an interest in operating the site. Apparently the decision was to be based on the interest of California industries.

November was a busy month for me as I had to go to Calcutta, Bombay, Madrid, and Paris, plus a meeting

for several days in New York. Then I had to prepare several things for Purdue and the testimony for the Hearings in California.

On 2 December 1963 a Subcommittee of the California Legislature held Hearings in Los Angeles at the State Office Building. Fred and Bill were there.

First they had a desultory discussion about detergents and their labels. Then Blanc was called to talk about the waste site. He did a very poor job as he was neither prepared nor knew the answers to the questions that were asked.

Heslep was then called. He presented a more definite statement. There were four applicants for a site. He stated that under the present law he had to honor all or none of them. No one seemed to know what to do.

Terry Hufft, President of Nuclear Engineering, presented testimony and then I talked. My statements were almost exactly opposite to his. Hufft stated the amount of wastes was going down. It appeared that most of the Subcommittee were more interested in my remarks than Hufft's.

A man named Goldstein, who claimed to be using radioactive materials and to be producing wastes, testified. He claimed Nuclear Engineering was gouging the public. He said 10% of his firm's costs were for waste removal.

My testimony follows:

"Testimony to the California State
Subcommittee on Environmental Pollutants

SUBJECT

AB 2467: DISPOSAL OF RADIOACTIVE WASTES

Submitted by
CALIFORNIA NUCLEAR, INC.

Post Office Box 59
60 Industrial Row
Cowell, California
415-682-5316

2323 South Ninth Street
Lafayette, Indiana
317-742-6737

22 NOVEMBER 1963

INTRODUCTION

California Nuclear, Inc. would like to submit testimony as to the desirability and feasability of a radioactive waste land burial site in the State of California.

I. PAST PRACTICE

a. Sea Disposal.

The Atomic Energy Commission has placed a moritorium on licensing additional firms for sea disposal.

b. Government Interim Storage.

The Atomic Energy Commission then established interim land burial sites for solid, packaged radioactive waste on May 9, 1960, at Arco, Idaho and Oak Ridge, Tennessee. These sites were withdrawn from service on August 17, 1963, and are no longer available to licensed users.

II. PRESENT PRACTICE

a. Present Method of Land Disposal.

At present there are two land burial sites available in the United States for disposal of radioactive wastes. One is located at Beatty, Nevada, and is licensed by the Atomic Energy Commission. The other is at Flemingsburg, Kentucky, and is licensed by the State of Kentucky. Both of these sites are operated by the same firm.

There is another land burial site to be opened in New York State at some future date.

III. LAND BURIAL IN THE STATE OF CALIFORNIA

A land burial site in the State of California would provide several benefits to the State of California.

a. Potential Savings to Industry.

With an excess of 100,000 cu ft of low level radioactive waste being generated in the State of California each year plus various other waste and required services, California industry is faced with a sizeable disposal expense.

The present cost to bury radioactive waste is $1.50 per cu ft FOB the burial site at Beatty, Nevada. If granted the privilege of operating a land burial site in the State of California, California Nuclear, Inc. will accept low level radioactive waste FOB the California site for considerably less than the cost presently charged at Beatty, Nevada. Although this may seem of little consequence, it would nevertheless constitute a substantial savings to the nuclear industry in the State of California.

b. Added Revenue.

The mere operation of the land burial site will provide additional tax revenue for the State of California.

c. Industry.

The attractiveness of lower nuclear waste disposal costs will induce additional nuclear industries which would result in higher employment and more revenue to the State of California. Some of this additional nuclear industry may be in the form of continued development in salt water desalinization,* food preservation by irradiation, electrical generation, nuclear fuel fabrication, nuclear fuel reprocessing, nuclear propulsion, and various other nuclear activities.

IV. SERVICES TO CALIFORNIA INDUSTRY.

a. Although there are hundreds of different firms and institutions in the State of California engaged in nuclear work, of one form or another, California Nuclear, Inc. would like at this time to name a few:

Atomics International (subsidiary of North American Aviation, Inc.)
General Electric Company
General Atomics (subsidiary of General Dynamics)
The Dow Chemical Company
Aerojet-General Nucleonics (subsidiary of General Tire)
Pacific Gas and Electric Company

*Water of higher purity and higher value for industry and agriculture will be obtained.

Todd Shipyards Corp.
The United States Navy
Lockheed Aircraft
Lawrence Radiation Laboratory
Etc, etc, etc.

b. The services which a California state land burial site would make available to these firms and institutions are:

1. Collection, transportation, and disposal of low level liquid and solid waste.

2. Decontamination services.

3. Installation and operation of equipment to concentrate and to reduce intermediate liquid wastes to solids at the facility.

4. Special services requiring carefully executed demolition and disposal of major items or equipment.

5. Collection and disposal by storage or burial of intermediate level solid wastes.

6. Collection and disposal of non-radioactive hazardous and toxic chemicals, both liquids and solids. This service will provide for controlled disposal of non-radioactive pollutants. Naturally these non-radioactive materials will be handled separately from the radioactive material.

V. COSTS OF SETTING UP AND OPERATING A LAND DISPOSAL SITE

**California Nuclear, Inc. has submitted a formal proposal to the State of California to operate a land burial site in the State of California. In addition, several copies of our Prospectus were also submitted to the California State Department of Health in February of 1963, to provide information regarding our plans and qualifications of some of our personnel. These documents outline our proposed methods and costs of establishing a radioactive waste land burial facility.

a. Initial Costs

***Initial costs estimated by California Nuclear,

**The burial site proposal is business confidential but is available to members of this Committee for evaluation of this testimony.
***These costs would be for burial of low level solid waste only.

Inc. to open a land burial site in the State of California are as follows:

Land (100 acres @ $40.00 per acre)	$ 4,000
Cyclone fence (2,700 ft @ $5.00 per ft)	13,500
Building (40' x 80' @ $6.00 per sq ft)	19,200
Building facilities	15,000
Radiation survey instruments	13,300
Various facilities	5,000
Utilities	2,000
Operating supplies	2,000
Total	$74,000
Contingencies @ 20%	15,000
Total	$89,000

b. Operating Costs

***Annual operating costs estimated by California Nuclear, Inc. to operate a land burial site are:

Salaries	$35,000
Insurance	3,500
Utilities	1,200
Fuel	1,200
Maintenance (equipment, parts, etc)	5,000
Equipment (rental or amortized purchase)	10,000
Total	$56,950
Operating overhead and profit	11,450
Total	$68,400
Depletion & Depreciation	6,600
Total	$75,000

VI. AVAILABILITY OF THE PROPOSED BURIAL SITE LAND FOR OTHER USES

The proposed sites listed in the Stanford Research Institute SRIA-8 report provides a comprehensive study of several land burial sites. This report, outlined "AN ANALYSIS OF LAND DISPOSAL OF PACKAGED RADIOACTIVE WASTE IN SEVEN WESTERN STATES," was written at the request of the Atomic Energy Commission to determine the most desirable location for land burial sites.

> 'Land disposal areas were chosen by an elimination procedure. A map was made to illustrate each type of area that is unfavorable for waste disposal. One map located all lands that can be irrigated, another populated areas, and so on. The areas which remain blank after the maps were composited are those favorable for

*** See page 186

disposal. The respective areas thus delineated are further evaluated on a comparative basis for each of the various criteria as well as on amount of precipitation and mineral resources. Finally, potential areas are evaluated with regard to accessibility....These were further evaluated on the basis of geology, hydrology, and typography...[1]

VII. PROPOSED INDUSTRIAL USE OF A LAND BURIAL SITE

Should the State of California approve a land burial site and California Nuclear, Inc. be chosen to operate the site, we intend to open a facility in the central or southern sections of the state. This site would be chosen by mutual agreement in cooperation with the Department of Public Health. The land will be purchased if necessary, and title transferred to the State of California, as previously mentioned. The suggested sites in the Stanford Research Institute Report SRIA-8 will receive first consideration. Once a land burial site is procured, it will be developed by installation of roads, fences, construction of storage, inspection and decontamination facilities and development of land burial areas. The land burial areas will be equipped with means for monitoring the immediate and surrounding area both above and below ground by installation of suitable radiation monitoring equipment.

Land burial will be carried out in trenches and pits at depths and conditions as approved by the Department of Health.

VIII. SUMMATION

California Nuclear, Inc. believes that a burial site would be beneficial to the State of California and to California industry. We believe the land burial would be in the public interest and that it would continue to stimulate the already thriving nuclear industry in the State of California.

We believe that if a burial site is established in the State of California, it would transform land which presently has a very low agricultural, mineral or industrial potential into land that will provide another asset to the State of California.

We believe that the State of California has a tre-

[1] R. B. Hoy, E. M. Kinderman, R. R. Tarrice, "An Analysis of Land Disposal of Packaged Radioactive Waste in Seven Western States," pp 8, SRIA-8.

future in the nuclear field and will remain in the forefront with conscientious public support and enlightened legislation".

In the discussion following our testimony it became apparent that the Subcommittee would recommend that the State of California should not approve of a law permitting a radioactive waste burial site in California. It was Bill Johnson's opinion that the Committee members had been bought off. He had worked for Hufft and knew how he worked.

So far California has not opened a waste burial site but, as noted earlier, it has been tied to the nuclear fuels reprocessing. Further, due to objections on the basis of environment and the danger of earthquakes, construction of nuclear power plants in California has been very limited even at this date, early 1974.

4. Arizona Waste Burial Site

After the hearings on the California site, Fred and Bill asked what we should do. I told them to look at the surrounding states, including Arizona, Oregon, and Washington. Fred asked who to talk to. I thought he should be able to find out, so offhandedly I said, "Go see the Governor." So Fred, in a mad mood, took off for Arizona and walked into the Governor's office and asked to see the Governor, who, I understand, welcomed him with open arms. After a discussion he turned Fred over to the Chief of their Industrial Division, a Mr. Fannin.

Later we did submit a proposal to Arizona, as discussed later in III C 4e.

5. 1964 in the West

We entered 1964 in an uncertain mood. I personally was not discouraged. As usual, Fred was still optimistic and also as usual Bill was all for quitting and disorganizing California Nuclear, Inc. In respect to large contracts, our prospects were very poor. Even though we were the low bidder, General Electric at both Vallicitos and San Jose, and Lawrence Radiation Laboratory at Livermore, refused to give us contracts since we did not have a waste burial site in the West. Apparently both organizations were afraid that we would stop business and simply abandon the stored wastes. In that case they would have had to contract with

some other organization such as Nuclear Engineering, to remove the wastes to a burial site or they would have been required to do this themselves.

Both Fred and I believed that General Electric and Livermore would eventually contract with California Nuclear to handle their radioactive wastes, provided we could obtain a burial site in the West. We were bidding $2.00/ft^3 which was a good price, and I believe below that of Nuclear Engineering's bids. Actually, we never did obtain General Electric's contract but later we did have the Lawrence Radiation Laboratory's contract.

Perhaps we were overly optimistic but we believed that if California opened a waste burial site, the state would contract with California Nuclear for its operation. We believed this as we knew we had had the most nuclear experience.

a. Other Proposals

Early in 1964 we started some thinking of a radioactive laundry in the Chicago area. Nothing came of this as Commonwealth Edison constructed one at Dresden. As noted above and discussed in great detail later, we had submitted a preliminary proposal to the State of Illinois on 24 October 1963. We mailed a proposal to Arizona for a waste burial site on 6 January 1964.

Then Marvin Smith called on 13 January from Hanford and stated the Tricity Industrial Council (Richland, Kennewick, and Pasco) were interested in helping nuclear based industries to get started in that area. Had I taken the time to push this contact, we possibly could have avoided some of our later troubles. I did follow through on the burial ground but not on decontamination and other facilities because of our lack of capital. The waste disposal site proposal was dated 21 January 1964.

We also studied Oregon but there appeared to be no great prospect for a site there in the near future. In 1968 to 1971 Fred Beierle, as a part of Chem-Nuclear, submitted a proposal to Oregon but that state has not yet approved opening the site (it is now January 1974). It appears that Oregon will not open a waste burial site in the near future.

Also on 27 January 1964 we submitted a proposal to open a site in Indiana. So far as I know, Indiana has

not yet seriously considered a proposal and has not passed enabling legislation.

It is obvious that the number of proposals we had made would have required much greater finances than we had available had all the states accepted our proposals. So we had to move slowly. Some of the proposals are listed in the following summary:

SUMMARY OF DATES OF VARIOUS
PROPOSALS AND IMPORTANT DOCUMENTS

Arizona	Waste Burial Site Proposal	31 Dec 63
California	Waste Burial Site Proposal	5 Sep 63
	Revision	1 Oct 63
	Second Revision	23 Oct 63
	First Amendment	12 Dec 63
	Testimony to Legislative Committee	2 Dec 63
	Radiological Physics Manual	1 Nov 63
	Request to Perform Decontamination Services	31 Mar 64
Illinois	Enabling Legislation Passed	16 Aug 63
	Waste Burial Site Proposal	24 Oct 63
Indiana	Waste Burial Site Proposal	27 Jan 64
Washington	Waste Burial Site Proposal	21 Jan 64
Federal AEC	Radiation Physics Safety Manual	1 Oct 63
	Request for Waste Disposal License in non agreement states	9 Dec 63
	Revised Radiation Physics Safety Manual	11 Feb 64

At a Board meeting on 18 January 1964 there were expressions that we had best close up shop. Most of the Board appeared inclined to continue to see if our luck would change. And again my salary came up for discussion, even though I was working 3 to 4 days per month at $150 per day and only for stock.

b. Mare Island

Toward the end of January Beierle received a request from the Mare Island Navy Yard to bid on removal

of some radioactive resins, etc that the Mare Island Yard would remove from nuclear submarines in the following year. Fred and Bill submitted a proposal for about $18,000. This turned out to be about $1,500 below Nuclear Engineering's and some $12,000 below the other two bidders' proposals.

So the Navy Captain responsible for awarding the contract visited Fred and Bill. He apparently was satisfied with their experience and our instruments and facilities. He did not bring up the burial question so far as I know. But he did bring up our financial status. Among the standard items called for in making bids are copies of the three previous certified annual financial reports of the companies.

Luckily, we had made up a very short report presenting the monthly expenses from July through November under several broad headings. When the Captain asked for financial reports Fred gave him a copy as the only thing we had. He glanced at it and asked, "Is that all the entertainment you've had?" Fred explained what the two small items were. The Captain just shoved the paper back on the table; got up; and started to walk out. Fred asked, "Does this mean we're not to be considered?" To which the Captain replied, "Oh, no. You're honest. I'll take care of it."

Later the burial question was raised. I have always thought this was done by Nuclear Engineering to embarrass or harass us. Anyway, we were asked to submit a letter stating that we could dispose of the wastes at the Beatty, Nevada site. In turn we requested such a letter from Nuclear Engineering and Nuclear Engineering declined to give us such a letter. We then telegraphed them for a reply. When we did not receive an answer, we sent the whole file to the Federal Atomic Energy Commission with the request that the burial site at the National Reactor Testing Station at Idaho Falls be opened to us.

We were then informed verbally to ship the wastes to Beatty and the AEC would take proper action if we were not allowed to deliver the wastes to Beatty. Meanwhile, we submitted a letter to the Navy from West Valley, New York, sent us by Nuclear Fuel Services. The Navy requested that we obtain an Atomic Energy Commission license prior to award of the contract. Since we had applied for the license several months previously, Mr. Ernest B. Tremmel, Director of Industrial Participation, was able to assure the Navy that we would be properly licensed. Then the Navy insisted on a letter from Nuclear Engineering, as dis-

cussed above. Finally the Navy gave us the contract. We stored the wastes at Concord until we could truck them to Richland, which we did finally.

I have always believed the AEC informed the Navy directly to go ahead with our contract.

Fred stated later, "The Navy contract made California Nuclear."

Actually, over the next several years the Mare Island and Bremerton Navy Yards contracts amounted to something like $200,000. I think the Bremerton contract was as high as $92,000 for one year. The Navy repeatedly congratulated Fred and Bill on how well they handled the work.

c. W. R. Grace Proposal

Even though we had done practically no business, we began to have discussions re sellout or combination with other companies. This theme went on from about 20 February 1964 until actual sale of assets on 28 June 1968.

Early in 1964 the Atomic Energy Commission decided to bring private industry into the Richland area to operate the facilities there and, if possible, to develop additional industries in the Richland and TriCity area of Richland-Pasco-Kennewick. Their first step was to call a conference of the various industrial concerns that might be interested, to describe the facilities and opportunities, and to invite proposals.

Dr. Walton Rodger, who had been a partner of McLain-Rodger Associates, as mentioned previously, was Manager of Nuclear Fuel Services of West Valley, New York. This company was a subsidiary of W. R. Grace Company. W. R. Grace is a large chemical company and had set up Nuclear Fuel Services to build an irradiated fuels recovery plant. The plant was being built at West Valley under Walt's direction. Later it was sold to the Getty Oil Company.

On 24 February 1964 Walt and I flew together from Chicago to Portland. On the way we discussed what we might do. Mr. Runyan, President of Nuclear Fuel Services, had discussed purchase of California Nuclear by Nuclear Fuel Services but it had been decided that the parent company, W. R. Grace Chemical Company, should buy California Nuclear and set us up as an equal with Nuclear Fuel Services.

W. R. Grace would furnish the finances and use California Nuclear to make a bid for operation of all of the Hanford non reactor services. I agreed to write up a proposal stating what our ideas were and what our help might be. Runyan agreed to write a report and proposal also. It was planned that we should submit these proposals to W. R. Grace people two weeks later.

At Portland we rented a car and met Beierle. The three of us drove to Richland. We stopped enroute to look for and actually see ousels. In the evening we had a general discussion with Harold Lamburtus of Kerr-McGee, Mr. Cobb, of Kerr-McGee, I think, Mr. McGrady, Bill Lowe of Pickard, Warren and Lowe, and Charlie Taylor of Nuclear Fuel Services.

4

On 25 February 1965 we spent the whole day at the Community House listening to a very dry elementary discussion of Hanford's facilities. Since I had been responsible for their increased power level work, I could have covered more ground. They did review their personnel policies. At that time there had been considerable discussion of construction of high intensity radiation facilities using fission products. Hanford suggested that an industrial plant be built there to use some of the stored fission products as high level sources. These fission products would require separation of the individual chemical elements desired. Actually, such a plant has only recently been built. (Written in 1973).

The need for the projected amounts of gamma and beta ray sources was very slow to develop. It is difficult to analyze why. I believe that there have been few uses for beta sources until recently. The projected use of gamma ray sources for food irradiation have not developed in the United States and only to a limited extent overseas. There appear to be several reasons for this lack of development. Some of these may be:

(1) Fear of possible chromozone changes.

(2) Fear of any radiation, justified or not.

(3) Development of other means of food preservation. This I believe is the main reason.

When I first started half time work at Purdue University, we studied irradiation of food for preservation at some length but little real interest or need

developed. The fear of anything dealing with radiation has bothered many people.

Gamma sources are being used for upgrading wood products for floors by irradiation cross chemical bonding of chemical impregnated wood. Concrete impregnated the same way is also being irradiated to a limited extent. I believe that this type of radiation will grow but in 1964 it was limited and it still is a very small business.

Consumers Power Company is making nearly all the radiation sources by irradiating cobalt bars at Big Rock. Some cobalt is being irradiated at Dresden, I believe. Large radioisotope separation plants will, I believe, be built only when the need for the radiation sources become several times their present size. This is now several times greater than the requirements several years ago, and one small separation plant is in operation.

To return to the Hanford story, the next day we had a very dry meeting in the forenoon. In the afternoon I flew to San Francisco with Charley Taylor of Nuclear Fuel Services. I agreed that if we could get a contract to do any work other than waste burial at Hanford, we would re-activate Nuclear Operators.

So far as I know Nuclear Fuel Services did not submit a formal proposal to Hanford to operate the facilities there. California Nuclear, in a letter dated 18 February 1964, did propose to provide the following services:

"PROPOSAL TO OPERATE, OR TO OWN AND OPERATE,
HANFORD SUPPORT SERVICES

18 February 1964

California Nuclear, Inc. proposes to provide the following services, to be performed under contract with the Atomic Energy Commission, while retaining the right to serve private industry from the Hanford site:

Provide complete radiological safety service to the Atomic Energy Commission's Richland Operations Office. A summary of these services are as follows:

1. Provide a competent staff of Health Physicists to assist in the establishment of radiological standards, criteria for safe plant operation, and a consulting service to aid the contractors in nuclear and radiological safety problems. Investigate radiation incidents and accidents and make formal investigation reports, as required by the

MAP 1

HW-76526

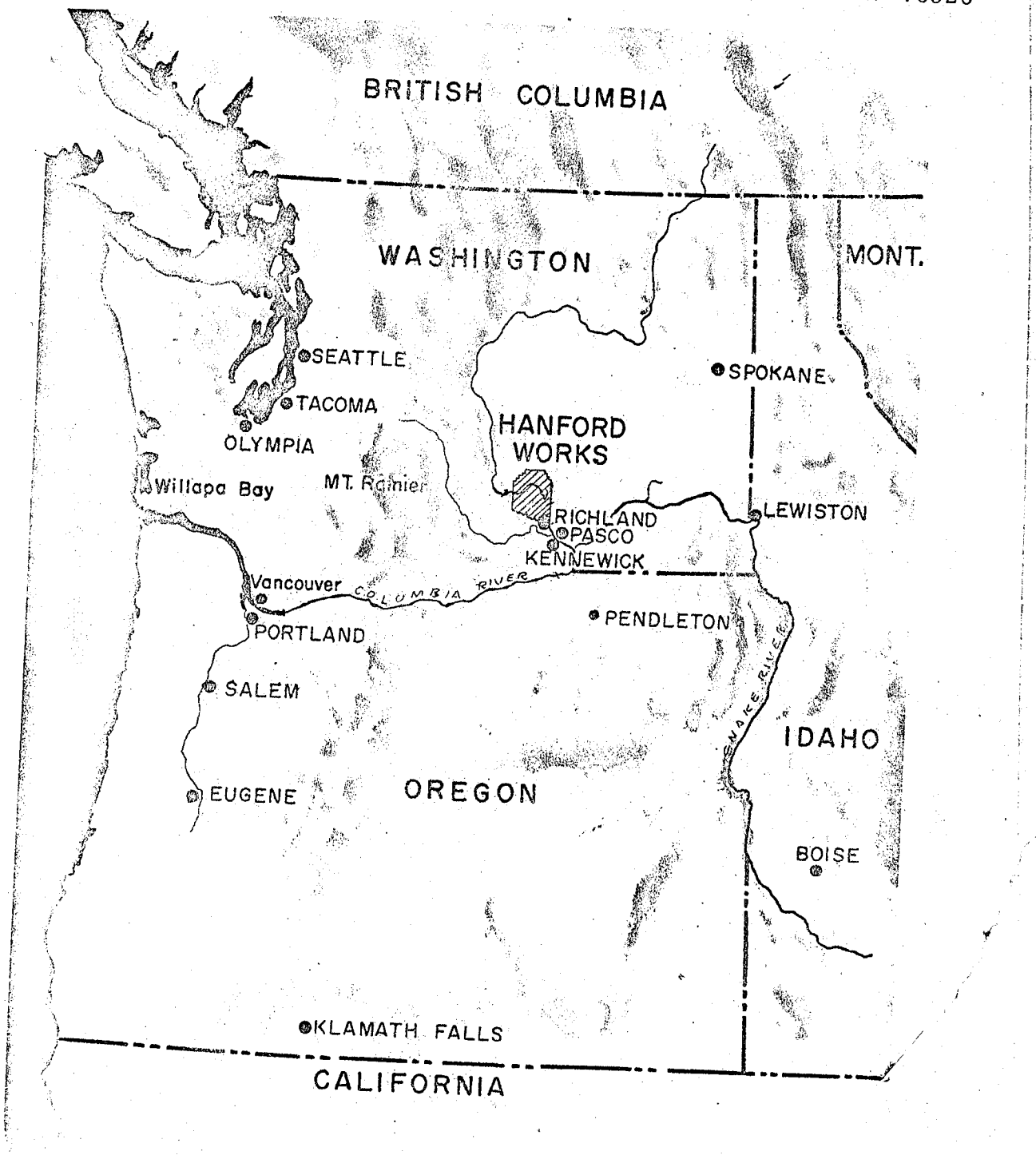


FIGURE 1

Geographical Relationship
of Hanford Works to Pacific Northwest

Atomic Energy Commission Manual Chapter for Contractors and Licensees.

2. Radiation monitoring service for Hanford Laboratories, separation facilities, and the reactor facilities, to the extent desired by the other contractors and the Atomic Energy Commission.

3. Dosimeters to measure the ionizing radiation received by personnel will be provided, the dose received will be measured and the results routinely reported to the employers. Radiation doses in excess of the control limits will be promptly reported to the employers. The dose received during the current radiation exposure period will be recorded and an accumulative total of the dose received by each employee maintained to allow the employers to control the dose received by personnel to within the applicable limit.

4. Bio-assay service will be provided for employees of contractors. Samples would be collected, analyzed, and the results reported to employers as well as entered in the person's dose record.

5. Surveillance of the environment surrounding the site and the waterways would be maintained through routine analysis of collected samples. The release of radioactive material to the atmosphere and to the waterways would be monitored and records maintained to insure control to within the M.P.C. applicable to the populace.

6. Calibration service to film dosimeters and portable instruments would be provided. A pool of portable radiation measuring instruments would be provided for rental by the contractors and routinely calibrated and serviced. This would include low range instruments and emergency monitoring equipment for controlling radiation exposure to ionizing radiation and contamination.

7. Provide calibrated radiation sources on request to the contractors.

8. Provide radiological training material for the use of the contractors and periodically conduct formal training courses to insure a high level of understanding of radiological conditions, and a consciousness for maintaining a high standard of radiation safety.

9. Operate a portable instrument repair service to provide contractors with a means of maintaining specialized instruments for measuring ionizing radiation, voltages, currents and resistances, as well as oscilloscopes. Pro-

vide routine calibration and standardization service.

10. Provide a contaminated laundry service for all contractors to include supply of clean, protective clothing as required and at costs based on use factors.

11. Provide records of radioactive waste disposal sites and exercise secondary audit control of conformance to standards by contractors disposing of liquid and solid wastes to the ground.

12. Provide other services as required by the Atomic Energy Commission and as defined by contract.

California Nuclear, Inc. proposes to lease the required facilities from the Atomic Energy Commission, when available, to provide the aforementioned services for a five year period, with an option to renew the lease for an additional five years. California Nuclear, Inc. proposes to negotiate a contract with the Atomic Energy Commission for a five year period to provide these services for a fee commensurable with service rendered.

In addition, it shall be understood that California Nuclear, Inc. will be free to solicit business from private industry to be carried out in the same facilities and with the same personnel. The following services are to be sold to private industry throughout the Western part of the United States:

a. A calibration and standards service for measuring instruments.

b. Maintain instrument rental service and repair service to industry.

c. Provide personnel dosimetry service to industry.

d. Provide a radiological consulting service for the Western part of the United States and be free to negotiate consulting contracts with other licensees of the Atomic Energy Commission.

e. Provide waste disposal service to licensees.

f. Provide contaminated laundry service to licensees.

g. Permit private industry and Atomic Energy Commission personnel to attend radiological training courses when offered, with an established fee for the service.

It is the intent of this proposal to extend to corporate citizens of the United States services available on the Hanford project, particularly in the calibration and standardization facilities, as well as the services of radiological experts on a consulting basis.

California Nuclear, Inc. would utilize the manpower currently available at Hanford and would try to minimize the displacement of personnel. Only the top management of the corporation would be brought in to insure that the level of services is maintained at their current level and aid in a smooth transition from one contractor to another. The offer of services to industry and to contractors of the Commission should eventually lower cost to the Commission. It would aid in the economic growth of the area by maintaining or increasing the number of employees engaged in these fields of endeavor.

CALIFORNIA NUCLEAR, INC.
Stuart McLain, President

2/18/64"

What happened was that Douglas-United Nuclear offered more than we could in the way of operations experience and that company was given the contract to operate the facilities, except the research facilities. These were contracted with Battelle Memorial Institute. California Nuclear did get the waste disposal area contract for non Hanford wastes only.

I don't think the AEC ever considered W. R. Grace as the operator. I do not know the criteria used for the selection of the contractor but I suppose that the main considerations were size and the backgrounds of the people that were to be assigned to Richland.

It should be noted that only when you apply for such jobs do you ever stand a chance of getting considered. Perhaps 200 companies considered making a proposal for these contracts.

d. Hanford Waste Burial Site

At lunch on 25 February 1964 Fred Beierle and I met with Robert E. Rose and Paul G. Halstead relative to a commercial radioactive waste burial site near Richland. I believe Rose was the Director of the State of Washington Industrial Development Division and Halstead was the AEC representative attempting to develop private industry in

the Richland areas. I may not have their correct titles. Both men, especially Rose, helped us in subsequent years.

Both Rose and Halstead were interested in our proposal to bring in wastes from outside of the Richland area and even from out of the state. We indicated a desire to handle Richland wastes but Richland already had a waste disposal area.

We had, of course, requested land on the Hanford site. This was federal land. So an AEC staff paper had been prepared. The paper recommended that when passed by the AEC, approval of the transfer of AEC land to private industry would be possible. This paper had not been approved by the Commission but they had discussed it with Commissioner Ramey and he had assured them it would be approved in a few days by the Commission. Mr. Halsted stated he would go to Washington, D.C. that evening and attempt to determine why the paper had not been approved and to ask that it be approved at once. They both stated that they saw no reason why we could not go ahead once the paper was approved and negotiate a contract with them to open a waste burial site.

Fred told me that Bill Johnson had talked to Stewart Corbett and that he had found out that Nuclear Engineering had made a proposal to Hanford to operate the solid waste burial facilities. Stewart had indicated he believed that this proposal was contingent on Hanford guaranteeing Nuclear Engineering a minimum volume of wastes.

Reference to Stewart Corbett requires a diversion to discuss our relations with him. Stewart, I believe, had a Bachelor's Degree in Chemical Engineering, was married and had two or three children. He lived in one of the towns near Concord or perhaps one of the eastern shore cities. He was employed by Nuclear Engineering as their Health Physicist. Then why should he help us? Simply because of the poor job Nuclear Engineering was doing.

Soon after we started, Stewart asked to join us. He was an excellent man except for one little thing. Whenever he took a drink he could not stop. I believe he was and is an alcoholic. He was for a long time a member of Alcoholic's Anonymous. Anyway, he kept us informed of what Nuclear Engineering was doing until he got fired by Hufft. I don't remember just when that was but it probably was in 1965 or 1966. Stew then came to us and begged for work.

When I was in San Jose on a trip there connected with the Tarapur Project, I asked Stew and his wife to have dinner with me. We had a pleasant time. Stew had been on the wagon for some time and we needed his help as a Health Physicist. So I told him that California Nuclear would hire him subject to his swearing off all liquor. This he agreed to with his wife present. So we hired him.

After a few months we had a contract with Pacific Gas and Electric to check their personnel at Eureka with a whole body counter. This had been built, as discussed later, by Louis Helgeson, but Lou had left us to start his own competing company. So Lugene flew out to supervise the job. Unfortunately, her plane was some two or three hours late.

Stewart had driven to the San Francisco Airport to pick Lugene up. Apparently, while he waited he began to think a single drink would do no harm. Anyway, when Lugene did arrive she could not locate Stewart. Apparently one drink led to several others. So we fired him.

Later we needed his services, so we hired him on a single day to day basis for about a month. Then we dropped him. But during this period he behaved.

That fall or winter he found a position at the University of Virginia. At least he arranged and supervised at least two one week special seminars on Transportation of Radioactive Materials as a part of his work at the University. Some three years ago I had reason to call him but I was told that he was no longer at the University of Virginia. Apparently off the wagon again.

Then he moved to near Downers Grove, Illinois, where he found a position at one of the suburban colleges. There he also got into trouble. Later Gene Bailey called me and asked if I knew Stew as he had applied for a position at one of the colleges in Downers Grove (June, 1973). Gene is on the Board of that particular college. I told Gene that Stewart certainly was an excellent man in his field but I also had to tell him that he occasionally indulges in excessive elbow bending. Gene allowed that several of his friends occasionally did likewise. I doubt if Stew got the position but I don't know.

Stewart told me once that if California Nuclear had not hired him after he was fired by Nuclear Engineering he would have committed suicide. Perhaps we did help him. Several times in my life I have tried to help people and almost always I have been let down. Sometimes I have been

knifed in the back too. One wonders.

One man I hired admittedly under pressure from the Dean of the University soon demonstrated his weakness. He had been Superintendent of the Detroit Waterworks Board and was retired. At Wayne we were looking for a man to teach a beginning course in Materials to freshmen engineers for one semester. This man did the job but several times he fell off the wagon. The next year he got a regular job at a small Canadian College (not recommended by me). But he was fired in a few weeks. He also had a married daughter in Detroit. She once remarked about her "wayward father".

To return to the waste burial site, California Nuclear also submitted a proposal, at the request of Mr. Leonard F. Perkins, Assistant Director, Construction Engineering Division, to operate the Radiation Protection Services. The reason for this proposal was that the Hanford AEC people had not decided what types of contracts and what facilities would be covered. However, they finally wrote only the two operational contracts.

Since that time several companies have opened manufacturing facilities in the Richland area and there has developed an extensive privately owned industrial park. Also as mentioned above, the area publicly owned utilities built a dual power-plutonium production plant. This is being replaced by a larger power only reactor.

e. Visit to San Diego, Yuma, and Phoenix

At the end of the visit to Hanford, Walt returned to the East while Fred and I went to San Diego and Phoenix.

At San Diego we talked first to Dr. Arthur Matheson. Art had previously been with Metals and Controls at Attleboro and I had visited him several times there. Art was acting as a Sales Engineer for General Atomics. He is still at San Diego.

Art had heard that I was involved with California Nuclear but he knew nothing more about us. When we told him of our interest in solid wastes, he asked the head of their waste group to talk to us. This man whose name I have forgotten, had worked with me on the Savannah River Project at Argonne some 11 years previously. He stated they had 800 barrels of solid wastes plus a large quantity of smaller packages on hand. They had had some dealings with Nuclear Engineering but stated they would store the wastes in-

definitely rather than ship to Nuclear Engineering. They stated they would hold the wastes pending California Nuclear's efforts to obtain a waste burial site.

I had previously sent a very brief report re reprocessing in California to Art. His staff had studied it in detail and as a result General Dynamics was considering building a reprocessing plant in California. As pointed out previously this has not been done.

The next day Fred and I visited a lawyer, Mr. Thadd Baker, in Yuma. He agreed to represent us provided we proceeded with a waste burial plant in Arizona.

Next we drove to Phoenix and called on Senator Harold C. Giss, the Yuma area senator. He was the Democratic floor leader. We talked to him for 45 minutes, even though he had been called out of a meeting.

We also talked to Mr. McGowan, Assistant to the Governor. He stated that enabling legislation had been passed by the Senate but not yet by the House. We also talked to Mr. O. B. Lassen, Head of the State Land Commission relative to a waste burial area. He suggested land north of Yuma near the Southern Pacific Railroad.

Later it developed that we would not be permitted to bring wastes into the state from California for burial. So after all we still are considering a waste burial site in Arizona. This subject has been the subject of several conversations over the years with Dr. Norman Hilberry, who is a member of the Arizona Atomic Energy Board. Norman worked with me, or rather I worked for him several years at Argonne as he was Director after Wally Zinn left.

Dr. Richard Doan, who was living in Tucson, had agreed to act as a consultant to California Nuclear. Dick had held a very responsible job with Phillips Petroleum Company in Bartlesville for several years. He had been assigned to the Nuclear Project during World War II and had been Manager of the MTR at Idaho for several years. However, we have never called on him to help.

Dick tried to hire me as General Superintendent of the MTR but I refused to go to Idaho, even though I had been committed to go if the government had operated the widgit. If I had, I am sure I would have clashed with the AEC area manager every day, as my ways and Leonard Johnson's ways of doing things were 100% opposite.

f. Hanford Again

To return to Hanford, Marvin Smith indicated that the AEC would be interested in a proposal for several different things, namely:

(1) A combination of several of the minor services. Later these were all taken over by Douglas-United Nuclear and others.

(2) 100 F Reactor was to be closed down. This could have been converted into a museum and park. Nothing has been done to date to the best of my knowledge.

(3) We develop a method to plate out strontium 90. Nothing has ever been done on this.

(4) Submit a bid on the laundry.

Later one of the AEC men tried to get us interested in decontamination services. He foresaw the need for a national facility and believed this should be built at Richland. He indicated financing could be arranged. I doubted the practicability of such a facility due to the hazards in shipment of contaminated equipment to Richland. Hanford has built such a facility for its own use and this should be contracted for public use. I have recently considered that Nuclear Management might offer to do so.

In respect to the waste disposal site, Stew Corbett about 1 March 1964 told Bill Johnson that Terry Hufft, President of Nuclear Engineering, had been to Washington, probably to Tacoma, and that Nuclear Engineering definitely expected to have a site at Hanford within two weeks. Apparently Hufft had been working with a man by the name of King, who was a friend of Governor Rosellini, and King had discussed the subject with Rosellini or with Rosellini's son. Corbett also stated they had talked to Mr. Ernest Tremmel, Director of the Division of Industrial Participation, Atomic Energy Commission, and Ernie had told them the AEC would not underwrite a monopoly. I believe Stew had gone to Washington, D.C. with Hufft.

It should be pointed out that Ernest Tremmel, who was in charge of the industrial contacts for the AEC, and I were old friends. I do not know if Hufft offered him any money or not. I assume that Hufft did offer to make some sort of a campaign gift to Governor Rosellini. California Nuclear, to the best of my knowledge, never made or

discussed any such offers. I would have fired anyone who did so.

As noted above, Stewart Corbett also never liked Nuclear Engineering's tactics and kept us informed of what was going on. I do not know where friendship took over from hatred in respect to Stew's actions, but I always suspected that hatred was the most important ingredient.

Fred then told me that Halstead had repeatedly stated that in case we did not work out anything with the State of Washington, we should go back to the AEC. Fred stated he thought that Halstead knew of the agreement between Hufft and Rosellini.

We also planned upon obtaining more capital. This included contacts with Richard's father-in-law at the Bank of America. The DeMars and others at Elk River also were interested and did help.

Fred suggested I telegraph Governor Rosellini, stating that Nuclear Engineering was attempting to maintain a monopoly. He suggested that I point out that we had the Navy contracts and the fact that General Atomics would not ship their 800 barrels of wastes to Nuclear Engineering.

I did not contact Governor Rosellini since I believed as a politician he would simply thank Hufft for his gift and proceed to ignore any action that could be used against him. I did, however, write a letter to Ernest Tremmel, reviewing the situation. This was dated 9 March 1964.

Our need for more capital was evident to everyone. So we started negotiations and soon had commitments for over $150,000, which we never drew. The commitments were based on the assumption that we could obtain a waste burial site in California, which no one has obtained to date.

What we should have done was to have applied for an increase in our authorized capitalization from $75,000 to $250,000, or more. Later we were embarrassed by not being able to sell stock. In this respect the Journal for 19 March 1964 reads as follows:

"MINUTES OF MEETING WITH MR. HAROLD TURNER
Thursday, 19 March 1964, Walnut Creek, California at 1500

Present: Harold Turner of Ring, Turner, Ring & Wright; Beierle; Johnson; McLain

1. We discussed the issue of additional stock. Mr. Turner pointed out that all stock paid for after 24 January 1964 is illegal. According to California law all such payments for stock are null and void and the stock cannot be of any value. I replied that it was his problem to get us out of trouble even after we got into trouble. He stated that California Nuclear, Inc. is authorized by our incorporation papers to borrow money and he would prepare a statement to the Commissioner of Corporations listing loans which we have made since 24 January with the request that we be permitted to issue stock as repayment of the loans.

2. We discussed issuance of more stock and it was decided to increase our stock to 30,000 shares, non par value.

3. We discussed the increase in the price of stock from $10 to $25 per share. Beierle agreed to write a justification for the increased price. Mr. Turner stated that the Commissioner of Corporations is usually reluctant to permit an increase in price but he believed there was ample justification in case a contract for a burial ground is awarded to us.

4. We discussed fees and it was agreed that the additional fee would be approximately $800.

5. It was agreed a copy of the minutes of the Board meeting of 18 January would be sent to Mr. Turner.

6. It was agreed the taxable year will begin as of 1 May and end on 30 April.

7. The annual stockholders meeting will be held on 15 June 1964 at 5000 Clayton Road, County of Contra Costa, State of California.

8. Mr. Turner stated that we could have a Board of Directors meeting in absentia provided the minutes prepared by the officers or others were approved and the minutes signed by each and every Director.

9. A list of known possible stockholders was presented to Mr. Turner. Since that time the following names have been added: George Lewis Helgeson and/or Carolyn M. Helgeson, Esther M. Nelson, Walter H. King and Charles M. Richards.

SM/ib
3/23/64
cc - Beierle
Johnson"

To the best of my knowledge Mr. Turner did none of the things he was instructed to do at the meeting on 19 March 1964. We meanwhile went on our way, believing we could issue up to $300,000 worth of stock. Since we did not obtain a contract for a burial ground for over a year the increase in stock price never came into effect. Further, we became a deficit company and the California Commissioner of Corporations would not permit us to issue any additional stock. So for this and other reasons we terminated our relationship with Mr. Turner. As indicated above, we also suspect Mr. Turner was paid off by Nuclear Engineering to cause us all the trouble possible.

We then found that Mr. Turner had been informed by the California Commissioner of Corporations that we were limited to the issuance of $30,000 capital stock. We were already in violation as we had issued nearly $38,000; so the McLains had to "buy" the excess stock and issue a note to the company. This started us on the basis of operating on promissory notes guaranteed by the McLains in lieu of stock.

We tried to issue additional stock but we were stopped by the California Commissioner of Corporations. But I don't believe Mr. Turner really pushed our papers or made a very serious attempt to get approval.

Further, early in June I received a sort of negative letter from our lawyer, Mr. Harold Turner, to which I replied in part:

> "The plans for expansion of California Nuclear are such that we will require changes in capitalization and perhaps it will be necessary to set up subsidiary corporations. Consequently, we will probably need more assistance in the future than we have had in the past. We would appreciate your following our plans and advising us so that we will not get into arguments with the Commissioner of Corporations of the State of California."

Why we didn't fire him, I'll never know!

On 23 March 1964 I sent a long letter to Mr. Robert E. Rose, Department of Economics and Development at Olympia. In this letter I reviewed the history and organization of California Nuclear along with a statement of our objectives, as follows:

"(1) To foster the nuclear business in every way possible; and

(2) To handle the wastes in the safest manner possible, regardless of costs."

Then Walt asked what we would sell California Nuclear to W. R. Grace for and I gave him the number of $250,000. This question of the sale of California Nuclear was discussed with the Directors. Two indicated the suggested sale price of $250,000 was too large while two Directors indicated the price was too small. Anyway, we did not sell for that price. Walt also stated that W. R. Grace and Nuclear Fuel Services would not bid on the operation of the Richland facilities.

Sometime about the middle of March the AEC approved the paper permitting transfer of areas at Hanford to state supervision.

One interesting thing happened about this time. As we had been promised the Navy contract on the basis that we could ship to the Nuclear Engineering site at Beatty, Nuclear Engineering decided that they would not accept the wastes. Actually, under pressure from the AEC, as noted previously, they opened the site to us but we stored the wastes at Concord until we could ship them to Hanford. About this same time we bid on the University of California wastes. Later we received this contract and held it until we joined Nuclear Engineering. They made a large shipment to us as soon as we opened the Hanford burial site.

During this same period we discussed the possibility of handling the Radiation Protection Services at Hanford in cooperation with Nuclear Fuel Services.

g. W. R. Grace's Troubles

W. R. Grace Chemical Company had established a nuclear fuels manufacturing plant at Irwin, Tennessee. T. C. Runyan had been President of that company and Stanton Reese had been Vice President for Sales. Mr. Edway Johnson was also a member of the group. Mr. Paul McDaniel had been a member of the W. R. Grace organization.

When Nuclear Fuel Services was organized, Walt Rodger was made Manager and headed the Plant Design with those mentioned above as part of Runyan's staff. The office was set up in Washington and after some arguments with Runyan, the rest resigned. This resulted in a shakeup and Walt was

placed in charge of the West Valley Plant. Before the shakeup was settled, the group discussed joining California Nuclear but when things settled down the group proceeded with the design and construction of the West Valley plant and negotiations with California Nuclear were dropped. However, the discussions did cause a delay in our actions.

After the West Valley plant began operations, W. R. Grace bought Walt's contract and dropped him. So he and Stan Reese set up a consulting firm in Rockville and I believe have been very successful. I still keep in some contact with Walt. In 1972 he and Mary were divorced and Walt married George Dymmel's exwife. We don't know what happened to Mary. While Walt and I still were partners, we were given the contract to design the waste system for the West Valley plant, but Walt took the contract with him when he joined Nuclear Fuel Services as President.

There were several discussions with Pickard, Warren, Lowe and others about setting up a waste pickup and general radiation service center in the East. This was not pushed simply because I had too many things to do. We had wastes on hand in California so this area took first priority. Between Tarapur, Purdue, consulting and California Nuclear, I simply was doing, or at least trying to do, too many things. Fred and Bill were also west coast oriented. Walt Rodger and I also wrote a long chapter dealing with radioactive wastes for a book for the AEC about this time.

h. Hanford a Third Time

By mid April the situation relative to the Richland site was about as follows: The Division of Industrial Participation of the State of Washington stated they had received only one bona fide proposal for a waste burial site. I understood they considered the proposal prepared by Nuclear Engineering as not being a bona fide and an honest proposal. As noted earlier, we heard that Nuclear Engineering approached Governor Rosellini at least twice and tried to obtain his commitment that only Nuclear Engineering would be considered as operator of the proposed site. About the same time I was told by Ernest Tremmel not to worry. He also told me that Mr. Rose and the State of Washington could act as they had all the papers they needed for the assignment of the proposed site.

Meanwhile business was picking up and it was becoming apparent that we could become successful if we could get a waste burial site near California and also one in the midwest. So as indicated in a later section, we

spent time attempting to obtain a burial site in Illinois.

We also pushed ahead for a site in Arizona in the hope that we could obtain a site there and also obtain approval to import wastes from surrounding states. We also found out that Nuclear Engineering had also sent a proposal to Arizona. We were informed by Mr. McGowan that enabling legislation had been passed but there was a 90 day period before the law became effective. So far as I know the situation in Arizona has never been clarified completely relative to the importation of wastes but no site has as yet been opened in that state.

In May 1964 we were asked to look at the wastes and handling of the cores of the AEC-NASA program at Jackass Flats. At that time Renolds Electric was apparently doing some of the Health Physics and decontamination work. Also at that time the AEC expected that perhaps 10 nuclear cores would be tested on a schedule possibly of 1 to 2 per year. We never were given detailed data. We assumed the cores would be processed at Idaho Falls. Since I had assisted as a consultant in materials development for Curtiss Wright, I did have a fair idea of the problems.

I discussed these problems with Nuclear Fuel Services. They looked into them. Actually, soon after this, it became clear that no one was going to fly any of these cores in the near future due to other complex problems. As everyone knows, the program has been cancelled and no nuclear core has ever been flown to my knowledge. I believe that the cancellation of this contract for the nuclear cores was one of the poorest decisions our government could have made.

The situation relative to the Richland site for a waste burial site was confused by Nuclear Engineering's bid. What they submitted I do not know but I assume that it was not a realistic proposal. We were told verbally that the Olympia people had to ask Nuclear Engineering for a revised proposal in order to get something to compare with our proposal. Also, as noted above, the AEC stated that they would not tolerate any extension of Nuclear Engineering's monopoly. Halstead indicated once that they needed at least two proposals in order to select the best bidder!

Nuclear Engineering people again talked to Rosellini or some of his friends and again let it be known to us that they had the site tied up.

Hanford asked us to bid on the Radiation Protection Services. We discussed this with Nuclear Fuel Ser-

vices as a joint venture but they were not interested. This contract, I believe, was awarded to Tracerlab. Hanford wanted a second proposal as Tracerlab had another similar facility and it was feared they would not send outside work to Richland.

During this same period our relations with the Davidson Company as a subsidiary of W. R. Grace were clarified, as noted above. Walt was finally placed in charge of the West Valley project. Due to various changes it became clear that Grace and Davidson had their hands full. So we dropped further discussions with them.

About the middle of May Mr. Rose of Olympia called and told me they were worried about the amount of material that would be available for burial at Hanford if a site were to be opened in California. He stated that they did not want to have a site opened, operated for a couple of years and then abandoned. I sent Rose a telegram guaranteeing 40,000 cubic feet per year for ten years, or a total commitment to the State of $20,000.

Both Fred and I thought that Rose's request was due to pressure from the Governor put on at the request of Nuclear Engineering. Actually, I don't know how much was buried; however, about 100,000 cubic feet were buried the first six months. This was perhaps larger than the average for the first few years as it included a large shipment from Argonne National Laboratory. We were later required to make a guarantee of $20,000 as a cash payment, which we did by mortgaging our house--much to Winnie's worry. At any rate, the site is still in wide use and we are paying on the mortgage.

By the first of May we were beginning to lose business because we had no waste burial site. For example, Lawrence Radiation Laboratory shipped 10,000 cubic feet to Beatty. This meant a sales loss to us of $25,000. We believed that almost weekly the AEC-Washington problems would be cleared up and the contract would be given to us.

On 14 May 1964 Marvin Smith and Fred talked to Mr. R. F. Philip, President of the Tri-City Nuclear Council in Richland. Mr. Philip stated that they were forming a development corporation for the objective of loaning money to industry that may wish to move into the area and develop new businesses. Mr. Philip was very interested and he indicated he would contact Mr. Rose and try to help us obtain a waste disposal site. Mr. Philip continued to help us morally but he did not succeed with much financial help.

Because the Atomic Energy Commission wished to have as many contractors as possible in the area, we dropped consideration of the Radiation Protection Services but we did offer to do small decontamination projects.

Mr. Philip also informed us on 14 May 1964 that "political pressure is being applied against the site in an attempt to keep California Nuclear out of the area." As we were bidding on the Atomics International contract at this time, we sent copies of our bids with and without the Richland burial site to Governor Rosellini, Senator Henry M. Jackson, Mr. Rose, and Mr. Halsted.

Also about this time it looked like Arizona would approve a site and also let us import wastes. I sent letters to the radioactive licensees in Arizona but received very little response.

On 15 June 1964 the Federal AEC announced the intent to issue a waste disposal license to us as presented below.

"No. G-149
Tel. 973-3335 or
973-3446

FOR IMMEDIATE RELEASE
(Monday, June 15, 1964)

AEC TO ISSUE WASTE DISPOSAL
LICENSE TO CALIFORNIA NUCLEAR, INC.

The Atomic Energy Commission is planning to issue a license to California Nuclear, Inc. of Lafayette, Indiana, to receive low-level radioactive waste material and to transport the material to authorized land burial sites.

The license would authorize California Nuclear to collect sealed packages of byproduct material (radioisotopes); source material (uranium and thorium), and special nuclear material (uranium-235, uranium-233 and plutonium). Under this license none of the packages would be opened by the company before being transported to the land burial sites. Storage of the material would not be authorized by the AEC license. The company's storage facility is located in Cowell, California, where regulatory authority over such activities has been assumed by the State of California by agreement with the Commission.

Under the license, possession of waste material would be limited to not more than 1,000 curies of radioisotopes, 4,000 pounds of source material and 500 grams of special nuclear material at any one time. In any single package

not more than 20 grams of uranium-235 or one gram of uranium-233 and plutonium would be authorized.

Transportation of the waste material would be conducted in accordance with regulations of the Interstate Commerce Commission and other agencies having appropriate jurisdiction. Where such regulations would not apply, as in intrastate transportation, license provisions would require procedures similar to ICC regulations.

The company has shown that it has personnel with training and experience in handling radioactive material as well as adequate equipment and procedures for handling the radioactive waste in a safe manner.

Notice of intent to issue the license will be published in the Federal Register on June 16, 1964. Unless a request for a hearing or petition to intervene is received by the Commission within 15 days after that date, a two-year license will be issued. Requests to intervene may be filed with the Office of the Secretary, U. S. Atomic Energy Commission, Washington, D. C. 20545, or at the AEC Public Document Room, 1717 H Street NW, Washington, D. C.

- 30 -

(NOTE TO EDITORS AND CORRESPONDENTS: This information is also being issued by the Commission's San Francisco Operations Office at Berkeley.)

6/15/64"

To return to Washington, on 22 May 1964 Fred talked to Judd Wunderly who worked with Rose. Marvin Smith, after discussions with Mr. Philip recommended we broaden our proposal to include all the service activities, including health physics, sources, inspection, and use of radioisotopes. This we did but they were all assigned to others before the burial site was cleared.

On 6 June 1964 I sent a letter to Senator Henry M. Jackson, pointing out that holding up approval of our Richland area site would cost the Federal Government about $58,000 in excessive costs on the bids for the wastes at only two of the government laboratories. Apparently this amount of money was too small for him to raise a finger. He can only count votes.

And again I wrote a general review letter to Mr. Rose. Since one man had stated he wanted to join us

because we were a "Golden Rule company", I emphasized this point. The reference to the Golden Rule was a direct quote from the man's application.

On 15 June 1964 I sent Mr. George C. Butler, of Butler and Yencopal, Richland, a letter requesting that he act as our lawyer in the Washington area. Mr. Butler helped us tremendously and I believe honestly from that time on. Mr. Butler was also the legal representative of the Port of Benton.

i. And More on Hanford

On 15 June 1964 also I asked George Butler to set up a wholly owned subsidiary of California Nuclear to be known as Washington Nuclear. I suggested that he and Mr. Philip of the Tri City Council act as two of the Directors. The objectives were to be the same as those of California Nuclear. Nothing was ever done. Apparently Nuclear Engineering had already set up a company known as Washington Nuclear.

On 16 June I sent the California Commissioner of Corporations a list of the persons that desired to invest in California Nuclear. This was done at the request of Mr. Harold Turner. This indicated Mr. Turner was actively pushing the request to increase our stock. But nothing came of it.

The letter to the Commissioner was in reply to the Commissioner's statement that there had been an official complaint made that California Nuclear had not been handling the stock issue in accordance with the Commissioner of Corporation's rules. Specifically it was charged that the initial stock was issued and not held in escrow. It was also charged that we sold stock beyond the date authorized and in amounts larger than authorized. This was true, as indicated previously. We pointed out to Mr. Turner that we requested in March that he make an application to the Commissioner. Mr. Turner then claimed we had not supplied him with all the information needed--but previously he had not asked for it!

Again, I now believe that Mr. Turner deliberately held our application until we were in violation of the regulations and that Nuclear Engineering people made the official complaint.

Later Fred and Turner talked to the Commissioner of Corporations. The Commissioner finally agreed to talk to representative stock holders. Whether or not he

did, I do not know. However, he took no action against us but neither did he approve issue of more stock. Several people, including Professor Robert Eaton of Purdue, wrote to the Commissioner stating that they had complete faith in California Nuclear and requested that approval be given to issuance of more stock. Apparently the Commissioner didn't know what to do, so he did nothing.

Finally I lost my patience, which is usually quite long in respect to such matters as license approvals, so on 24 June I called Halstead and told him that we had to make a decision soon on whether or not to continue our efforts to obtain a waste disposal site in the Richland area. He stated that he knew that representatives from Washington and Olympia were at that moment meeting relative to the waste site proposal. He stated he would inform them of our concern. So we held on.

The shareholders also began to lose patience and directed their questions at me. This was particularly true of the Minnesota people. Leo Anderson wrote me a long letter which I answered with a very long explanatory letter on 25 June. In this letter I gave a financial breakdown which read in parts as follows:

Accounting of Stock:

Beierle:		
Cash for stock	$ 3,500	
Equity in truck purchased by CNI	2,200	
Notes in lieu of salary	2,300	
		$ 8,000
Johnson:		
Cash for stock	$ 500	
Equity in truck	50	
Notes in lieu of salary	2,300	
		$ 2,850
McLain:		
Cash for stock	$ 25,100	
Notes in lieu of salary	8,634	
		$33,734

I also pointed out that it appeared that the McLains were the only people with enough faith in the company to continue financing it. Since then I have never heard any complaint about the large amounts of stock owned by the McLains. Johnson and Beierle did demand bonuses for their efforts on the Commonwealth Edison resin job several years later--but we had already planned that even larger bonuses would be given them, and finally gave them

less than they asked for.

At the end of June we hired Kathryn and Harry de Mars--Kay as secretary and Harry as assistant to Fred. They went to San Francisco and on to Richland. We hired them on the basis of getting the Hanford site.

Also the enabling legislation law had been passed by the Legislature and it became law on 16 July 1964.

I ended the first half of 1964 with another letter to Turner requesting information relative to the possibility of setting up subsidiary companies in Arizona, Washington, and Illinois, named after the states. But as usual little came as a result of our request. The California Commissioner of Corporations failed to give us the necessary approvals to sell stock. I now blame all this on Mr. Turner and Nuclear Engineering.

On 1 July I sent a long letter to Arizona stating our interests, but we could never follow through due to our poor finances. I believe other troubles could have been corrected and we could have opened a site in Arizona and imported wastes from other states had we obtained adequate financing. But our troubles were just beginning!

j. Decontamination Permit

Soon after we set up the office at Concord we asked for a Decontamination Permit in California. The first decontamination job happened in early February 1964. Fred and Bill were asked if they could make a mercury decontamination and they agreed to do so. As noted, they were not being overworked with handling of radioactive wastes. They did the work under a Special Permit from the Department of Public Health.

What happened was that someone had set up a mercury still in the basement of an apartment building in San Francisco. This was being used to recover gold from dental debris. When unattended, some part of the still or condenser broke and mercury vapor escaped. Not only the basement but most of the first floor and a small part of the second floor rooms became contaminated.

Fred and Bill cleaned the apartment up in about a week. Unfortunately, they were not paid before

they did the work. There were at least two insurance companies involved and we failed to collect the entire bill but we did get most of it eventually, or some $2,500.

It is of interest that this was the only invoice that California Nuclear ever issued that was not paid eventually in full.

Later Fred and Bill obtained a small decontamination job in California that involved radioactive materials. They were given only a "job license" for this work.

Then California issued us a formal decontamination permit based on the work on the two jobs mentioned above and the recommendation of the two inspectors that reviewed the work.

A year or so later we carried out an extensive decontamination of some abandoned nuclear facilities. They had been used for uranium shipping and handling. A considerable amount of equipment and facilities were involved. This contract was for over $8,000.

k. Second Half of 1964 in the West

We entered the second half of 1964 in an optimistic mood as we believed we had an excellent chance of leasing a waste disposal site in Washington and possibly also leasing sites in Arizona and Illinois. Actually, as described below, progress in Washington seemed excellent and we were very hopeful that we could get additional financing. None of these hopes developed for nearly a year and by that time we were so hopelessly in debt that the California Commissioner would not let us sell any stock.

In retrospect we should have taken drastic action. I don't know what would have been legal but we should have sold California Nuclear to Indiana Research and Development and, if the Commissioner would not have approved such a sale, we should have simply issued stock in another company to California Nuclear shareholders and gone ahead. But this might have put us in jail. But in any case we should have tried something radically different and it might have worked.

Every shareholder had faith in us and helped by loaning money and giving moral support. Most of all no one complained to the Commissioner of Corporations.

1. Land Title at Hanford

We, of course, knew very little about the internal AEC discussions relative to land titles and land transfers at Hanford as we only became informed when public announcements were made. We did know that the Hanford area of several hundred square miles was federal land. I never knew the detailed history of this land but apparently when it was stolen from the Indians, it became federal land, and when Washington became a state the title to the land, including mineral rights, became the property of the state. In 1943 when the federal government wished to use the area for the Hanford site it was deeded to the federal government by the state. But Washington retained the mineral rights to 38,000 acres. I never had a map showing this area.

Then when Washington wanted to use 1,000 acres of this land for socalled industrial development, including a radioactive waste disposal site, troubles began, especially troubles for us.

On 15 June 1964 the Tri-City Herald carried the following article:

"A-LAND TRANSFER
OKAY PREDICTED

State officials maintained today that mineral rights are not pertinent to the proposed leasing of 1,000 acres of Hanford land. The issue was brought up at a meeting in Richland between state and Atomic Energy Commission officials who are negotiating for the lease.

'We have arranged a meeting in Olympia tomorrow morning between the AEC and the State Land Management Division to discuss mineral rights,' said Robert E. Rose, state director of commerce.

'I don't think there is any question that we will end up with the lease,' he added.

The state retained mineral rights on 38,000 acres when the AEC acquired Hanford land in 1943.

The AEC has asked the state to relinquish the rights as a condition for leasing the 1,000 acres.

An AEC official said today the government wants the mineral rights released 'largely just to clean up the title to the land.'

The state wants to pay 60-cents an acre, or $600 a year for the land, which is the equivilant of the grazing fee, Rose said.

The proposed area is about 25 miles north of Richland between the 200 East and 200 West areas.

The state wants the land for nuclear-industrial development."

Also on 15 June the Tri-City Herald carried the following article:

"ROSE TO ATTEND AEC NEGOTIATIONS OF LAND TRANSFER

State and Atomic Energy Commission officials will meet Monday in Richland to begin negotiations for leasing 1,000 acres of Hanford plant land.

Robert E. Rose, director of the State Department of Commerce, told The Herald today he would be in Richland for the discussions.

The state now is considering a draft of the lease proposed by the AEC. One of the issues is mineral rights on land which the AEC acquired from the state in 1943.

The state retained mineral rights on 38,000 acres and the AEC has asked the state to relinquish these rights as a condition for leasing the 1,000 acres.

Bert Cole, state land commissioner, said this was unacceptable. Rose said the problem would be discussed next week. He said he could not tell how long it might take to reach agreement.

The state is prepared to ask for a lease on another 2,000 acres as soon as agreement is reached on a lease document for the first 1,000 acres.

Rose also said the field of candidates for the job of state atomic energy program coordinator has been narrowed to three 'and almost to two'.

He said they were 'high-caliber' people. Announcement of the appointment is expected later this week or early next week."

Then on 16 June the Tri-City Herald included the following article:

"A-LAND SWAP EYED

The state suggested today that the Atomic Energy Commission exchange surface rights on 1,000 acres of Hanford land for mineral rights now owned by the state.

AEC and state officials met this morning in Olympia to discuss the proposed leasing of 1,000 acres of Hanford land for industrial purposes.

State Land Commissioner, Bert Cole told The

Herald that the proposal was one of several that the state suggested to the AEC.

'Another possibility is that we transfer total mineral rights to the AEC but we would have to be paid something for them,' Cole said.

'We legally have no right to give the mineral rights away since the bulk of the land is school-trust land,' Cole added.

He said AEC officials will study the suggestions and more meetings are planned in 'the immediate future'.

'No conclusion' on a lease agreement has been reached, Cole emphasized.

The state wants to lease the 1,000 acres for about $600 a year. However, the AEC wants the state to relinquish mineral rights on 38,000 acres of Hanford land which the state retained when the government acquired Hanford in 1943.

The AEC says it wants the mineral rights released so title to the land can be cleared."

Then the following article appeared but we lost the date. Apparently it was from the Tri-City Herald:

"On Hanford Land
MINERAL-RIGHTS TALKS DELAYED

Negotiations in an Atomic Energy Commission move to gain the state's mineral rights on 38,000 acres at the Hanford reservation have been put over until September, State Land Commissioner Bert Cole said Tuesday.

The delay was suggested by an AEC representative so priority could be given to reaching agreement on a lease of 1,000 acres to the state for a peacetime nuclear industrial park at Hanford, Cole said.

Gov. Rosellini said recently the last road-block to the lease was removed when the AEC agreed to discuss the mineral rights issue separately, rather than tie it to the leasing proposal.

Cole, who had first opposed giving up the mineral rights, said he had no objection to the delay in discussing the matter.

The land commissioner said it may be possible to work out an exchange of land in view of recent congressional action to authorize disposal of some of the Hanford acreage for non-nuclear use.

The federal government took over the 38,000 acres from the state when it built the Hanford

Atomic Works in World War II, but the state retained mineral rights."

Then on 16 June the Tri-City Herald contained an article indicating that one solution to the problem was to "exchange surface rights on 1,000 acres of Hanford land for mineral rights now owned by the state". It also stated that "the AEC says it wants the mineral rights released so title to the land can be cleared." This squabble went on for several weeks.

To return to the subject of the sublease to California Nuclear, on 2 July 1964 a Richland radio announcement was made relative to the Richland site and the Tri-City Herald for the same date carried the following statement:

"STATE PICKS CALIFORNIA FIRM
TO OPERATE AT HANFORD

Waste Plant Planned

A California firm has been selected by the state to construct and operate a commercial low-level radioactive atomic-waste disposal facility at Hanford.

Gov. Albert D. Rosellini said today the firm is California Nuclear, Inc., which already has one facility in California and waste-disposal contracts with several nuclear firms.

The Governor said California Nuclear would take about 100 of the 1,000 acres the state will lease from the Atomic Energy Commission.

California Nuclear will move in as soon as the state obtains the lease, the governor said. However, the state and AEC have disagreed on conditions of the lease, one of which requires the state to give up mineral rights on 38,000 acres of Hanford plant land.

The AEC obtained the land from private owners and the state in 1943, but mineral rights were retained by the state.

A meeting is planned by the governor for 11:30 a.m. Monday with AEC officials from Richland to discuss the problem.

California Nuclear will have an investment of about $75,000 and employment of fewer than 50 persons at first, said Robert E. Rose, director of the State Department of Commerce.

Low-level wastes have relatively minor amounts

of radioactive contamination. They include clothing, tools, equipment, or liquids.

Waste-disposal operations conducted by General Electric Co. for the Hanford plant will remain separate.

'The Hanford area has ideal conditions for nuclear - waste storage--isolation, excellent ground conditions and close proximity to the Hanford laboratories, and other facilities,' Gov. Rosellini said.

It is an 'essential public utility for private nuclear industry,' he added.

California Nuclear, Inc. was one of two firms which submitted proposals for a waste disposal operation, Rose said.

Rose will negotiate the sublease agreement for the state.

California Nuclear is licensed by California, but must obtain an AEC license to operate in Richland because the state does not have authority to issue a license.

Gov. Rosellini said authorizing legislation will be a major goal in the 1965 session of the state legislature.

Officers of California Nuclear are Stuart McClain, president, a professor of nuclear engineering at Purdue University; Dr. Norman Hilberry, consultant, cosmic-ray physicist, and Frederick P. Beierle, vice president, a reactor-shift supervisor for the Elk River reactor in Minnesota."

I don't know where they got Dr. Hilberry's name, except he had been one of the persons with whom we were discussing the Arizona site. And we only planned on 4 to 5 employees.

Also, on 2 July 1964 the Tri-City Herald carried an article about California Nuclear, as follows:

"California Nuclear is licensed in California but must obtain an AEC license to operate in Richland because the state does not have authority to issue a license.

Gov. Rosellini said authorizing legislation will be a major goal in the 1965 session of the state legislature.

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It is an 'essential public utility for private nuclear industry,' he added.

California Nuclear, Inc. was one of two firms which submitted proposals for a waste disposal operation, Rose said.

Rose will negotiate the sublease agreement for the state."

And on 2 July 1964 I sent Senator Jackson a letter thanking him for his assistance in obtaining the site. Then on 8 July I officially notified the Radiological Health Department of the State of California. In the same letter I thanked them for the Decontamination Permit.

On 15 July 1964 I flew to Olympia for a meeting with Fred Beierle, Robert Rose, and Judd Wunderly. This meeting was based on the belief that the AEC would proceed with the lease. Bob Rose gave us a copy of the proposed lease of the property by the AEC to the State of Washington. He stated that this would probably be signed within a week. He stated as soon as this was signed they would send us a letter of intent that would permit us to start work and prepare the detailed request for the operational licenses for the facility.

We agreed with Rose on the terms of the contract, insurance, including Workmen's Compensation, permits, building plans, including letter of credit from the bank, the effect of and applicability of the Price-Anderson Law, payment of fees, life of contract, etc. We had to supply photostats of our insurance policies and notification of cancellation clauses, etc.

Then on 16 July we had several meetings. The Journal notes of these meetings are included below.

"JOURNAL - July 16, 1964 (Thursday)

In the morning we visited John E. Clute and Norman G.

Fuller. Mr. Clute is the attorney, Office of Chief Counsel, Richland Operation Office, and Mr. Norman G. Fuller, real estate officer. Mr. Clute stated that the AEC has not agreed to the contract but expects the details to be worked out soon. He stated that the licensee would be expected to follow the regular AEC regulations and controls, plus any other restrictions placed on the site in the State agreement.

It was necessary that they investigate the sale of land to the State and that the AEC make another policy decision. Unless it be sold to the State, this may take some further time and this does not permit us to make a definite statement concerning the date we can start operation.

We raised a number of questions concerning our operations on the site, as follows:

1. Routes to the site. Mr. Clute stated that all routes and means of access to the site will be open to California Nuclear and drivers carrying material to the site. There will be a clause that these facilities can be available only when capacity is available. It will be necessary that common carriers to the area give their names and that they be fingerprinted.

2. Classified wastes. In respect to calssified wastes, it will be necessary to obtain an amendment to our license. It was suggested that this be discussed with Roy Hageman at Chicago Operations Office, or the Industrial Representative at the San Francisco Operations Office. This whole subject will be considered as unrelated to the Hanford operations and of no concern to the Hanford AEC.

3. Monitoring the area. The only records, etc. that will be required by the AEC are those which will permit the AEC to determine if any affect of the California Nuclear operations on the AEC operations appears. In general they are unconcerned about what we may do.

4. Insurance. It is not their concern. They did suggest we check to see if we come under the Price-Anderson Act.

5. Utilities. Telephone service over the Hanford operations system will be provided since it is not commercially available. Electricity will be taken from the area but they suggested we contact the Public Utilities District and determine if they would like to build a line to the site. As to water, we will be permitted to take water from the 200 Area system. Sewage. They have no

concern but presumably a septic tank will be satisfactory.

6. Access to the area. An easement will be provided by roads, power, telephone, water, etc. This will be granted to the State by the AEC and presumably granted to us.

7. Buildings. We will be permitted to erect buildings. This is basically the concern of the State. The only requirement of the AEC is that they be architecturally satisfactory and in keeping with the area.

8. Fire protection. This will be provided by the AEC.

9. Subleases. All subleases must be approved by the AEC. The only requirement is that our operations not interfere with AEC operations.

10. Movement of ground water. We were furnished a map indicating that the movement of ground water is generally in a southeasterly direction in this area. Since the AEC has had a waste burial site in the section directly east of the one proposed for our area, there seems to be no concern about what we will do in the way of burial.

We should ask for the following information from the AEC:

1. A log of Well #9. This well lies to the west of our site.

2. Obtain a U. S. Geological Survey Map of Coyote Rapids Area. This may be obtained from U. S. Geological Survey, Denver 25, Colorado for $0.25.

3. Power. We should write a letter to the Benton County Public Utility District, Attention Thomas Black, Engineer, 524 South Auburn, Kennewick, Washington. The letter should give information about other industries that may come in.

4. Road. The corporate entrance would be a turn off at the southwest corner of the 200 East Area. This would be on a curve of a high speed highly used road. Our request therefore should ask permission for exit from the road approximately 1000 feet east of the curve with a road to parallel the present road to the southwest corner to the 200 Area and then turn south to the area.

We had lunch with Mr. R. F. Philip and Mr. Sam

Volpentest. Mr. Philip stated that if the legal questions could be worked out and if we had obtained a loan from the Small Business Administration at Seattle, that the Tri-City Council would build our building and lease it to us at a 7 1/2% interest rate. The lease would call for a straight lease for 36 months and payment at 10% per year for the next ten years. Mr. Philip gave Beierle a personal note which he should take to the Director of the Small Business Administration in Seattle.

Mr. Volpentest stated that they will loan us at least 80% of the cost of our equipment. He also stated that he would make every effort to assist us in obtaining personnel and purchasing proper equipment.

After the lunch Mr. Volpentest took us to the George Grant Company, building contractor, whom he recommends that we retain for our building.

In respect to water, it was suggested that we write to J. P. Head, Mechanical, Inc. 1333 Gillespie, Richland, Washington, and request information on the suggested size of pipe line from the 200 Area, and estimated costs for 1", 1 1/4", 1 1/2", and 2" pipe lines.

We then met with Mr. Norman G. Fuller. He suggested that we write to him at the Atomic Energy Commission, Box 550, Richland, Washington, and request the following information:

1. Well log on Test Well #9.

2. Meteorological data, including rain, wind, wind rows, precipitation, etc., for one or two years past.

3. Reports on the ion exchange properties of the soil.

4. Geological reports on the area.

5. Hydrological reports on the area.

6. A definite statement that we can put the water line under the road.

7. Any statements on requirements of the pipe and pipe size to the area.

8. Hanford or County code standards. In this request it was also suggested that the Benton County, Prosser, Washington be contacted.

9. Minimum standards required for a road to the area.

10. Authority to attach telephone, water, and other utility connections as required.

11. Necessity for erection of signs at the turn out and authority to erect such signs.

12. Switch fees from the AEC. (Railroad)

13. Authority to erect power lines and telephone lines, or attach telephone to the power lines.

14. Authority to meter and pay for the water.

15. Possibility of pumping from Test Well #9 for domestic and fire use except drinking.

16. What surface samples or vegetation data will be required. In this respect it was indicated the AEC will take the samples and we need not be concerned."

Immediately following these meetings we proceeded to obtain the above information and to do the things outlined. Also Mr. Turner agreed to proceed with efforts to increase our capitalization to $300,000. In respect to finance, we talked to some people in Indianapolis that were interested but since all our work was in the West, they finally decided against doing anything.

As indicated in the following announcement, we expected to move forward:

"AEC TO PREPARE
LEASE FOR LAND

"Washington, D.C.--A preliminary draft of a 50 to 99 year lease to the state for 1,000 acres of Hanford land is expected to be readied by the Atomic Energy Commission within a week, Dr. Glenn T. Seaborg, AEC chairman, told Gov. Albert Rossellini yesterday.

Seaborg also assured Rosellini and two representatives of the Tri-City Nuclear Council, that the AEC intends to cooperate with the state's efforts to develop private industrial uses for the Hanford land.

Rosellini said AEC hopes to obtain congressional action to remove restrictions that limit Hanford land to nuclear related use. This would clear the way for any type of

industry on the land leased to the state.

Dr. Seaborg gave the commission's assurance at an hour long conference here yesterday. After his session with Dr. Seaborg, Rosellini called on President Johnson at the White House.

Meanwhile, Senators Henry M. Jackson and Warren G. Magunson announced that the AEC will perform $75,000 worth of research and development at Hanford Laboratories for National Aeronautical and Space Administration.

This makes the eighth project that Hanford will do for NASA's Lewis Research Center in Cleveland. Total value of the projects thus far amounts to $1,700,000. The work will be accomplished by General Electric Co.

Jackson attended yesterday's session along with Sam Volpentest, vice president, and Glenn C. Lee, secretary, of the Tri-City Nuclear Council. Others at the meeting were James Ramey, AEC commissioner; John T. Conway, executive secretary of the Joint Committee on Atomic Energy; E. J. Bloch, assistant general manager for operations for AEC, and Frank P. Baranowski, director of the AEC production division.

An announcement of which reactors will be shut down should be forthcoming shortly, Rosellini said. This will have a bearing on what Wahluke Slope land can be released for Columbia Basin farming."

On 27 July I talked to Craig Cain of Chicago Fly Ash. Chicago Fly Ash was starting an aggregate plant at Beloit and was in financial troubles. He did agree to help us in case of need, and stated they would invest $10,000 to $20,000. In August 1964 we called Craig and he immediately sent us $5,000 for stock.

One item of business that came up was that we were led to believe we could not accept interest bearing loans with the promise that these would be converted to stock later. Nevertheless, we continued to accept loans with this understanding--legal or not. The Federal Securities and Exchange Commission ruled that we had to register any further issues of stock. The Commission also stated that we had already violated the law and that we should have registered the stock that we had issued prior to its issuance. They also stated if we would submit the proper papers, they would issue the proper permit promptly with no penalty or prejudice involved.

This leads to a comment that we very soon became acquainted with one of the representatives of the Securities and Exchange Commission in the Chicago Office

and submitted copies of our applications, etc. From then on we called on this man, a Mr. McLaughlin, periodically, and kept him fully informed of our goings on. My mother's mother was a McLaughlin but apparently no relation to this man's ancestors.

In our efforts to obtain funds we also discussed loans with the Small Business Administration in Chicago and Seattle. We did not work anything out.

As a result of our lack of stock sale approval, Winnie and I sold a sizeable block of stock. This worried Winnie. The broker, Mr. Parker of Alfred Noyes and Company, also thought we were crazy. Some eight months ago we rebought a much larger block from Mr. Parker (in 1973).

In one of our efforts to obtain funds we approached several banks but we got nowhere. We did make contacts which have become important over the years, so we now have excellent working relationships with Purdue and Lafayette National Banks in Lafayette.

Together we had gotten together some $75,000 cash for California Nuclear. Others had added some $17,000 to about $58,000 from the McLains. This was mostly handled as loans to the company and stock was not issued until 28 June 1968.

We notified Mr. Rose that we had $75,000 on deposit as he had raised the question of our financial ability. About this time we found out that the Ben Franklin Industrial Corporation was requesting a loan from the Small Business Administration for us.

Mr. Rose visited Richland relative to our finance and the wording of the contract on 18 August.

Also on 18 August I sent a letter to the Director, Isotopes Branch, Division of Licensing and Regulations, requesting an amendment to AEC License 13-10042-1, docket 27-39, issued 15 July 1964, requesting authority to store and bury low level radioactive wastes at the Richland site and solidify liquid wastes.

We hired George Lewis Helgeson as a Health Physicist in August. Lew had been working for General Electric Company and was thoroughly competent. As related later, he designed and built a portable whole body counter but soon after left to start his own company.

Another amusing thing occurred near the end

of August. The AEC asked for our updated certified financial statement. This requires a bit of review. When we organized California Nuclear we simply, for a time, kept track of our income and expenses. Then I tried to make up a sort of summary of expenses under a few general titles.

We contacted Ronald T. Huth, Certified Public Accountants, and Ron agreed to act as Accountant for us. We then hired Lugene G. Hungerford, who lived near us and whose husband I had helped move to Lafayette to work on his Doctor's Degree, to assist us. Lugene had a background of Accounting, Engineering, Mathematics, and Physics plus considerable business experience. She helped set up the books and has continued to work with us since.

Toward the end of August when the AEC wanted a revised statement, Ron Huth was at Myrtle Beach on vacation. I called him and he stated he would be home in a couple of weeks. This appeared to be too long. After some discussion Ron agreed to bring the books up to date if we could get them to him.

So our secretary, Irene Backus, agreed to take the books to Myrtle Beach. On checking she had just a bit over an hour to be on the plane in Indianapolis. She had to drive from the office on South Ninth to Huth's office on South Seventh, about 0.6 mile, pick up the books, drive to her home and get necessary travelling items, drive to Indianapolis, about 60 miles, buy a ticket, and get on the plane. She did it. She admitted driving 88 miles per hour most of the way to Indianapolis.

On 30 August Fred called and reported that he had been to Olympia and Mr. Rose reported that he was satisfied in all respects. We had registered California Nuclear in Washington and everything was all set to start business as soon as we got our permit. On 31 August the Federal AEC asked for a public meeting in Olympia on 15 September. Winnie and I then took off by car for Washington on 1 September and we arrived in Richland the evening of 7 September 1964.

We met Fred that evening and reviewed things. He had carried out most of the legal requirements, including registration in the County.

Fred reported that Nuclear Engineering is trying to sell all or part of their company for $800,000. Fred indicated they are apparently worried about our competition. California Salvage had also indicated some interest in

joining us. Actually we discussed seriously joining with California Salvage and finally did join Nuclear Engineering in 1968. Fred told us that the signing of the agreement transferring the 1000 acres from the AEC to the State was scheduled for 10 September.

On the 8th we met with Mr. Volpentest, the Cashier of the Richland Bank, and discussed equipment loans with him. We also talked about what wastes we might obtain in the Richland area. Mr. Paul Holsted wanted us to take the wastes from U. S. Testing and Battelle Laboratory. I doubt if either of these ever sent any wastes to us, even though we did contact them.

On 9 September we discussed the waste site with Mr. Robert L. Stockman, Engineer, Air Sanitation and Control Section, Washington State Department of Health, in Seattle. No objections were raised to our plans. We also talked to the Small BusinessAdministration and railroad people.

On 10 September 1964 the Seattle Times stated:

"STATE, AEC SIGN LEASE FOR
1,000 ACRES AT HANFORD WORKS

The Atomic Energy Commission today leased to the State of Washington 1,000 acres at the Hanford Atomic Works for $600 a year. The state hopes to sublease it for private atomic energy industrial uses.

The 99 year lease was signed for the state by Governor Rosellini and Robert Rose, state commerce director, James Travis, manager of the Hanford office of the AEC, accepted the state's check for the first year's rent.

Rosellini said the transaction marks the first step in a dramatic economic development for the state and shows the state's intent to push for development of privately owned nuclear industry.

Rose said there is a 'great deal of interest' on the part of many major national industries in the development of atomic energy for peaceful uses and that the lease of the Hanford acreage puts Washington in a better position than California to lure such industries.

Rosellini said he hopes to announce soon the signing of a sublease agreement with a firm to construct and operate low level atomic waste disposal facilities at Hanford. Such facilities would require 100 of the 1,000 acres."

Then on the 10th we witnessed the signing of the lease between the AEC and the State of Washington. Governor Rosellini made a short speech and they signed the contract. They wanted to sign the sublease with California Nuclear but we were still missing the certified financial report through August. This was mailed on the 11th to Mr. Rose. Had the lease been signed we would have been saved a great deal of trouble and money.

Meanwhile we had established an office in Richland in September. Fred had already moved to the area and later we moved Mr. and Mrs. DeMars to Richland. The office was very light and decent except it was terribly dirty. Kay and I spent the most of one forenoon scrubbing the floors and woodwork. We also began to work out detailed procedures in cooperation with the local authorities. These included such things as truck routes, passes, monitoring, utilities, building permits, etc., plus detailed budgets.

On 14 September we went over an application to the Small Business Administration. We were assured that as soon as these papers had been received and a letter sent to Rose, the contract with us would be signed by him.

We also talked to an architect relative to some details about the standard buildings we planned to buy. Fred had committed us to this architect without my prior approval. Finally we paid him the minimum charges and purchased Butler buildings.

On the 15th Cunningham from the AEC Washington came in along with a Mr. Book from the San Francisco AEC office. They reviewed our license applications and suggested some changes. The most important of these changes was to separate out our decontamination work and to be more specific in some of the training programs.

Then in the second half of the morning we had the required public hearing. Those present included:

Robert Wildman, Richland AEC
Robert L. Stockman, Washington Department of Health
John Dam, County Commissioner
Wes Brown, County Commissioner
---- Vanatti, County Health (?)
Donald Koch, State Department of Economics and Development

Mr. Cunningham did most of the talking. Instead of the type of open meeting so prevalent in the last

few years in which many objections have been raised, the meeting turned into a lovey-dovey type of thing. Koch stated about 60 industrial companies were interested in locating at Hanford and all of these were looking to see what happened to California Nuclear at the public meeting, as we were the first industrial people to be moving into the Hanford site.

In the afternoon we revised our AEC license application and reviewed it with Cunningham in the evening.

We also agreed that Helgeson would open an office in Pleasanton, Bill Johnson would hire someone to help at Cowell, and Harry DeMars would move to Richland with Kay and Harry would help Fred at the site. Bill would buy a tractor and semitrailer. It was understood that as soon as possible Fred would buy the necessary burial equipment such as earth moving equipment and a crane.

Fred also reported on 15 September that Mr. Hutchinson, President of California Salvage, had indicated that his firm would like to invest $100,000 in California Nuclear, turn their radioactive waste business over to us, and to carry out the transportation for us.

On 15 September Tri-City Herald carried the following article:

"AEC, NUCLEAR FIRM
DISCUSS PROPOSAL

Atomic Energy Commission officials today are clearing the way for the first commercial activity at Hanford that will not be under government contract.

California Nuclear, Inc. officials are meeting in Richland with AEC and state and county health department officials to discuss the firm's application for an AEC license to operate a low level waste disposal site at Hanford.

The firm has been issued a $35,000 county permit for the building which will be constructed on 100 acres of state leased land at Hanford. The initial investment will be $100,000.

An AEC spokesman indicated today the license application discussion should be completed today.

California Nuclear president Stuart McLain and other officials of the firm are meeting with R. E. Cunningham, chief of the isotopes branch of the Division of Licensing and Regulations for the AEC, Washington, D.C.; Herbert Book, Division of Compliance, AEC, San Francisco, and R. D. Wild-

man of the AEC's Research and Development Division at Hanford.

Also at the meeting are Benton County commissioners John Dam and Wes Brown; officials of the state and county health departments, and Donald Koch, Olympia, special assistant for nuclear development for the State Department of Commerce.

The plant will be known as the Richland Burial Facility. About eight persons will be employed initially. As the operation expands, officials said they hope to employ about 50.

Frederick Beierle, vice president of the firm, has already moved to the Tri-Cities."

They must have gotten the number of employees from Fred as I never dreamed of over 4. We actually employed a maximum of 5 at Richland.

After our visit at Richland Winnie and I drove to Sacramento and met with Gene Blanc for a courtesy call. We then visited Cowell, reviewed the records there and talked to Lew Helgeson. Lew had been working to get the General Electric contract but we never obtained this contract.

There was also a serious question about the Lawrence Radiation Laboratory contract which we later lost due to the holdup on the Richland contract.

A note was published in "The Times" of Pleasanton 23 September 1964 about the Pleasanton office as follows:

"WEST COAST NUCLEAR SERVICE INDUSTRY
SEES HEADQUARTERS FACILITY AT PLEASANTON

Pleasanton stands to gain another new industry this month, and a longtime local resident will gain a new challenge.

Lewis Helgeson has announced his affiliation with California Nuclear, Inc., a new firm dedicated to the disposal of radioactive waste materials.

And plans are underway to locate temporary offices for the firm at Pleasanton, with a long range goal of establishing the permanent headquarters here, Helgeson states.

For 16 years a member of the General Electric Atomic Research staff, Helgeson has resided for eight of those years in Pleasanton. He and his family have a busy record of activity with their community, their church, and the

world of music.

Storage and packaging facilities have been obtained in Cowell, California, and these operations will never likely be moved to Pleasanton, Helgeson said. He is optimistic however that the headquarters office building will be built here.

The firm has also been issued a permit to operate a 100 acre disposal site on state leased land near Hanford, in State of Washington.

Helgeson points out the growing demand for waste disposal in the nuclear industries, and feels a Pleasanton headquarters office will be central to much of that industry throughout the west coast."

Then we went to Los Angeles and I talked to Mr. Hutchinson of California Salvage. He stated they were doing about $50,000 per year of business. They simply pick up packaged radioactive wastes and barge them out to sea and dump them overboard. My impression was that these people knew practically nothing about radioactive materials but that they were reasonably good managers. Their shops were well kept but their buildings were fire traps. So they were not suitable for storage of radioactive materials. I never knew what AEC man inspected their facilities.

I also discussed a joint bid for the Atomics International contract. I had considered rail shipment to Richland. But due to our failure to get the burial site at Richland we did nothing further with California Salvage.

On the way home we stopped at Phoenix for a general discussion with the Arizona people. No action was decided upon.

Then on 2 October 1964 the Tri-City Herald carried the statement that California Nuclear had been given the first industrial loan of the recently organized Ben Franklin Industrial Development Corporation. This article is presented below. Actually the loan was never drawn. The Ben Franklin Industrial Corporation was organized to assist in bringing industry to the Tri-City area.

"HANFORD LAND LESSEE GETS
INDUSTRIAL CORP'S FIRST LOAN

The first Ben Franklin Industrial Corp. loan for industrial development is going to California Nuclear, Inc.

Joyce B. Kelly, president of the industrial development group, said the application has been approved unanimously by the loan committee and papers now are being processed for the Small Business Administration.

The SBA already has approved the application informally, Kelly said.

The Tri-City group is lending $14,670, SBA is lending $132,840, and California Nuclear is investing $54,600 to make a total of $202,100, Kelly said.

The firm will sublease 100 acres from the state's 1,000 acres of Hanford land, recently leased from the Atomic Energy Commission.

It will conduct a low level radioactive waste disposal business unrelated to Hanford.

Only three other firms in the country are engaged in commercial waste disposal operations.

Kelly said California Nuclear will start with about eight employees, but has excellent prospects for development and expansion.

Low level wastes are those radiation, but which require special handling. It may include such things as contaminated clothing, wiping material or liquids.

The Ben Franklin Industrial Corp. is a Tri-City venture in industrial development. Money to make the loans, which encourage new industry, is obtained from the sale of stock.

It is associated with the federal government's program through the SBA."

On 6 October the Tri-City Herald published the following:

"THIRD 'FIRST' FOR CALIFORNIA FIRM

Nuclear firm to receive license for processing Hanford wastes. California Nuclear, Inc. has another 'first' on its record.

Last week the firm became the first to receive a loan from the Ben Franklin Industrial Corp. Earlier it was the first to sublease land from the state's holding at the Hanford atomic plant.

Now the firm will be the first to receive a license for commercial use of radioactive materials at Hanford.

ANNOUNCEMENT

Sens. Henry M. Jackson and Warren G. Magnuson, both D-Wash., announced today that the Atomic Energy Commission will issue a license to California Nuclear for receipt, processing, repackaging, and storage of waste radioactive materials. The AEC said the license will be issued unless there is a petition to intervene or a request for a hearing within 15 days.

California Nuclear also has applied for authority to bury waste materials at the 100 acre site near the 200 East area of Hanford. This application is being reviewed. It is not included in the license to be granted.

The company will construct two buildings. One will be for offices, a health physics counting room, laboratory, maintenance facilities, and storage of non radioactive materials.

The second will be for processing liquids into solids, decontamination, and storage.

A fence will surround the whole area and wastes will be stored inside the fence.

FIRM'S PLANS

The firm plans to conduct a waste handling business for low level radioactive materials.

The AEC said California Nuclear will be authorized to possess up to 50,000 curies of radioisotopes; 4,000 pounds of uranium and thorium, and 5,000 grams of special materials. Not more than 20 grans of uranium 235, one gram of uranium 233, or one gram of plutonium may be contained in any single package."

One other item of interest is that we hired William Lewis Shadwick in Cowell to help Bill Johnson on 1 October 1964. He took the place of Fred Beierle. He helped us for four years, if I remember correctly. In respect to Mr. Shadwick, it might be of interest to repeat our contract with him. This was:

"29 September 1964

Mr. William Lewis Shadwick
Post Office Box 59
Cowell, California

Dear Mr. Shadwick:-

This letter is a formal contract between you and California Nuclear, Inc. to become effective 1 October 1964, subject to the following conditions:

1. Satisfactory completion of a medical examination at the expense of California Nuclear, Inc.
2. Acceptance of a salary of $550.00 per month.
3. Payment by California Nuclear, Inc. of $100.00 to defray the expenses incurred in moving.
4. Your out-of-pocket expenses, as authorized by the President or Vice President, will be paid by California Nuclear, Inc.

5. Your work station will be at the Cowell, California facility of California Nuclear, Inc.

6. California Nuclear, Inc. agrees to provide $10,000 life insurance and major medical insurance as soon as the policies can be obtained. The payments that California Nuclear, Inc. makes on this insurance become a part of your income and you must pay income tax on this amount.

7. In respect to vacations, sick leave, and time off for urgent personal business, California Nuclear, Inc. has no set policies and this is to be worked out with your supervisor. In return, it is recognized that overtime will be required from time to time and California Nuclear, Inc. will not pay for this overtime.

It is requested that the original of this letter be signed and returned to me.

Sincerely yours,

CALIFORNIA NUCLEAR, INC.

ACCEPTED: Stuart McLain, President

_____

Date: _____"

It will be noted that Mr. Shadwick was placed on salary. We have always done this with all our full time employees. Even though the persons were members of the Truck Drivers' Union, we always paid salaries. This also applied to secretaries, bookkeepers, etc. Everyone seemed to be happy with the system. Each person was on sort of an honor system as very few records were kept of hours or vacations. In return everyone in California Nuclear contributed more than we had any right to expect. Equipment was kept up in excellent shape.

On 8 October a meeting was held with the Hanford Atomic Energy Commission people relative to the Hanford site contract. But it was held up because of a liability clause in our NELIA insurance policy. A minor change of wording was necessary and the contract would be signed on 27 October. Later pressure was put on the Washington officials according to Mr. Rose to postpone the signing until the day after the election. During discussions between Beierle and Mr. Philip of the Tri-City Council, Mr. Philip called Mr. Rose in Tacoma and stated if there was any political finagling involved, they would publish the whole story. Mr. Rose assured him that there was no political angle and they did want to sign the lease but someone had suggested that they wait until the day after the election.

I continue to wonder! Then on 10 October the Nucleonics News carried a notice that "The State of Washington has leased from AEC 1000 acres for $600 a year and has subleased 100 acres to California Nuclear, Inc. for a low level waste disposal plant. California Nuclear has received the first building permit ever issued for private construction on the Hanford Reservation."

m. Abbott Laboratories

As an aside, it is interesting to look at the Abbott Laboratories. The Laboratory, as the source of radioactive wastes, is located in North Chicago. Sometime in September I received a letter requesting prices, etc for disposal of their radioactive wastes. This letter was signed by Mr. R. L. Fredrickson, Radiation Protection Officer. Abbott had a radiation laboratory at Oak Ridge and moved it to North Chicago about this time. They had continued to send their radioactive wastes to the Oak Ridge Burial Ground.

On 30 September I drove to North Chicago to discuss the situation with Mr. Fredrickson. He stated they wished to increase their work, including treatment of cattle. As a result they expected to produce about 20 barrels per month. I had checked that we could ship to Nuclear Fuel Services at West Valley.

Mr. Fredrickson stated they could not get a freight classification east of Chicago except by air. I suggested the use of common carrier to Richland. I stated we could not compete costwise with Nuclear Engineering. I was told that California Nuclear had the contract as they did not wish to use Nuclear Engineering unless forced to do so.

Mr. Fredrickson asked for a quotation. Later this was sent to him. And promptly we received the contract. We shipped common carrier to the West Coast until the Illinois site was opened. A good bit of business, thanks to Nuclear Engineering's uncooperativeness.

n. Waste Business

By October 1964 we were doing about $75,000 of business per year. We were also bidding on several large contracts such as Lawrence Radiation Laboratory, Martin-Marietta, Mound Laboratory, Argonne National

Laboratory, Commonwealth Edison Company, etc. Argonne produced 10 to 20 carloads per year, Dresden had one large cask shipment and another 1000 cubic feet.

We were also licensed to handle most shipments. Our limits were 100 grams of U 235, 60 grams of Pu, or 60 grams of U 233. We had Interstate Commerce Commission permits, etc.

For general information, a copy of the letter to Abbott Laboratories re their shipments follows. The question of title to the wastes was very soon cleared up and California Nuclear took title to the wastes as they were loaded on the common carriers. On burial title passes in all cases to the states.

"9 November 1964

Abbott Laboratories
North Chicago, Illinois

Attention: Mr. R. L. Fredrickson
Radiation Protection Officer

Gentlemen:-

Reference is made to the letter from Mr. Fredrickson to California Nuclear, Inc., dated September 11, 1964, and to conversations between Mr. Fredrickson and Stuart McLain since that date.

California Nuclear, Inc. understands that Abbott Laboratories has available for disposal from time to time drums and other containers containing solid and liquid radioactive wastes. California Nuclear, Inc. submits the following quotation for disposal of the low level solid radioactive wastes generated by Abbott Laboratories. This quotation is subject to the conditions listed later in this letter and to all applicable Atomic Energy Commission, Interstate Commerce Commission, and other federal, and other governmental agencies rules and regulations.

Our quotation is:

F.O.B. Abbott Laboratory's shipping docks: $0.10/lb plus $0.80/ft^3

This quotation is contingent upon title to the wastes being held by Abbott Laboratories until the wastes are delivered to California Nuclear, Inc. shipping dock at Richland, Wash-

ington or Cowell, California, or to some other designated shipping point.

California Nuclear, Inc. has been negotiating a contract for sublease of 100 acres from the State of Washington for construction and operation of a solid waste storage area, for construction and operation of a facility for reduction of liquids to solids, and for burial of radioactive solid wastes. It is expected that this sublease will be signed this week. Pending signing of the sublease, shipments of the wastes from Abbott Laboratories will be limited to solids, and the shipments will be consigned to Cowell, California. The shipping address at Cowell is

California Nuclear, Inc.
60 Industrial Row
Cowell, California

and the mailing address is

Post Office Box 59
Cowell, California.

Once the sublease has been signed shipments of solid wastes will be consigned to California Nuclear, Inc., Richland Facility, Richland, Washington, and the mailing address there is

Post Office Box 638
Richland, Washington.

As soon as the sublease is signed a contract will be let for construction of a facility for reducing liquids to solid wastes. The contract will call for completion of the building within ninety days. At the present time we are accepting liquid wastes at the Cowell, California facility and a quotation will be forwarded to you in the near future concerning shipments of liquid wastes to Cowell or to Richland.

All wastes must be packaged in accordance with the Packaging and Labeling requirements attached, and in accordance with Atomic Energy Commission and ICC regulations. Copies of our AEC license, NELIA insurance policies, and ICC permit are attached.

The quotation stated above does not include the cost of the containers.

We intend to open an office in the Chicago area early in 1965. This will be under the direction of an experienced

health physicist who will be able to follow any contract with Abbott Laboratories and to serve your needs in respect to our services. We believe that our quotation for handling solid wastes can be lowered in the relatively near future.

Sincerely yours,

CALIFORNIA NUCLEAR, INC.

Stuart McLain, President

SM/ib
Encls: ICC Permit
AEC License
NELIA Insurance Policies
Packaging & Labeling Requirements

cc - Beierle
Helgeson"

o. Court Orders

On 24 October 1964 I received the following letter and enclosure:

"United States Atomic Energy Commission
Washington, D.C. 20545

October 22 1964

In reply refer to:
DML:IB:NB
Docket No. 27-39

California Nuclear, Inc.
2323 South Ninth Street
Lafayette, Indiana

Attention: Mr. Stuart McLain

Gentlemen:

Enclosed for your information is a copy of a telegram we have received from Conrad Kayne and Vanderberg, Tacoma, Washington in regard to your application for a license amendment.

Very truly yours,

s/ Richard E. Cunningham
Richard E. Cunningham
Chief, Isotopes Branch
Division of Materials Licensing"

Enclosure:
As stated above

"WESTERN UNION INCOMING

1964 Oct 20 PM 3 50
U.S. Atomic Energy Comm.
TWX Unit

AC A008 345P EDT Oct 20 64 CTA 375

PRB033 TKA176 PD TACOMA WASH 20 11 45 A PDT

TROY CONNOR, COUNSEL
DIVN LICENSING AND REGULATION ATOMIC ENERGY COMMISSION
WASHDC

TAXPAYER SUIT WILL BE INITIATED TO PREVENT SUBLEASE OF HANFORD AREA BY STATE OF WASHINGTON TO CALIFORNIA NUCLEAR INC BASED ON VIOLATION OF STATUTES AND CONSTITUTION OF STATE OF WASHINGTON. REQUEST DELAY IN GRANTING AEC LICENSE TO CALIFORNIA NUCLEAR PENDING DETERMINATION OF VALIDITY OF LEASE BETWEEN AEC AND STATE OF WASHINGTON AND PROPOSED SUBLEASE. LETTER FOLLOWS

CONRAD KAYNE AND VANDEBERG 600 RUST BLDG TACOMA WASH (15).

Western Union Incoming"

I immediately sent copies of the letter and telegram to Beierle and Helgeson. Helgeson thought the name of the man who started the suit was Vice President of Irradiated Fuels Transport of Tacoma and that Irradiated Fuels Transport was a subsidiary of Nuclear Engineering. Helgeson also thought the whole thing would blow over quickly because of so much support from others.

According to a telephone conversation with Richard Cunningham of the Washington AEC, Nuclear Engineering requested the AEC to hold up our license due to the "taxpayers' suit". Cunningham stated the AEC refused to do so as the AEC is involved only in safety. He stated the license would be issued on 26 October 1964.

We tried to get Mr. Philip, the Editor of the Tri-City Herald, to run two inch headlines but it was the 16th of November before he made any announcement. We suggested headlines as follows:

"DEVELOPMENT RICHLAND AREA HELD UP BY TAXPAYERS' SUIT"

On 27 October the Hanford Area AEC lawyers

agreed that if the taxpayers' suit is pursued and we are delayed, the AEC will issue us a prime contract and permit us to start waste burial on AEC land. But they never did this. The AEC Washington office also was interested but did not push the prime contract. What the courts would have done was never decided.

As soon as I could I flew to Seattle and back to Pasco to see Fred. On 5 November 1964 Fred and I went to see Mr. Butler, our lawyer about the "taxpayers' suit".

Mr. Butler turned out to be quite worried about the suit. He stated that the Washington Constitution specifically requires that no state funds will be used to bring industry to the state. Thus, the agreement between the state and the federal government appeared to have been open to legal arguments. Butler also pointed out that in respect to the Port Authorities and Dams, they have had trouble condemning land and giving approvals.

We then talked to a Mr. Cluett of the Hanford AEC and obtained a letter from him stating the sublease was satisfactory to the AEC as it was written.

We then flew to Seattle and drove to Olympia to talk to Mr. Robert Rose. A detail re third party was straightened out and Rose stated he would get the sublease retyped and mail it to me for signature.

I then flew to San Francisco and talked to Mr. Harold Turner re the stock issue. He stated that the Securities and Exchange Commission would not approve our stock issue until the Hanford lease was signed but they stated that they would approve the issue within 48 hours after the signing of the sublease.

I returned the signed sublease to Mr. Rose on 10 November 1964. On 9 November Mr. Rose had written to the AEC Area Manager at Hanford that they were backing us, etc and requesting that Travis give us a direct contract. The AEC refused to act until they had time to study the problem. Meanwhile we considered a countersuit on the basis of restraint of trade.

Meanwhile Arizona wrote indicating an interest in a burial site and also in a reprocessing plant.

Then on 19 November the Commission declined to take any action concerning a prime contract to us.

We also discussed sale of California Nuclear

to Nuclear Fuels Services for $500,000 with the stipulation that I would sign a 2 year contract and we would expand into other related work. Due to the suit nothing came of this. The California Department of Public Health were also greatly concerned by the suit and promised to help in any way possible. We had just been given the General Atomics contract and this seemed to impress the state people.

On 10 November 1964 the "Spokesman Review" carried the following article:

"HANFORD LEASE PLAN IS BLOCKED
Court Order is Obtained

Olympia (AP)--State plans to lease property at Hanford to California Nuclear, Inc., for disposal of low level nuclear waste were blocked by a court order Monday.

William W. Drury, a Tacoma businessman interested in a competing company, obtained an order prohibiting the state from executing a proposed lease with California Nuclear, Inc., or any other private corporation.

The order, signed by Thurston County Superior Judge Charles T. Wright, directs Gov. Rosellini and Robert E. Rose, director of the Department of Commerce and Economic Development, to appear in court Nov. 30 to show why a preemptory writ of mandate should not be issued to halt sublease of real property which the state leased from the federal government.

'No Authority'

Drury said the state has no legislative authority to lease property from the United States government and then release it to private industry.

He also objected to a portion of the lease of some 1,000 acres of the Hanford Works from the federal government.

'Under the terms of the lease,' Drury said in an affidavit, 'The State of Washington is bound at its own expense...to protect the United States of America and save it harmless from any liability...arising out of any claim...brought by any third party for injury to or death of persons...or destruction of property caused by a sublessee's conduct of business on the leased premises...'

Drury's attorney, Elvin J. Vandeberg of Tacoma, said that since the state will be liable for actions of firms to which it subleases the property, the state is, in essence, loaning its credit to the sublessees in violation of the state Constitution.

Serious Effect is Seen

Rose said the court action can have a serious effect on nuclear development in the state.

'It can hurt the economic interest of everybody in the state, and especially people in the Richland-Kennewick-Pasco area,' Rose said.

He said Drury, Vandeberg and F. S. Lucien, president of Washington Nuclear, Inc., visited him here Sept. 11.

'The purpose of their visit seemed to be to persuade me that the company with which we were negotiating a sublease at Hanford--California Nuclear, Inc.-- was not financially able to handle the business,' Rose said.

'I understood that these three gentlemen represented a company called Washington Nuclear, Inc.

'They had with them a proposal that I was told was for a sublease of the state land at Hanford for a waste disposal operation.

'Since we were already negotiating with California Nuclear, Inc., I did not read the proposal.'

Rose said another firm, Nuclear Engineering, holds a 20 per cent interest in Washington Nuclear, Inc., and would provide the technical know-how needed if Washington Nuclear obtained the sublease for a waste disposal operation at Hanford.

Vandeberg said Drury plans to take over Nuclear Engineering's 20 per cent interest in Washington Nuclear."

In comment on the above it turned out that Drury was a lawyer, at least that is what I was told, in the employ of Nuclear Engineering, even though he stated he was a businessman. Apparently Nuclear Engineering had gotten the lawyers to organize Washington Nuclear simply to keep California Nuclear from getting the site or simply to harrass us. Of course, we tried to enter the suit as indicated in the following article from the Tri-City Herald on 16 November 1964, but the court did not permit it.

"CALIFORNIA NUCLEAR DEFENDS CONTRACT

California Nuclear, Inc., of Richland, today jumped to the defense of the state in awarding it a contract to sublease land at Hanford.

It said the suit brought last week by William W. Drury, an official of Washington Nuclear, Inc., 'is not brought in good faith for the benefit of the public, but is a misuse and subversion of the courts of this state in an attempt... to harrass and destroy legitimate competition.'

Washington Nuclear, Inc., has challenged the right of the state to sublease land at Hanford, specifically, the 100 acres which California Nuclear will use to develop a waste management operation.

Fredrick P. Beierle, vice president of California Nuclear, charged in a deposition made Friday that the 'true purpose of this proceeding is to destroy the business of California Nuclear in the state of Washington, so that the companies in which the realtor (William Drury) has an interest may take over the premises at Hanford.'

California Nuclear asked permission to intervene in the suit as a party defendant."

If engineers had the same code of ethics as some lawyers have, I would be ashamed to let myself be called an engineer. I agree that defendants that are murderers should have defending lawyers to bring out all facts in the cases but the lawyers should not obstruct the cases. In the case of Nuclear Engineering their tactics abetted by the lawyers were simply to harrass and, if possible, force California Nuclear into bankruptcy. What justice there was is unknown to me and I believe to Nuclear Engineering's lawyers. Injustice was the objective.

The hearing was set for 30 November. However, for some reason it was delayed until 10 December.

I did not go to the hearings on 10 December but both Lew Helgeson and Fred Beierle attended. Lew stated that at the hearings in Olympia a lawyer by the name of Petersen presented the state's case. Then Koch made such a poor speech that the Judge interrupted him and stated that the decision was made on a point of law and that a permanent injunction was granted. Fred stated that Vandenberg did such a good job of presenting Nuclear Engineering's or Washington Nuclear's side of the case that he wished he was our lawyer.

Following the hearings the authorities in Olympia tried to work out an agreement for the Benton County Port Authority to lease the land from the AEC and sublease it to California Nuclear. Also Mr. Rose stated that the case would be carried to the State Supreme Court.

California authorities began to take more of an interest in a burial site. But again there was too much resistance and nothing was accomplished.

On 3 December the Tri-City Herald carried the following article:

"COURT ASKED TO DISMISS
SUIT ON HANFORD LAND

The state Wednesday asked for the dismissal of a court

suit aimed at blocking the leasing of land to private industry at its peacetime nuclear industrial park at Hanford.

Accompanying the motion were affidavits from Gov. Rosellini, State Commerce Director Robert E. Rose and eight other state, federal and local officials, all backing the state action.

Rosellini said subleasing part of the 1,000-acre site to California Nuclear, Inc. for a low level radioactive waste disposal facility was 'absolutely necessary' for the state's nuclear industrial development.

The governor said the state had the power, authority and responsibility to carry out the transaction. It had leased the land from the Atomic Energy Commission and planned to sublease to private industry.

A Tacoma businessman, William E. Drury, obtained the temporary court order blocking the sublease. A show cause hearing has been set for Dec. 10 on whether a permanent injunction should be granted to halt the deal.

Drury, who has an interest in a competing company, contends the state had no legislative authority to lease and then sublease the land.

STATE'S ARGUMENT

In moving for dismissal, the state argued Drury lacked a legal right to bring the suit because he alleged no special injury to his interests.

In one of the supporting affidavits, Donald F. Koch said 70 top-level industrial corporations considering coming to Hanford might go elsewhere if the subleasing is halted.

He is a special assistant for nuclear industrial development in the State Commerce Department.

Rose, the department director, said Drury and two other representatives of Washington Nuclear, Inc. proposed subleasing some of the land but their bid was not considered because negotiations had already begun with California Nuclear, Inc."

According to another article the court ruled against the State on about 10 December as follows:

"COURT KILLS STATE LEASE
ON 1,000 HANFORD ACRES

Olympia (AP)--The State Commerce Department does not have power to sublease land at Hanford for nuclear development, Thurston County Superior Court Judge Charles T. Wright ruled Thursday.

Judge Wright said it was 'an unpleasant task' to make the ruling, particularly since 'it may impede the economic

progress of the state.'

The jurist said he had to make the ruling because the office of state director of commerce is a statutory one and the statutes do not give him the power to enter into the type of agreement challenged in court.

STATE REQUEST

The state had asked the court to dismiss a temporary injunction that is blocking the leasing of land to private industry at the state's peacetime nuclear industrial park at Hanford.

Assistant State Atty. Gen. Lloyd Peterson said the subleasing of part of the 1,000-acre site to California Nuclear, Inc. for a low level radioactive waste disposal facility was essential for development of the state's nuclear industry.

The state has leased the 1,000 acres from the federal government, and Peterson said there was no way for California Nuclear to lease the land for its operations directly from the Atomic Energy Commission.

NO ASSURANCE

He said the AEC will not lease directly to private firms because it has no assurance they will be around to maintain a 30 to 50 year watch over buried nuclear wastes.

The action against the state was brought as a taxpayer's suit by William E. Drury, Tacoma businessman, who has an interest in a competing company.

He obtained a temporary court order blocking the sublease to California Nuclear, on the grounds the State Commerce Department had no legislative authority to lease and then sublease the land."

Also on 11 December 1964 the Tri-City Herald or one of the Tacoma papers carried the following item:

"STATE TO APPEAL
HANFORD RULING

The state will appeal a court ruling that it has no authority to sublease land to a commercial firm, Robert E. Rose, director of the State Department of Commerce, said today.

Rose said the state will also seek legislation to spell out the duties and powers of the department of commerce.

Thurston County Superior Court Judge Charles Wright ruled in Olympia yesterday that the state could not sublease land at Hanford to California Nuclear, Inc. for a radioactive waste disposal operation.

TAXPAYER'S SUIT

A taxpayer's suit was brought by William Drury, Tacoma businessman, who has an interest in a firm competing with California Nuclear. Drury challenged the state's right to lease land from the Atomic Energy Commission and sublease it for industrial development.

Judge Wright ruled that the state could lease the land but had no authority to sublease.

At the same time, Judge Wright strongly criticized the action of Drury in filing suit.

The judge said he found it unpleasant to make a decision that will impede the economic growth of the state, especially when the taxpayer bringing suit is motivated by 'mercenary and selfish interests.'

'Whether or not the taxpayer's motives in bringing the suit are good or bad--and these are certainly bad--the court must hear it,' Judge Wright said.

NOT SHATTERING

Donald Koch, state nuclear coordinator, said the decision 'is not a shattering blow.'

It will delay some activities but, more important, he said, the decision may have a long term effect on other industries who may find this is not the proper environment for them, Koch said.

The Tri-City Nuclear Industrial Council also expressed disappointment at the 'unexpected' and 'apparently selfish interest' attempting to impede industrial development.

SOLUTION SOUGHT

R. F. Philip, council president, said he hoped the questionable legal area would be cleared up quickly in the next session of the legislature so that the state could continue development of its nuclear efforts at Hanford.

'We hope that California Nuclear will be able to work out this problem and find a way to do business in the area, because it will be a fine asset to the community and represent a good growth potential,' Philip said.

'This will not hamper our other industrial development activities which are taking place outside of the state leased land,' he added.

'It will in no way affect our present segmentation-diversification efforts,' he emphasized."

Further, in December one of the newspapers carried the following item:

"ROSELLINI TO PRESENT
NUCLEAR ENERGY BILLS

Olympia (AP)--Gov. Rosellini says the 25-bill package he plans to present to legislators before he leaves office

next week will include two to help promote private nuclear energy industry in the state.

Rosellini said Thursday the two measures would set up an Office of Nuclear Energy Development in the State Commerce Department and allow the state to license and regulate industries that work with radioactive materials.

Only with such a licensing law, he said, will the Atomic Energy Commission grant authority to allow the further development of private nuclear industries in Washington.

The proposed legislation will allow the state to buy, sell and lease land for the development of such private business firms, he said.

The Thurston County superior court ruled recently the state commerce director does not have authority, under present law, to lease land at Hanford to a nuclear waste disposal firm.

The numerous industrial possibilities for nuclear energy include a nuclear ship building and shipservicing industry, Rosellini said."

Governor Rosellini 'retired' at the end of December in favor of Mr. Daniel J. Evans.

On 21 December Fred met with State Senator McCormack and he had a luncheon with seven or eight of the Senators and Representatives from Eastern Washington. Fred followed through on his contacts with the members of the Legislature. He said once he had had all the members of both houses as his guests either for small breakfasts or luncheons prior to the vote on the bill in the Legislature that authorized the state to act.

p. Summary

The second half of 1964 was extremely disappointing. During the 8 months of the fiscal year from 1 May through 31 December 1964 we had a net cash loss of $50,000 plus a deferred salary loss of $14,000. General Electric refused to sign a contract with us, Atomics International did not send us a request to bid, and General Dynamics cancelled the tentative contracts they had given us. We were told we were low bidder on two contracts which were not given to us. Lawrence Radiation Laboratory continued to hold wastes for us. The Navy continued its contract but we could not invoice the Navy until we could certify we had buried the wastes.

6. Illinois Burial Site Through 1964

California Nuclear was organized in California and named California Nuclear in order to assist, if possible, in obtaining a radioactive waste burial site in that state. The reasons for choice of California were that Fred and Bill knew the area and were Pacific Coast oriented; there were several large nuclear facilities near the Pacific Coast; it appeared that in a showdown fight we could obtain the next waste burial site to be opened in that area due to our technical ability; and our belief that nuclear power plants were needed on the West Coast. It was known that the West Coast lacks coal; so we supposed that most new power plants would be nuclear. We, of course, did not foresee the effects of what we may call the "Environmentalists' Movement" would be. Nor did we recognize the importance of the "earthquake" question. As a result of these two questions, very few nuclear plants have been built on the West Coast.

It was also obvious that nuclear power plants would be built in the Midwest and East as orders were being signed for such plants. So we started thinking of a waste burial site in the Midwest as soon as we organized. Since I knew a little about Indiana and Illinois, it was natural to make proposals to those states.

The State of Illinois passed enabling legislation on 16 August 1963. The law, in its entirety, follows:

"State of Illinois
Department of Public Health
DIVISION OF SANITARY ENGINEERING

RADIOACTIVE WASTES ACT

An Act to authorize the Director of Public Health to purchase, lease, accept or acquire suitable sites for the concentration and storage of radioactive wastes, to provide for supervision of the operation of such sites and to authorize the Department of Public Health to prepare and to enforce regulations pertaining to the use and operation of such sites. Approved August 16, 1963.

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

Section 1. The Director of Public Health is authorized to acquire by private purchase, acceptance, or by condemnation under the Eminent Domain Act, any and all lands,

buildings and grounds where radioactive by-products and wastes produced by industrial, medical, agricultural, scientific or other organizations can be concentrated, stored or otherwise disposed in a manner consistent with the public health and safety.

Section 2. The Director of Public Health may accept, receive, and receipt for moneys or lands, buildings and grounds for and in behalf of the State, given by the Federal Government under any federal law to the State or by any other public or private agency, for the acquisition or operation of a site or sites for the concentration and storage of radioactive wastes. Such funds received by the Director pursuant to this section shall be deposited with the State Treasurer and held and disbursed by him in accordance with 'An Act in relation to the receipt, custody, and disbursement of money allotted by the United States of America or any agency thereof for use in this State', approved July 3, 1939, as amended. Provided that such moneys or lands, buildings and grounds shall be used only for the purposes for which they are contributed.

Section 3. The Director of Public Health may lease such lands, buildings and grounds as it may acquire under the provisions of this Act to a private firm or firms for the purpose of operating a site or sites for the concentration and storage of radioactive wastes or for such other purpose not contrary to the public interests.

Section 4. The operation of any and all sites acquired for the concentration and storage of radioactive wastes shall be under the direct supervision of the Department of Public Health and shall be in accordance with regulations promulgated and enforced by the Department to protect the public health and safety.

Section 5. The Director of Public Health is authorized to enter into contracts as he may deem necessary for carrying out the provisions of this Act.

Section 6. It is recognized by the General Assembly that any site used for the concentration and storage of radioactive waste material will represent a continuing and perpetual responsibility in the interests of the public health, safety and general welfare, and that the same must ultimately be reposed in a sovereign government without regard for the existence or nonexistence of any particular agency, instrumentality, department, division or officer thereof. In all instances lands, buildings and grounds which are to be designated as sites for the concentration and storage of radioactive waste materials shall be acquired in fee simple absolute and dedicated in perpetuity to such purpose. All rights, title and interest in, of and to any radioactive waste materials accepted by the Department of Public Health for permanent storage at such facilities, shall upon acceptance become the property of the State and shall be

in all respects administered, controlled, and disposed of, including transfer by sale, lease, loan or otherwise, by the Department of Public Health in the name of the State."

This law has been used as a model for some other states. This was true of California, Washington, and Colorado and partially true for Indiana. Recently Alabama has asked for a copy (April 1973).

The Proposal to Illinois was addressed to the Department of Public Health, attention Mr. Robert R. French, Chief Bureau of Radiological Health and Air Pollution Control. It is of interest that Bob spent two days at Argonne with Walt Rodger and me in sort of a fast training course a few years previously when he first joined the Illinois Department of Health. And Clarence Klassen, Bob's boss, and I had been on the National Academy of Sciences Committee set up in 1955 to look into the storage of radioactive wastes problems.

Soon after passage of the Illinois Act, Nuclear Engineering wrote to the Illinois Department of Public Health that a site in Illinois would not be economic. No one else appears to have discussed the subject until California Nuclear did.

Because of our interests in the West, I did very little in Illinois until June 1964. As noted above, we submitted a very preliminary proposal to the State of Illinois on 24 October 1963. Not much was done except occasionally to check with the State authorities.

Then in early June 1964 Eugene Bailey discussed the subject with me. Gene had been an officer in the Automotive Division at Aberdeen Proving Ground. I knew him there only slightly. He was transferred about 1942 to the Chrysler Tank Manufacturing Plant in Detroit, so temporarily I lost track of him. General Christmas was in charge of the development of the tanks at Aberdeen but he could not run a production plant and Gene had to arrange for the General's transfer. Gene was then a Captain or a Major. Anyway, Gene got General Christmas transferred and got the Tank Manufacturing Plant in operation.

I don't know Gene's background in detail. I think his grandfather started Commonwealth Edison and Gene's father was President for a long time. Gene took Mechanical Engineering at Purdue University and married a local girl. After her death several years ago he remarried the daughter of one of the officers of the company. His son Robert is a Professor

of Nuclear Engineering at Purdue. As indicated previously, I worked with Gene to get Commonwealth Edison into the nuclear management field and Gene and I were members of the ASME Special Committee on Nuclear Power for several years. I have always regarded Gene as one of the outstanding engineers in the country.

So it was natural for Gene to take an interest in California Nuclear. The success of Dresden I Nuclear Power Plant had led Commonwealth to decide on a nuclear future. Of course they have been held up by environmental, safety, thermal heating, and construction problems, but the company is committed to construction of nuclear plants for the bulk of their future power. The company is also interested in the disposal of the radioactive wastes.

Chicago Fly Ash was organized sometime in the 1940's or 1950's as an independent company to handle the fly ash rejected by the Commonwealth power plants. Gene, as Administrative Engineer and a fairly large stockholder in Commonwealth, wanted Chicago Fly Ash and California Nuclear to join. As a result Chicago Fly Ash proved to be extremely helpful to us.

On 9 June 1964 Gene invited the following Chicago Fly Ash people:

Craig J. Cain, President
Mullendorf
O'Brien

and me to join him for lunch at a club in Chicago. The three people named above were owners of Chicago Fly Ash and all active in its operations. I believe Mullendorf was active in operations and O'Brien more involved in legal problems. Both of these men appeared to be very conservative.

We first reviewed the general operations of California Nuclear and pointed out we were trying to get sites at Richland and in Arizona, and that we were setting up subsidiary companies in both of these states. We then discussed the general area of radioactive wastes and the service company and what a service company might do for the utilities.

Gene Bailey then discussed possible Illinois sites, including abandoned mines and surface mined areas. I pointed out the difficulties encountered in both of these types of mines and stated I believed the best area would be some of the higher ground in the region around La Porte, Indiana. It was apparent that Gene favored Illinois and then he pointed out that they owned about 3000 acres across the river from

the Dresden plant. Since they were planning on an 800,000 kw Reactor to be built at Dresden in the next few years, they were anxious that plans be started for a fuel reprocessing plant in the Midwest. This area was served by the Elgin, Joliet, and Eastern Railway, and branch lines, and by U.S. Route 6. Some of the area is low but towards the northwest across Route 6, there is high ground which appeared to be eminently suitable for a burial site. So far as known, this is gravel debris from the Tyndal glacier. The gravel could be mined and the area refilled with the radioactive wastes recovered with the present surface dirt and returned to pasture or farm land.

I pointed out that ideally we should have an area three miles square or about 6000 acres. This should be owned by the State and leased to the nuclear company but could be farmed and used for its regular use and still under control as far as radioactive materials are concerned. I pointed out that the specification for this land and the requirements should be those for the fuel reprocessing plant rather than those for the waste burial ground. Gene enthusiastically seconded this and said their thinking was just exactly this and he was glad that I agreed.

Gene stated he would talk to his management people and see if it would not be possible for Commonwealth Edison to deed the present land to the State and perhaps purchase or assist in purchase of several thousand more acres in the adjacent area which could be used for a burial ground and would be suitable for reprocessing plant in addition to Dresden's uses. I pointed out to Gene that had a service company such as California Nuclear been in operation in Illinois when they built Dresden, it would have saved them over $1,000,000 in construction. He agreed that this was so and also agreed that in the large plant the savings might well be $5,000,000.

It was agreed that we should proceed with setting up a new company in Illinois to be known as Illinois Nuclear, to be wholly owned by California Nuclear.

Mr. Cain did not quite agree with this because he did not wish to get into the national picture but he wanted to continue to serve only the Commonwealth Edison people. I pointed out that this did not make any sense as far as radioactive materials were concerned because the reprocessing plant or the company in the Midwest should serve the entire Midwest and not just Illinois. It was agreed that we should ask Senator Drach to represent us. He was President of the Illinois Atomic Energy Commission. It was further agreed that we would meet at Dresden on the morning of the 22nd and

walk over the land that Commonwealth owned and take a look at the general site in respect to the possibility of a burial ground and reprocessing plant.

On 29 June 1964 I drove to Dresden and met Gene Bailey and the three men from Chicago Fly Ash. We talked with Clifford Zitek for about an hour. After lunch we visited the land north of the Dresden plant that might be used for waste burial and for a Chemical Reprocessing Plant.

Unfortunately the land turned out to be zoned for industry and therefore had a value of about $2,000 per acre at that time. The cost of an area suitable for waste and reprocessing would have been preposterous.

After considerable further discussions it was agreed:

(1) Commonwealth Edison will not contribute either land or money toward setting up a reprocessing plant.

(2) Chicago Fly Ash indicated interest in joining California Nuclear.

Later General Electric built a reprocessing plant some 10 miles from Dresden but south instead of north of the Dresden Plant. This plant cannot be made to operate.

On 2 July 1964 I sent a long letter to Craig Cain of Chicago Fly Ash Company. In this letter I reviewed the history and the prospects of California Nuclear. While we never joined Chicago Fly Ash, I believe this letter gave Craig and his two partners an idea of the business. As noted later, Chicago Fly Ash helped us tremendously when we most needed it. Of course, Commonwealth Edison pushed them to do so.

On 8 July I sent a letter to Mr. Drach of Drach, Terrell, and Deffenbaugh, requesting that he act as our attorney in Illinois. He suggested that Mr. Deffenbaugh do so. We concurred and Mr. Deffenbaugh ably represented us from then on.

On 8 July 1964 I visited Springfield to discuss the waste burial site in Illinois with Leroy Stratton who had just started work there and with Bob French. Stratton had started to set up reasonable specifications for a waste burial site. We agreed to assist them and to send a letter regarding the cost of freight and burial of wastes.

At the meeting we discussed the following items:

(1) The State of Illinois is interested in opening a low level solid waste burial site.

(2) The State of Illinois has not made a survey of the prospective users of the site.

(3) No area has been selected for the site. We discussed the area near Dresden and the strip coal mines near Peoria.

(4) Four proposals have been received by Illinois. It was pointed out that the one received from California Nuclear was the most complete.

(5) We requested the privilege to rewrite and resubmit our proposal to fit the criteria being developed by the State.

(6) Mr. Stratton indicated that the establishment of a waste burial site and selection of the operator would be based on "dollars and cents".

Dr. Clarence Klassen asked about the cost of nuclear power versus coal fired plants. Subsequently I sent him a detailed letter on Oyster Creek, etc. I always considered Dr. Klassen as one of the most intelligent of the State officials with which we had to deal. Nevertheless, a couple of years ago he was fired by the Governor. Apparently he refused to mix politics with his recommendations. He worked with Dr. Yoder who was until recently Director of the Department of Public Health.

Dr. Klassen, since he was fired, has been doing consulting literally all over the world.

On 27 July 1964 I again visited Craig Cain. As mentioned elsewhere, they decided not to invest more than $10,000 or so in California Nuclear. In 1968 they did make a substantial loan.

Because of our continued work in the West the wastes in storage there and the necessity to obtain a burial site in the West, we did very little during the second half of 1964 in Illinois.

Commonwealth asked us to bid on 5,000 cubic feet of active resins and 12,000 gallons of low level liquid wastes. We estimated this as $90,000.

We did continue to pick up some wastes by common carrier and ship to Richland. But this was not very profitable.

Our contacts with the Department of Public Health were continued. But these were more in the way of a holding action. Probably they were helpful as we made considerable progress in 1965. As noted previously, we had submitted a proposal in October 1963.

7. 1965 in the West

We entered 1965 unhappy about the burial site at Hanford. But we were optimistic that so many people were trying to help us that we believed we would soon get approval to proceed.

a. Legal Procedures

Governor Evans took over on 1 January 1965. Rose immediately quit. He had been most helpful. The Tri-City Herald reported his resignation as follows:

"ROSE QUITS COMMERCE POST

Olympia (AP)--State Commerce Director Robert E. Rose Monday became the second member of Democratic Gov. Rosellini's cabinet to decline the request of Republican Gov.-elect Dan Evans to remain on the job until a replacement is named.

Rose said he will resign Tuesday, the day before Evans takes over from Rosellini.

He said he was leaving partly because Evans has been quoted as saying he intends to replace Rose with someone who 'speaks the language of business.'

'I can only conclude, therefore, that I was given the opportunity to continue as director only until such time as I could be replaced with someone better qualified for the job in Mr. Evans' opinion.

'While I do not question for one moment either the right or the motives of Mr. Evans, I cannot in good conscience and in fairness to myself and others accept or continue to serve in any position under such terms.'

Rose, who had been a public relations executive for General Electric Co. at Hanford before his appointment by Rosellini to the state job, said he was also resigning in the financial best interests of himself and his family.

Rose said he has lined up a position with a firm in the

east, but could not disclose the details at this time."

Fred Beierle remained of course at Richland and continued his contacts. For example, we believed that Battelle West should ship at least those wastes which were developed as a part of their commercial business to us. Battelle apparently made no effort to segregate these wastes and they never shipped any to us.

Early in 1965 Fred talked to several of the Legislature people and he was assured that the bill which would permit the State to sublease Hanford land would go through the Legislature early without trouble. There were many bills introduced into the Legislature, including two that related to our interests. On 15 January 1965 the following notice was published in the Tri-City Herald:

"ATOMIC BILLS IN HOPPER

Two measures relating to atomic energy have been introduced in the state legislature at the request of former Gov. Albert D. Rosellini.

Both were recommended by the state advisory council on nuclear energy and radiation which includes W. E. Johnson, manager for General Electric Co. in Richland, and David E. Williams, counsel for the Hanford Atomic Metal Trades Council in Richland.

One of the bills relates to state regulation of nuclear industry. Six states already have legislatures which transferred regulatory authority from AEC. They are California, Kentucky, Mississippi, New York, Arkansas and Texas.

The second measure relates to setting up an office of nuclear energy development."

It is important to mention again that the waste burial site was tied to the Port Authority Legislation, as indicated in the following article in the Tri-City Herald:

"29 BILLS OFFERED FOR ROSELLINI

Olympia (AP)--Outgoing Gov. Rosellini had 29 executive request bills introduced in both houses of the Legislature Tuesday.

The measures covered a wide range of subjects. All were sponsored by Democrats, and some carried as many as 12 sponsors.

Bills dealing with education included one which would guarantee each school district $7 per enrolled pupil for each mill levied.

Others added workman's compensation benefits to those covered by the State Industrial Insurance Act, and changed the manner of computing base and benefit years for unemployment compensation eligibility.

Another bill would authorize county commissioners to take action necessary to participate in the federal Economic Opportunity Act.

Others would:

Authorize port districts to engage in all forms of industrial development and promotion.

Authorize creation of county transportation benefit districts and permit municipalities to join together in financing, construction, operation and maintenance of multipurpose sports stadiums.

Require candidates to file detailed reports of campaign contributions and expenditures.

Void the nomination or election of any candidate who knowingly published false statements about an opponent.

NUCLEAR BILL

Give the State Health Department sole responsibility for licensing nuclear industry in this state, and establish a division of nuclear industry in the State Department of Commerce and Economic Development.

In the field of government reorganization, Rosellini proposed transferring all motor vehicle functions of the Department of Licenses to a newly-created Department of Motor Vehicles, and establishing a motor transport division in the Department of General Administration for the regulation and control of state-owned automobiles.

TAX PROPOSALS

He offered four proposed tax reductions, including one which would permit new industries, and existing industries planning expansions, to deduct from their business tax the sales tax on the costs of constructing and equipping their new or enlarged plants.

Others would exempt from the sales tax items sold to out-of-state residents for out-of-state use and would reduce the business tax on plants engaged in the various phases of preserving fresh fruits and vegetables."

Washington Port Authorities are very important and if we were not allowed to act, neither would the Port Authorities. This became plain as the discussions proceeded as the State Constitution (as noted earlier) stated no State funds could be used to bring industry to the State of Washington.

On 9 February the following was published by the Tri-City Herald:

"BILLS WOULD AID ATOMIC INDUSTRIES

Olympia (AP)--The House Commerce Committee Monday approved two bills aimed at clearing the way for development of private nuclear industry in the state.

Identical measures were passed by the Senate State Government Committee last Friday.

One of the bills would give the State Commerce director authority to sublease land at the Hanford Atomic Works to private industry and would also create a nuclear development division within his department.

It was amended in both committees to assure competitive bidding for land at the site.

The other bill would give the State Health Department authority to license and regulate all sources of radiation."

And on 12 February the following was published:

"EVANS UNCOMMITTED
ON STATE ATOMIC BILL
By R. F. Nowakowski
Harold Staff Writer

Olympia--Gov. Dan Evans said today that he wants a nuclear development bill for the state.

But he said he is not committed to any particular bill and is not sure what the problem is in regard to two bills which have already been presented in the state Senate.

The governor was asked in his press conference how he felt about substitute Senate Bill 34, which appears to write out public utility districts and port districts from nuclear development.

'I am not sure what the problem is,' the governor said. 'I am sure there was no attempt to write out anybody,' he added.

He termed it 'unfortunate wording' and said he hoped to get away from this.

He noted that he had strongly backed the bill presented by the previous administration and said he didn't feel that the public power-private power fight needs to be a part of the bill.

In fact, he said, 'It's ridiculous for it to be in there.'

The governor went on to say that it is certainly no secret that he prefers, and thinks it wiser, to use private

development where ever possible in the development of a peaceful nuclear industry.

Bruce Johnson, director of public affairs for Boeing Company, said the substitute bill does not authorize public agencies to acquire and operate nuclear facilities but neither does it prevent them.

He said the Boeing Company favors the substitute measure and will continue to support it."

In January Koch arranged a Nuclear Energy Day for the Legislature:

"EVANS ASKS FOR LAWS
SO STATE CAN PROMOTE
AREA NUCLEAR POTENTIAL
By R. F. Nowakowski
Harold Staff Writer

Olympia--The attention of the state legislature today is focused sharply on the Tri-Cities and the need to speed development of nuclear industry.

Yesterday was Nuclear Energy Day in the state legislature, and it meant a full day of explanation of the meaning of the atomic age to the state--in terms of dollars and jobs.

Not in this week-old session have the legislators given as much attention to any single subject, other than redistricting.

'FALLOUT'

They could hardly escape the 'fallout' from the concentration of persons interested in seeing that the state lends its weight to nuclear development.

The high-ceiling chamber of the House of Representatives echoed with such terms as 'fission products,' 'particle accelerators,' 'radiation' and 'diversification.' Through the weave of this nuclear material ran the golden thread... the need for legislation to enable the state to take over the licensing and regulation of nuclear energy; to establish an office of nuclear development in the State Department of Commerce; and legislation permitting the state to sublease land it has leased from the Atomic Energy Commission in the Hanford area.

'Give us the tools,' Gov. Daniel J. Evans said at a dinner meeting which brought out almost all the 148 legislators and filled the main banquet room at the Tyee Motel Inn just outside the capitol city.

ROSELLINI CREDITED

Evans credited the administration of former Democratic Gov. Rosellini for taking the first important steps in

nuclear energy development for private industrial uses.

Adding support to his plea for adequate legislation were John J. O'Connell, state attorney general; Don Koch, special assistant in nuclear development, and AEC officials Ernest Tremmel and Eber Price.

Attendance was sparse at the afternoon session where the discussion centered largely on the technical aspects of nuclear energy. But this set the stage for the evening meeting, where the speakers made it plain that the state is on the threshold of a bright new age, but needs the proper keys to unlock the door.

TRI-CITY STORY

Gov. Evans said the 'great story in the Tri-Cities is just unfolding.' He went on to add that the state can be a 'great center of the nuclear industry.' He mentioned the top-ranking companies which have made scouting expeditions in search of part of the Hanford work, and said he was amazed at the ideas they have for diversification.

O'Connell described the day-long nuclear session as 'an eventful day in our state's history.' He also asked for approval of the legislation proposed and warned that without nuclear development would to some other state. (Stet)

Tremmel listed the ways in which nuclear industry can aid the state's leading industries, such as agriculture, fishing, wood products and power production. He said the fission products recovery plant which will be built at Hanford will 'be a worldwide center for this technology.'

'WINNING HORSE'

Koch told the legislators they were 'backing a winning horse in a winning race' by fostering development of nuclear industry throughout the state.

Oct. 1 was Hanford Day at the New York World's Fair; in December the story was carried to the Atom Fair in San Francisco; and Jan. 18 will go down as Hanford Day in the state legislature.

Another date of significance will be April 23, when state legislators will visit Hanford.

Mike McCormack, state senator from the Tri-Cities, issued the invitation at the dinner last night, contingent upon adjournment of the legislature before then.

The reaction to the day's events generally was favorable. Sen. Nat Washington, D-Ephrata, called it 'excellent' and said he was impressed with the possibilities offered for more development in the Columbia Basin.

Gov. Evans, in an interview after the dinner, said he believes it 'significant' that legislators have given so much time to the subject.

Dr. Joseph L. McCarthy, dean of the graduate school at the University of Washington, was chairman for the afternoon session and master of ceremonies at the dinner.

Attending from the Tri-Cities, in addition to the speakers, were James E. Travis, AEC manager in Richland; M. R. Cydell, AEC information officer; Tom Black, Benton County PUD manager; W. A. Watts, General Electric Co. community relations director; T. R. Clark, GE manager of the business planning and transfer operation; M. Harold Kinney, of the Port of Benton and Tri-City Nuclear Industrial Council; John R. Hills of the Port of Benton, and Phil George, port manager."

About this time the following article was published in the Tri-City Herald:

"NUCLEAR INDUSTRY BILLS CONSIDERED

Olympia (AP)--Two bills designed to aid the development of nuclear industry in the state were examined before a joint meeting of the two legislative committees Wednesday.

Chairmen of the committees, the Senate State Government Committee and House Commerce Committee, expected to have the bills approved Friday and sent on their way for further action.

HEALTH OFFICE CHOSEN

One of the measures would make the State Health Department an agency for licensing sources of radioactivity.

The Department would have to hire three more people and spend an extra $30,000 a year to carry out the job.

The second and more controversial of the two bills would set up a nuclear development division at a cost of about $57,000 a year within the state Commerce Department.

It also would clear the way for the state to sublease 1,000 acres at the Hanford Atomic Works by giving the Commerce Director clearcut power to make the sublease.

COURT RULING CITED

A recent decision by Thurston County Superior Court Judge Charles T. Wright ruled that the commerce official does not have that authority under present law.

The ruling blocked what the state feels is an essential first step in the establishment of a nuclear industrial complex at Hanford.

The state had planned to lease 100 acres to California Nuclear, Inc., a nuclear waste disposal firm which would bury the waste nuclear material and then stand guard over it.

The plans were stopped when the court ruled in favor of William E. Drury, a Tacoma businessman with an interest in a rival firm, Washington Nuclear, Inc.

He questioned the state's authority for the lease.

ATTEND HEARING

Drury's attorney, Elvin J. Vandenberg, appeared at the legislative hearing and asked that the bill be amended to make it clear the land would be subleased on a competitive basis.

Sen. Mike McCormack, a Richland Democrat and one of the sponsors of the measure, said he would not object to that.

Dean Morgan, a representative of the Boeing Co., suggested a preamble to the bill that would make it clear the state had no intention of going into the nuclear business itself but was merely acting on behalf of private industry.

The committees were expected to accept the suggestion."

Other newspaper articles appeared from time to time. One of those published in the Tri-City Herald on 4 February 1965 follows:

"APPROVAL EXPECTED SOON
ON TWO NUCLEAR MEASURES

Olympia (AP)--Two measures aimed at clearing the way for developing a private nuclear industry complex in Washington were probed by legislative committees Wednesday and committee approval is expected by the end of the week.

The chairmen of the Senate State Government Committee and the House Commerce Committee, which are examining the bills, said the committees probably would approve them with amendments Friday and send them to rules committees.

One of the measures would push aside one of the stumbling blocks to the development of a nuclear industrial park at the Hanford Atomic Works by giving the state commerce director clear cut power to sublease.

JUDGE'S RULING

Thurston County Superior Court Judge Charles T. Wright ruled last year the commerce director does not have that authority now. This stalled state plans to sublease 100 acres to an atomic waste disposal firm.

Another section of the same bill would set up a Division of Nuclear Development at a cost of about $57,000 a year within the commerce Department.

The other measure would give the State Health Department the duty of licensing all sources of radioactivity in the state. The department would hire three new people at a cost of about $30,000 a year.

Several amendments were suggested from the audience for the most controversial of the two measures--the one to give the Commerce director sublease power and set up the Nuclear Development Division.

Elvin J. Vandenberg, attorney for William E. Drury, Tacoma businessman who brought the suit to block the sublease, asked for an amendment to make it clear land would be leased on a competitive basis.

McCORMACK AGREES

Sen. Mike McCormack, a Richland Democrat and one of the sponsors of the measure, said he would have no objection to that.

The state had planned to lease the 100 acres to California Nuclear, Inc. Drury has an interest in Washington Nuclear, Inc., which also sought the lease."

In addition to Legislative action the State appealed the County Court decision to the State Supreme Court as indicated in the Tri-City Herald article on 15 January.

"APPEAL SET ON HANFORD
LAND ISSUE

Washington's Commerce Department has aksed the State Supreme Court to overrule a lower court decision that the state cannot lease land at the Hanford Atomic Works.

The appeal is on Thurston County Superior Judge Charles T. Wright's December 10 decision that the commerce department had no legal authority to lease 100 acres to a private nuclear waste disposal firm, California Nuclear, Inc.

A thousand acres at the Hanford project were obtained by the state from the federal government for use as a peace-time nuclear industrial park, but leasing of lands was stymied by Judge Wright's decision."

But soon the arguments started about the word-ing of the bill. In particular the Association of Washington Industry advocated dropping authority of the use of Municipal Corporations. One of these articles was published on 11 February 1965 as follows:

"HANFORD LEASE ISSUE REVOLVES
AROUND LONG-STANDING FEUD
by Leroy Hittle

Olympia (AP)--The uneasy peace between public and private power forces threatened to flare into open warfare again Thursday.

At stake in the newest squabble between the ancient enemies is a mighty space age force--nuclear energy.

Both sides want a big chunk of the benefits as the emerging giant developes into a huge multi-million dollar prime industry in Washington.

Private enterprise representatives almost pulled a coup Wednesday when a bill which they drafted was substituted for the original Nuclear Energy Development Bill introduced in the legislature Jan. 12 at the request of former Gov. Albert Rosellini.

MOVE BLOCKED

The move was blocked, however, when Sen. Al Henry, D-White Salmon, chairman of the Senate Committee on State Government, successfully had the bill put back in his committee for further study.

Rosellini's bill would permit both public agencies and private enterprise to participate in development of a peacetime state nuclear industry.

The substitute bill was aimed at translating the state's nuclear energy field from an exclusive federal base 'to one with a healthy private enterprise component.'

One section would authorize the state to expend funds to acquire and operate land and facilities to foster development of the state's nuclear economic potential.

LEGAL BACKING

This section would give legal backing to the state's action in leasing 1,000 acres of land at the Hanford works from the Atomic Energy Commission, and authorize it to sublease the property to private enterprise. Advocates of the substitute bill added a provision saying:

'That nothing herein shall be deemed to authorize the state or any of its political subdivisions to acquire nuclear facilities or property to engage in competition.'

Sen. Mick McCormack, D-Richland, said the substitute bill would have cast a cloud of legality over the world's largest nuclear power electric generating plant now under construction at Hanford by a group of 16 public utility districts banded together under the name of Washington Public Power Supply System.

RESTRICTIONS

He said the bill would have restricted the emerging nuclear energy industry to private enterprise and would have cut out PUDs, ports, and other municipal corporations.

In Pasco, Glen Lee, publisher of the Tri-City Herald, said he had talked to private enterprise representatives who agreed to make it clear in the bill that PUDs and other municipal corporations could participate with private enterprise in development of the industry.

But, Lee said, the people to whom he talked 'completely repudiated their position.' Representatives of private enterprise killed the bill two years ago and 'now they are trying their razzle dazzle again,' he said."

And another article in the Tri-City Herald:

"HENRY VOWS FIGHT ON BILL
By R. F. Nowakowski
Harod Staff Writer

Olympia--A bill to empower state government to lease land to nuclear or non-nuclear industries at Hanford is either going to be changed or it is going to stay in committee, State Senator Al Henry, D-White Salmon, declared today.

'We are better off with no bill than the one that got on the floor,' Henry said.

At the same time the veteran legislator admitted he is embarrassed by the situation. He said he was caught unawares by Association of Washington Industry (AWI) people.

'They came in with a substitute bill and a cover letter signed by Donald Koch, special assistant for nuclear and industrial development for the state. Don's letter indicated the new bill had been approved, not only by AWI, but also by Boeing, the State Department of Commerce, and AEC's chief counsel's office,' Henry reported.

According to Henry a hearing was held on the original bill on Feb. 3. A number of people from the Tri-Cities attended. After the hearing, AWI said it wanted to 'clarify' the bill by adding a preamble. Two days later AWI came back with a substitute bill and told Henry that there were minor changes only. They also had the cover letter from Koch.

However, it was later determined that AWI had been working on the changes for at least two weeks.

'I accepted the bill in good faith and reported it out to the Rules Committee,' Henry continued.

The Rules Committee passed it quickly because it felt it was doing Henry a favor. It was brought out to the Senate floor for action Monday.

'It was then that I got the pained feeling something was wrong,' Henry said. 'In no place could we find municipal corporations.'

To correct this oversight, Henry and Sen. Mike McCormack, D-Richland, were preparing some amendments to add 'municipal corporations' to the bill but other senators told Henry they could not agree to any amendments to the substitute bill.

'That's when I decided to pull the rug on the tea party. I recalled the bill into my committee.'

Henry added he isn't ruling out a fight in his committee. He has called another hearing for Tuesday at 4 p.m. to see if the matter can be straightened out. If necessary he intends to 'knock some heads' together.

McCormack was inclined to regard the whole affair as a 'tempest in a teapot.'

'I do not believe AWI is going to prevent passage of the legislation we want,' he said. 'I believe Senate Bill 34 will come in a form acceptable to us and, if possible, to AWI.'

Koch said his office was caught in the middle of the fight."

But in February progress was made:

"HANFORD LAND LEASE BILL
WILL PASS, - REP. JOHNSON

Public bodies as well as private industry will be able to lease land at Hanford if two days and two nights of sweating blood by Tri-City legislators makes a difference.

'I am confident this bill is going to pass,' Rep. Doris Johnson, D-Tri-Cities, told the Herald last night. She and Rep. Dan Jolly, D-Tri-Cities are sponsors of House Bill 500 which would allow the state to sublease its 1,000-acre tract at Hanford.

The bill was in trouble in the Senate two weeks ago when an attempt was made to write public bodies out of Hanford.

Mrs. Johnson said the house bill is the same as the original senate bill. It was approved by Gov. Albert D. Rosellini before he left office and has the backing of Gov, Dan Evans.

'Evans has been most cooperative,' Mrs. Johnson said. 'He realizes the importance of getting this bill through. Once redistricting is settled, this will be one of the first measures considered.'

She also said Boeing representatives have worked hard and were willing to cooperate to see the bill into law.

She said it is set for a hearing early this week. Mrs. Johnson said she hopes to see it kept as it is.

An attempt by private power groups is being made to amend the bill. They say their amendment would only exclude the state from developing land at Hanford.

Ken Billington, executive director of the state PUD association, said the amendment apparently was inadvertently left out when the bill was drafted. He said it was a measure agreed upon by the state, private and public power.

There is indications in Olympia that this 'accident' didn't just happen and there will be a concerted drive to see that the amendment is not made.

Mrs. Johnson said she, Jolly and Sen. Mike McCormack, D-Tri-Cities, have worked from 8 a.m. through to 3 a.m. in meetings with power groups and with the governor."

And on 16 February the Tri-City Herald reported:

"RESTRICTION ERASED FROM NUCLEAR BILL

Olympia--Restrictive clauses have been removed from a new version of the State's nuclear energy development bill, Sen. Al Henry, D-White Salmon, told The Herald today.

The new bill is expected to go to the Senate Rules Committee today.

Changes were made to the original version last week which would have barred public utility districts and port districts from participating in any nuclear development at Hanford. Henry sent the bill back to committee immediately and called a new hearing yesterday to clarify some of the 'clarifying language.'

Henry is chairman of the Senate State Government committee which handled the bill.

Objectionable clauses are removed in the new version, Henry said. It now will permit public and private agencies to participate.

'I would not permit private power to write public power out of it, or for public power to write private power out,' Henry said.

Rep. C. G. Witherbee, D-Seattle, who helped work out the compromise and whose House Commerce Committee has responsibility for the measure in the lower chamber, said he believes the new version has a good chance of getting through the legislature.

He said private power companies are not completely pleased, 'but not mutinous.'

The measure would create a nuclear development division in the State Commerce Department and authorize its director to sublease Hanford land for development of a nuclear industrial complex.

The bill was requested by former Gov. Albert D. Rosellini and supported by Gov. Dan Evans."

Then in March:

"LEGISLATURE OKs NUCLEAR PROPOSAL

Olympia--Unanimous passage of the nuclear agreement legislation by the House of Representatives about 10:30 p.m. yesterday completed the passage of the two important pieces of legislation to the Tri-Cities.

Sen. Mike McCormack, D-Tri-Cities, said the nuclear agreement legislation (Senate Bill 15) and the Hanford land

lease bill (Senate Bill 34) are essential to the development of industries at Hanford.

McCormack said he has worked for six years to see the state take the responsibility for licensing and controling nuclear industries.

The bill passed the Senate without opposition and was favored 94-0 in the House, McCormack said Gov. Dan Evans will sign the bill into law.

'If Doris Johnson, Dan Jolly and I accomplished nothing else this whole session, the time would have been well spent,' McCormack commented.

Mrs. Johnson and Jolly are both Democratic representatives from the 16th District.

The governor signed the Hanford land-lease bill Monday. It allows the state to sublease land at Hanford to private and public industries."

And on 22 March 1965:

"EVANS SIGNS NUCLEAR BILL

Gov. Dan Evans signed the nuclear agreement bill Sunday which, Sen. Mike McCormack, D-Tri-Cities, called one of the most important pieces of legislation to the Tri-Cities.

The bill designates the State Health Department as the agency to license and regulate all radiation industries."

Actually the Law, SB-34, was signed on 8 March 1965 by Governor Evans.

b. Award of Contract

One company that seriously considered investment in California Nuclear was the Milmanco Company. I never understood why. Whether Mr. George Cook, Vice President of Milmanco hated Nuclear Engineering's tactics or was really interested in helping us, I never could figure out. Probably he saw a possible chance to buy a major share of our stock cheaply.

Anyway, as soon as Governor Evans signed the Bill designating the State Health Departmtne as the State's agency to license and regulate the radiation industries in the State, the State issued requests for Proposals to Build and Operate a Low Level Waste Disposal Facility at Hanford.

These were to be presented at a public hearing on 19 April 1965 at Olympia.

I of course prepared a new proposal and went West to attend the presentation. I arrived at Seattle on 18 April to meet Frederick Beierle and Mr. and Mrs. George Butler.

The next morning we had an early meeting with Fred, George, and Lew Helgeson who had arrived late the evening before. Also George Cook of Milmanco met with us. We discussed finances and Mr. Cook stated we should make the statement that not only will Milmanco assist us if we need additional financial help, but that they would deposit $100,000 to be used in the development of the burial site at Hanford if such a guarantee was necessary.

At the hearing in Olympia there were the following people present:

Stuart McLain, President
Frederick P. Beierle, Vice President
George Lewis Helgeson, Vice President
George Butler, Attorney.

In addition, Mr. George Cook stated he was a friend and advocate of California Nuclear as an investor.

Terry Hufft also showed up representing Nuclear Engineering. No one represented Washington Nuclear.

The others who showed up were:

Mike Mansfield, State Senator from the Tri-Cities Area
----- Young, State Representative from the Tri-Cities Area
----- Holstead, AEC Richland
----- Koch, State Government
----- Peterson, State Attorney

A few other people showed up. Koch acted as Chairman of the meeting. Koch opened the meeting with the usual speech for the record. He then asked for presentation of the proposals. I presented the required 15 copies. No other company, except Nuclear Engineering, was represented. Hufft presented one copy and asked for one week to prepare rebuttals. I objected and stated there appeared to be no reason for continued delay in the State's decision. Peterson ruled there would be no delay as he stated ample time had

allowed to prepare the proposals.

I was aksed to present a statement. I talked for 30 minutes. Hufft did not ask any questions.

Hufft was then asked to give testimony but declined to do so. Hufft stated the deposit and fees should be raised. Then Koch, Holstead, Mansfield, and Young all testified that the purpose of the site was not to make money.

Since Hufft presented only one copy of a proposal rather than the 15 requested, I stated that since Nuclear Engineering had not complied with the requirements for a proposal, theirs should be thrown out and the contract immediately awarded to California Nuclear. Koch didn't have the guts to do so.

Later we were able to "look at" each other's proposals. Hufft had simply collected several financial reports and added a one-page or so cover letter--really he did not comply with the "Request for Proposals."

In the open discussion I was asked to answer several questions directed at Hufft as he did not know the answers.

The State issued an announcement about the meeting and the Tri-City Herald published the following announcement immediately following the Olympia meeting:

"STATE REVEALS HANFORD BIDS

Olympia--California Nuclear, Inc., which has had an office in Richland for the past year, was the apparent best bidder for operation of a waste disposal operation at Hanford.

However, a decision is not expected from the state until May 26.

California Nuclear, Inc. offered to bury the radioactive wastes for 70 cents a cubic foot.

Another California firm, Nuclear Engineering Co., offered to do it for 75 cents a cubic foot.

Washington Nuclear, Inc., which brought a suit earlier to block the state's sublease to California Nuclear, did not submit a proposal.

The state has leased 1,000 acres of Hanford land from the Atomic Energy Commission and will sublease 100 acres for the burial site.

Facilities to dispose of radioactive wastes are considered an essential preliminary to starting a nuclear

industry in the state."

About mid June California Nuclear was awarded the contract for the site as indicated in the following announcements in the Tri-City Herald on 22 June 1965:

"CALIFORNIA NUCLEAR, INC.
GETS WASTE CONTRACT

Olympia (AP)--A California firm has been given the contract to operate a $250,000 low level atomic waste disposal project on the state's 1,000 acre peacetime nuclear park at the Hanford project at Richland.

The firm, California Nuclear, Inc., will sublease 100 acres to bury the radioactive wastes from hospitals, research facilities and other companies that use radioactive materials.

It will be the first tenant for the state industrial park.

Evans said the contract still has to be approved by the Atomic Energy Commission, from which the state is leasing the land.

The contract, he said, also must await the lifting of a 1964 Thurston County Superior Court restraining order that prevented the state from subleasing the land.

Asst. State Atty. Gen. Lloyd Peterson said that probably was a mere formality, and could be accomplished in a short time.

The state had awarded the contract to California Nuclear last year, but the court stopped it from going ahead because it was said to lack legal authority.

The 1965 legislature then authorized the subleasing and the state called for bids three months ago.

California Nuclear was one of the two bidders, offering to store and bury atomic wastes for 70 cents a cubic foot. The other firm, Nuclear Engineering Co., Inc., of Pleasanton, Calif., offered to handle it for 75 cents a foot.

Acting State Commerce Director Judson Wonderly said California Nuclear got the award because its rate would result in less costs for prospective customers and thus would provide greater stimulant to nuclear industrial activity.

Nuclear Engineering offered to pay rental of $2,500 a year, Wonderly said, while California Nuclear offered $60 a year plus whatever the state auditor determines to be adequate reimbursement.

Wonderly said the award was based on the over-all proposal and what was felt in the best interest of the state. He said California Nuclear estimated a storage capacity ranging from 155,000 feet in 1966 to 440,000 feet

in 1976, while Nuclear Engineering was unable to give accurate estimates.

The open-end rental offer of California Nuclear, he said, offered the potential for greater revenue than from a flat rental fee.

'We were forced to choose between two firms,' he said, 'one offering stability of an established business with less promise to this state for the future, and the other representing equal technical competence but without comparable practical experience.'

'The state of Washington is in the process of developing a national reputation as the Nuclear Progress State. Identification with progress requires association with energetic, imaginative and forward looking firms. In this regard, California Nuclear is outstanding.'

The company has head offices in Lafayette, Indiana, and two other offices in California."

"WORK TO START AT ONCE,
ANNOUNCES SPOKESMAN

'We're very pleased...it's been a long, hard battle.'

Those were the words today of Frederick Beierle, vice president of California Nuclear, Inc., when he learned his firm had been awarded the contract to operate a $250,000 atomic waste burial facility at Hanford.

'At last the monoply has been broken,' Beierle said, referring to a tieup of business on the West Coast by a competing firm.

'We intend to go into operation immediately,' Beierle said, from Chicago where he was attending a company board meeting. Beierle said that about eight persons will be employed initially, 'just as soon as the restraining order is lifted.'

As the operation expands, California Nuclear hopes to employ about 50.

California Nuclear received two job applications before noon today after news was heard of the contract being awarded. There are 30 other job applicants.

William D. Johnson, who is at the firm's facility in California, will arrive in July to supervise the new plant. 'He is the only one that we'll bring in from Cowell, Calif.,' Beierle said. 'The rest will be hired out of the Tri-City area.'

Besides burying nuclear waste, the California firm will assist on radiation problems.

Beierle earlier said that the firm is interested in eventually branching out into cleaning contaminated garments and providing decontamination service for equipment."

The argument relative to the wording of the proposed law continued in the Legislature. This was important in view of the later suit brought by Washington Nuclear against the State of Washington, as described in a later section.

On 23 June 1965 we received copies of the information released by the Washington Department of Commerce and Economic Development, essentially assigning the Hanford low level waste facility to California Nuclear. A copy of the information release follows:

"DEPARTMENT OF COMMERCE & ECONOMIC DEVELOPMENT

Judson Wonderly, Acting Director, General Administration Bldg.
Daniel J. Evans, Governor Olympia, Washington 98502

June 18, 1965

HANFORD LOW-LEVEL WASTE DISPOSAL SUBLEASE

On March 19, 1965, a 'Request for Proposal, Hanford Low-Level Waste Disposal Facility' was sent to all known western waste disposal firms and, in addition, advertisements appeared in state-wide newspapers and in a national news release. This 'Request for Proposal' promulgated criteria and also announced a public hearing.

On April 19, 1965, a public hearing was held for the proposers. Two firms appeared and submitted their proposals; i.e., California Nuclear, Inc. and Nuclear Engineering Company, Inc.

On May 3, 1965, rebuttal and substantiating documents relating to questions and facts presented at the public hearing were received by my department.

On May 3, 1965, the complete record was sent to all members of the Governor's Advisory Council on Nuclear Energy and Radiation.

During the period May 3 to May 25, 1965, I, the Acting Director of the Department of Commerce and Economic Development, carefully evaluated both proposals, using the announced criteria for selection as guidelines. The following facts are pertinent:

1. Both proposers appeared to be essentially equally capable in technical ability, both at managerial/policy level and local onsite supervision level, to protect the health and safety of the public.
2. Concern was expressed about the financial ability of one of the firms (initially raised by rebuttal documentation). I sought expert financial advice which satisfied me that the financial stability of

both proposers gave each the ability to successfully engage in the operation.

3. Both proposers appeared essentially equal in the other criteria listed, such as insurance and licenses, except as follows:

4. The basic rates to be charged the facility users:
   (a) $.70/ft.^{3} - California Nuclear
   (b) $.75/ft.^{3} - Nuclear Engineering
   The California Nuclear rate will result in less costs to the users of the facility and hence act as a greater stimulant to nuclear industrial activity.

5. The estimated annual volume of waste to be stored and buried at the Hanford site is significant:
   (a) From non-AEC sources within the State of Washington:

	California Nuclear	Nuclear Engineering
1966	5,000	Unable to give accurate estimate, but estimate 100 to 500, which may enlarge in the future.
1968	10,000	
1970	20,000	
1972	40,000	
1974	80,000	
1976	140,000	

   (b) From non-AEC sources outside the State of Washington:

	California Nuclear	Nuclear Engineering
1966	150,000	Unable to give accurate estimate.
1968	175,000	
1970	200,000	
1972	250,000	
1974	300,000	
1976	300,000	

   The projected volume of business of California Nuclear is far greater than that of Nuclear Engineering. California Nuclear's projected volume is indicative of an energetic, confident approach which can be a significant contribution to the progress of this state. Even if California Nuclear's projected volume falls short of expectations their volume would still exceed the firm volume projected by Nuclear Engineering.

The 'Request for Proposal, Hanford Low-Level Waste Disposal Facility' indicated the department's intention to sublease the 100-acre site at the same rental rate charged the state by the United States Atomic Energy Commission for the use of the land. This determination was based on the belief that the fair market value of the land was that determined by the federal appraisers; the knowledge from prior negotiating sessions that the United States Atomic Energy Commission preferred such an arrangement; an awareness that other states

having nuclear waste disposal sites available under similar arrangements provide land free of charge or at nominal rental rates; and the conviction that an agreement at the announced rental rate would be in the best interest of the state's long-term economic growth. At the hearing, Nuclear Engineering objected to the suggested rental rate and desired to submit a sealed bid at a higher rental rate. Since the purpose of the hearing was to gather facts and information, it was decided that the bidders be allowed to submit other rental rate proposals. Accordingly, on May 3, Nuclear Engineering along with rebuttal and substantiating documents offered to pay at the rate of $24.00 per acre per year, or $2,400 as rental. California Nuclear also submitted a new proposal and offered to pay the originally proposed rate of $60 per year for the premises and in addition 'such annual sum, determined after the fact by the State Auditor, as will fairly and adequately reimburse the State for unforeseen direct costs and for the costs of administering this sublease which are properly and directly allocable to said sublease.'

It is my judgment that California Nuclear's proposal with regard to this item alone is superior for the reason that it is open ended and may in fact result in greater revenue accruing to the state in rental income from the land in the event administrative costs are greater than anticipated. While it is true that Nuclear Engineering's belief that the legislature did not intend that the Department of Commerce and Economic Development should become a land management agent for profit when it enacted Chapter 10, Laws of 1965. It should be made clear that the award of the sublease is based on an evaluation of the entire proposal of each firm rather than on the rental rate element alone.

My decision is to enter into negotiations for a sublease with California Nuclear, Inc., as I believe that this firm will best serve the interests of the people of the State of Washington.

With this first important contractual alignment, we were forced to choose between two firms. One offering the stability of an established business with less promise to this state for the future, and the other presenting equal technical competence but without comparable practical experience, having instead greater vision and projections for the future. The State of Washington is in the process of developing a reputation nationally as the 'Nuclear Progress State.' Identification with progress requires association with energetic, imaginative and forward looking firms. In this regard California Nuclear is outstanding.

It is my intention to accept California Nuclear's offer relative to the rental charge. However, the language proposed may have to be modified to conform with state adminis-

trative and auditing practices. This is one of the details to be resolved by future negotiations. It is also my intention that $20,000 of the sum offered for deposit by California Nuclear be dedicated to the state's perpetual maintenance fund, and be prorated to meet the annual minimum requirement for the perpetual maintenance fund furing the ten-year term of the proposed sublease. My decision is based solely on the facts disclosed by the proposers at the public hearing and the rebuttal and substantiating documents submitted thereafter.

It is the state's intention to enter into a sublease agreement with California Nuclear, Inc. as soon as the restraining order which was entered by the Thurston County Superior Court prior to the enactment of Chapter 10, Laws of 1965 can be modified or dissolved. In accordance with the provisions of Chapter 10, Laws of 1965 the Governor's Advisory Council on Nuclear Energy and Radiation has given their consent to my selection of California Nuclear, Inc.

The final sublease arrangements must also be approved by the United States Atomic Energy Commission before actual operations can commence.

Judson Wonderly
Acting Director
Washington State Department of Commerce and Economic Development

JW:jdh"

c. California Site

It is interesting to note that the California Assembly Committee on Public Health gave Assembly Bill XVI a "due pass" stamp in March. The bill, if passed, would have allowed Gene Blanc to determine whether or not a waste burial site was needed in California and, if so determined, to recommend an operator to the State Department of Public Health.

Also Terry Hufft received a patent for solidification of radioactive wastes even though this had been done in several national laboratories for years. We simply collected some data on the history of the process and ignored Hufft's patent. Los Alamos told us they had done solidification in 1950 in the same manner that Hufft had patented. Bill Johnson had developed the idea for Nuclear Engineering.

Mare Island awarded a contract of Nuclear Engineering at $1.75 as opposed to our bid of $2.24 per cu ft.

d. Financial

On 13 April 1965 I received a letter from our attorney, Mr. Harold Turner, which enclosed a letter from the State of California, Business and Commerce Agency, Division of Corporations, which stated in part:

"In view of the company's financial condition as reflected in the latest statements furnished to this office and its failure to secure the expected burial site from the State of Washington, it seems very improbable that the required finding that the offer is fair, just, and equitable as concerns the general public may be made.

"I, therefore, suggest that you discuss with your client the question of limiting the offering to one which may be characterized as non public..."

Mr. Turner then requested new financial reports etc. These were sent to him. And we pointed out that we did get the Richland contract, etc. But we never got approval to go public.

As noted above, when we did get approval to proceed with the Hanford site, Winnie and I mortgaged our home and personally made the $20,000 deposit required by the State of Washington.

We also continued to accept loans from various people and kept going.

At the end of business on 30 June 1965 the company had assets of $126,028 and a retained deficit of $137,135, and a total shareholder's deficit of $101,255.

On 8 June 1965 the Commissioner of Corporations of California issued Permit No. 97445F for cancellation of $164,140 in debts by issuance of 16,414 of $10.00 par value stock, including 984 shares of promotional stock. This was issued on 21 July 1965.

8. 1965 in the East, January thru June

We continued our discussions with Commonwealth Edison to package the Dresden resins and ship to West Valley. However, we did not proceed with this until we opened the Illinois site.

We did, however, check the resins and found them to be 5 to 8 r at contact rather than the 5 r through 3 in.

of steel reported by Commonwealth Edison. This meant the casks were only about 10 in. of concrete instead of nearly 24 in. Later we designed and built the casks based on this measurement. Our measurement may have been in error as we had to use heavier casks than we used in the bid calculations.

On 22 January 1965 Mr. Bowers, Treasurer of Commonwealth, requested we buy a trailer that would permit shipping irradiated fuel to West Valley. We did not have the finance but most assuredly this would have been an excellent investment--until the General Electric Plant next door started operations.

During this period I was occupied not only half time at Purdue but also I was developing the contract with Kuljian and the Government of India for consulting on the Tarapur Project, and I was writing a large part of a chapter for a Handbook. The work at Purdue included 3 hour lectures each Saturday morning at Plainfield to about 25 employees of Public Service of Indiana.

Then in May I spent two weeks in Buenos Aires lecturing and discussing the plans for the Atusha Nuclear Power Station. Also in May we signed the contract for the consulting on the Tarapur Atomic Power Plant, so I had to spend at least one week a month at San Jose checking General Electric drawings and specifications for the following 15 months. The General Electric design of the radioactive waste disposal system for Tarapur was terrible but they insisted that it would work and built it. Only troubles resulted.

Due to our improved prospects and the belief that we could proceed soon in Washington, we broke off negotiations relative to sale of California Nuclear to Nuclear Fuels Services.

a. Illinois Burial Site

On 11 March 1965 I again visited Springfield and talked to Mr. Robert French and Mr. Leroy Stratton. Stratton had just been hired to develop the radioactive section, including inspections, waste disposal, and waste disposal sites. They stated that they had just received authority from the Attorney General to proceed with sending out specifications and obtaining proposals for a radioactive waste burial site.

We spent considerable time discussing the proposed

specifications. Both Mr. John C. Frye, Chief of the Illinois Geological Survey, and I had repeatedly stressed that a radioactive waste burial site should not be located over a limestone acquifer.

We discussed the geographical, geological, meteorological, and hydrological requirements. I suggested that the proposals should not require data on specific areas. As there were at that time at least four companies interested in opening a site in Illinois, it appeared unreasonable that all bidders should obtain all the necessary data on suitable sites before an operator was selected. Options would be required to obtain core drillings. I insisted this needed to be done only on the land finally agreed on by the chosen contractor and the Department of Public Health.

I told the Department of Public Health representatives that the AEC was very adamant about Nuclear Engineering not having more sites. I also stated that if the Illinois site was awarded to Nuclear Engineering we would object and if the site contract was given to us Nuclear Engineering would probably start some sort of legal action against us.

On 3 April 1965 we received the letter and attachment below from Dr. Klassen:

"State of Illinois
DEPARTMENT OF PUBLIC HEALTH
Springfield, Illinois 62706

Franklin D. Yoder, M.D., M.P.H. Division of Sanitary Engineering
Director April 1, 1965

California Nuclear, Inc.
2323 South Ninth Street
LaFayette, Indiana 47905

Attention: Mr. Stuart McLean, President

Subject: Radioactive Waste Disposal Proposals

Gentlemen:

The enclosed advertisement has been placed in several newspapers indicating that the State of Illinois is prepared to proceed with the development of a site for the concentration and storage of radioactive wastes.

Since your firm is among those providing services to the radiation field, we have chosen to send you a copy of this

advertisement to provide you an opportunity to submit a proposal to the State of Illinois should you be interested in providing such a site.

If you desire information on proposal submissions and/or the criteria for the facility, please contact this office.

Very truly yours,
/s/ C. W. KLASSEN
C. W. Klassen
Chief Sanitary Engineer

LES:nrg
encls: advertisement
criteria"

"RADIOACTIVE WASTE DISPOSAL IN ILLINOIS

The State of Illinois is prepared to receive proposals from persons or firms interested in providing and operating a suitable site for concentration and storage of radioactive wastes. The proposed operation would provide for receipt of radioactive materials and will permit burial of only solid radioactive wastes. The contractor would be required to purchase a suitable land site in Illinois, construct necessary facilities and deed same to the State of Illinois. No state monies are available for the purchase or reimbursement of purchase of lands, buildings, equipment and appurtenances. Any firm or persons interested in operating such a facility may contact the Illinois Department of Public Health for procedures on proposal submissions and site criteria. All proposals shall be filed with this Department prior to June 15, 1965. The Department reserves the right to reject any proposal. Address all communications to:

F. D. Yoder, M.D., Director
Illinois Department of Public Health
Room 503 New State Office Building
Springfield, Illinois 62706"

In early April we retained Dr. William Pullen of Purdue University as a consultant to assist us in locating a site in Illinois. Dr. Pullen had spent 18 years with the Illinois State Geological Survey.

On 14 June 1965 I submitted a revised proposal to Dr. F. D. Yoder, Director of the Illinois Department of Public Health.

b. Financial

With the final approval, or that is what we

assumed, of the Washington site and the submittal of a formal proposal for a site in Illinois, we decided that we must make arrangements for more money. Warren McGonnagle had recommended a contact be made with a friend of his, Mr. James J. Toy, who was President of Central States Small Business Investment Company. Dean Young had recommended that I talk to McBee of Great Lakes Chemical Company. I also had contacted Genachte at Chase Manhattan Bank. I knew Genachte in the AEC. I tried to call him but found he was in Spain. So I called Toy. He was interested so I drove to Ft. Wayne to see him.

On discussing our finances with Mr. Toy he thought we needed about $55,000 immediately. He stated he would prepare a proposal to his Board immediately.

Other members of Central States were:

Sol Rothburg, Chairman of the Board, Bowser Company
Thomas A. Gallmeyer, President, American Federal Savings and Loan
---- Haeberle, Professor of Marketing, University of Indiana
---- Azar, ???
---- Curtis, ???

I met Rothberg and Gallmeyer. They also were lawyers and apparently had little interest in other things.

Poor Toy. He did not realize that he should never get mixed up with Scotchmen--Jews were easily handled by him. He should have known he would not gain much. Toy was a very religious man and quite friendly. But he and Central States wanted every possible guarantee but Lugene outfoxed them.

Actually, in mid June we applied to Central States for a loan of $147,000 but we finally borrowed $120,000. We were told that this would be available as soon as the sublease for the Washington site was signed by all parties.

c. Pennsylvania

For a couple of years I had acted as a consultant to Curtiss-Wright at Quehanna, Pennsylvania. John Dickey was Director of Research at the time. Later he also began consulting, including work for the aluminum welding

company in Delphi, Indiana. We talked at one time at great length about using the old radioactive burial site at Quehanna for a burial site for commercial wastes. The State of Pennsylvania never agreed to this use.

This area should be usable as the area is isolated and the soils are suitable. Transportation is excellent even though it is in the center of the state. There are, or at least were, some wastes buried there. It is on a mountain top that is quite flat and only forests for miles in all directions. The site was chosen because Curtiss-Wright wanted to test turbine engines and at that time they had very high noise levels.

d. Decontamination Work

During this period we conducted two decontamination jobs and acted as advisors on a third. These were as follows:

(1) Breed Institute

A Chicago radiologist, Dr. Breed, had an office in the Loop called Breed Institute. He had been using radium needles to treat cancer. Some of these needles began to leak and his work areas became contaminated with the radium daughters. Fred was then at the Illinois site. He and one of his men went in to clean up the area. Dr. Breed and the City Health Inspector separated out the leaking needles and these were shipped back to the radium supplier. Fred and his helper then cleaned up the area.

The State Radiation Inspector came in a couple of days later and found the area contaminated. It appeared Fred and his helper had not done a good job. On further study it was found that there were several needles that leaked that were not found during the first inspection. It is probable that the background was so high that they were not noted.

Afterwards we inspected the facilities every month or two. This was done by Professor Paul Ziemer of Purdue who worked for California Nuclear for two or three years 10 percent of his time as a Health Physicist.

At one of the conferences we had to have an officer of the company present to approve the inspection with the doctor and the State Health people. The call came into the office at 1330. I was lecturing at Commonwealth

Edison in Chicago a few blocks away. Paul Ziemer was also at a meeting in Chicago. So Lugene Hungerford got the call. She left messages at Commonwealth and the place where Paul was. She then took off for the Lafayette airport with only a few minutes to catch the plane to Chicago. But on arrival at the Chicago Loop she found both Paul and I had received the messages and all three of us arrived at the doctor's office within a few minutes of each other. Some planning.

(2) Grand Rapids Hospital

Another small job was a hospital in Grand Rapids. They had a small radium leak and we simply had a small cleanup job. They called the AEC and were referred to us.

(3) Northern States Public Service

One time Northern States Public Service called me and asked for a bid to solidify 100,000 gallons of contaminated water. They had a broken tube or a major leak in a condenser. After talking to Paul Ziemer, we called back and asked for an analysis and radiation level. It turned out to be mainly zinc 65 at a concentration about 10 times maximum discharge limits. Any reasonable bid to clean up the job by collection of the water, solidification, and disposal would have been over $150,000.

After talking it over we called back and suggested that they notify the AEC of what they planned to do; start the condenser cooling pumps; and flush the water into the waste stream to the condenser outlet. As only a dilution of five was needed, the condenser pumps would give several times this, and the discharge would be below tolerance. This was possible since zinc 65 has only a short halflife and low radiation or biological hazard. Final discharge was into the Mississippi River.

I estimate that the total decontamination work we did totaled about $20,000.

9. 1965 in the West, July thru December

It was noted earlier that Bill Johnson's brother was killed in an automobile accident in Nevada. This occurred in August 1965. Bill always thought his death was due to nervousness caused by Hufft's pushing him.

About this time we learned definitely that our lawyer in California, Mr. Harold Turner, was supplying Nuclear Engineering information. I believe that Turner had told Hufft all about our financial troubles.

It should be noted also that Bill Johnson had helped Fred Beierle in many ways in getting Washington State approval of the contract. Fred was the front man but both worked hard. Also our Washington Attorney, Mr. George Butler, had worked very hard and conscientiously for us. It was during this period that Helgeson indicated he was unhappy and really I think began to plan how he could take the Whole Body Counter contracts and set up as an individual which he did a short time later. As noted, he was a very religious man and I should have been warned.

a. Further Legal Problems thru February 1966

While the contract to operate the Hanford Waste Disposal Site was awarded to us in the first half of 1965, that did not mean we could proceed due to the injunction and our lack of licenses. We did proceed rapidly to become properly licensed, build the necessary entrance roads, obtain vehicles, etc., etc.

As noted above, on 16 July the State changed the contract to require us to deposit $20,000 for an escrow on future payments. This Winnie and I did. Washington Nuclear was apparently claiming that California Nuclear was bankrupt and that the whole contract was unconstitutional. The lawyers stated this and a revised financial report was required.

We requested that the court lift the injunction obtained by Washington Nuclear as indicated by the Tri-City Herald:

"HANFORD FIRM ENTERS
FIGHT ON STATE PACT

Olympia (AP)--California Nuclear, Inc. has asked Thurston County Superior Court for permission to enter a lawsuit that has blocked the state from subleasing land at its peacetime nuclear industrial park at Hanford.

The company has been awarded a state lease to establish a $250,000 low level atomic waste disposal facility at the park, pending court action on lifting an order that has prevented any subleasing by the state.

Judge Charles T. Weight has set a hearing for July 26

on the state motion to remove the injunction in view of action by the 1965 legislature designed to clear up legal objections to the subleasing.

The motion is being resisted by attorneys for William Drury, Tacoma businessman with an interest in Washington Nuclear, Inc.

Drury brought the original court action. His company competed for the state contract earlier, but is not seeking it at this point."

However, Washington state people did little for a time to have the injunction lifted. Finally Philip of the Tri-City Council talked to one of the higher state officials and a hearing was set for 26 July.

So on 26 July the hearing was held and the court removed the injunction against the State of Washington contracting with California Nuclear. The sublease was promptly signed by the State on 29 July 1965. Work on preparing the site was started immediately. The court set a hearing on the constitutionality of the law on 20 September. However, we proceeded to develop the site as indicated below in the article from the 27 July Tri-City Herald:

"FIRM CONTINUES FIGHT
AGAINST NUCLEAR COMPANY

An injunction halting the state's sublease of Hanford land to California Nuclear, Inc. has been lifted, but the issue still is in doubt.

Judge Charles Wright, of Thurston County Superior Court, said the basis for the injunction was nullified by a 1965 law which gives the state authority to sublease the land.

The action was brought last winter by Washington Nuclear, Inc., of Tacoma, a firm which also sought to establish a commercial nuclear waste disposal operation at Hanford.

Washington Nuclear charged the state was lending its credit by subleasing to California Nuclear, and that this was illegal.

Judge Wright said the new law gives the state authority to sublease, but said he would hear a suit attacking the constitutionality of the law.

He set Sept. 20 as the date for another hearing to establish a trial date.

Elvin Vandeberg, Tacoma attorney for William Drury, who brought the original suit, said the intention is to proceed to a trial of the issue.

The complaint has been amended, he said, to charge

that there is a use of public funds for a private purpose in violation of the constitution.

Lloyd Peterson, an attorney for the state, said disposal of radioactive waste is a function of government.

Don Koch, state nuclear development supervisor, said lifting the restraining order means the state can proceed with negotiations for the sublease. He said it probably will be signed by the end of the week and be ready for approval of the Atomic Energy Commission."

Then on 28 July the Tri-City Herald carried the following article:

"HANFORD FIRM WON'T WAIT
FOR SUPREME COURT RULING

'We hope to start work Friday,' a vice president of California Nuclear, Inc. said today.

The nuclear waste disposal firm will start preparing its 100 acre site near the Hanford 200-E Area for construction. Ground clearing and construction will be done by George Grant, Richland.

It plans to construct a $35,000 building and employ some eight persons initially.

California Nuclear is not going to wait for a decision by Judge Charles Wright of the Thurston County Superior Court who said he would hear a suit attacking the constitutionality of a 1965 law which gives the state authority to sublease Hanford land.

'We have had a license from the Atomic Energy Commission to store nuclear waste since last October,' said Fred Beierle. 'All we are waiting for is the state to sign the sublease.'

Beierle said he expects the state to sign it by the end of this week.

An injunction procured by Washington Nuclear, Inc., Tacoma, halting the state's sublease of Hanford land to California Nuclear has been lifted.

Judge Wright said the injunction was nullified by the 1965 law. A hearing on the constitutionality of the law has been set for September 20.

Beierle said California Nuclear needs two licenses to begin work. One is the license it already has to store nuclear waste. The other one is to bury it. The latter is approved, Beierle said, but the AEC will not issue it until the state signs the sublease."

Then on 29 July 1965 the State of Washington signed the sublease with California Nuclear, as reported on

that date in the Tri-City Herald:

"STATE SIGNS LEASE
WITH NUCLEAR FIRM

Olympia--The state today signed a sublease agreement with California Nuclear, Inc. for 100 acres of Hanford land.

Judson Wonderly, acting director of the Department of Commerce, announced the lease signing and said California Nuclear will be the first tenant on the 1,000 acres which the state has leased from the Atomic Energy Commission.

Lifting of the restraining order on state subleases in Thurston County Superior Court this week made it possible to proceed with the agreement, Wonderly said.

California Nuclear yesterday announced that it will proceed this week to prepare the 100 acre site for construction of a low level waste disposal operation."

Then on 5 August the Tri-City Herald reported:

"CALIFORNIA NUCLEAR BREAKS GROUND

Beginning a 20-foot-deep trench today for radioactive waste disposal operation on the new state nuclear industrial tract at Hanford was the California Nuclear, Inc. Assisting in formal ceremonies were, from left, Donald Glazier, Williams, Atomic Energy Commission; Fred P. Boierle, manager of California Nuclear; and Thomas E. Black, Tri-City Nuclear Council. The near $50,000 plant will be completed in late November but the operation will start immediately. First building will be an office and maintenance shop followed by a processing building, a laundry and a decontamination facility."

The Herald also did us the honor of publishing a picture of the ceremony.

We had applied to the AEC for a transportation and disposal permit. Again Nuclear Engineering raised objections. I never got a copy or was informed what these were. At any rate the notice to issue the license was issued on 10 August and the license was issued on 14 September as reported by the Tri-City Herald.

"AEC LICENSES WASTE DISPOSAL

California Nuclear, Inc. today received its license

to budy radioactive materials at Hanford.

This is the last license needed for the firm to begin its low level radioactive waste burial operation on 100 acres of land leased from the state.

The burial site will be one mile from the southwest corner of the 200-East area.

California Nuclear, which has its office in Richland, has been licensed to receive, process, repackage and store radioactive waste materials. The new license authorizes the company to bury solid wastes in packages in open trenches which must be filled and marked to identify the content and size of the trenches.

Atomic Energy Commission regulations require that radioactive wastes be buried on land owned by a state government or the federal government because of the necessity for long term control.

The proposed burial site is on land owned by the federal government and leased to the state. California Nuclear is subleasing from the state.

The AEC has found that the company's proposed equipment, facilities and procedures are adequate and it is technically qualified to carry out the disposal operation in a safe manner.

The AEC said the license will be issued unless a request for a hearing is received within 15 days.

The firm was chosen by the state to operate the waste disposal operation, but signing of the lease was delayed for more than a year by court action instituted by a rival firm. The state legislature last spring passed authorizing legislation to permit the state to sublease."

and

"CALIFORNIA NUCLEAR
GETS AEC LICENSE

California Nuclear, Inc. has been granted a license to bury solid radioactive wastes at its 100-acre Hanford site leased from the state.

Previously the firm had been licensed to receive, process, repackage and store radioactive materials.

Donald G. Williams, manager of the Atomic Energy Commission's Richland office, said approval of the amendment to the permit also allows California Nuclear to bury the materials at the site.

The AEC announced Aug. 10 it was considering the amendment and stated that interested parties had 15 days to file a petition to intervene.

On Aug. 24, Nuclear Engineering Co., Inc. of Walnut Creek, Calif., filed a request for a hearing but specified no interest in the proceeding as required as a basis for intervention.

Since the Walnut Creek firm didn't spell out its interest in the matter, the AEC denied the petition to intervene."

The Nuclear News in September 1965 published the following note:

"NUCLEAR NEWS OF THE MONTH

Briefs

Radioactive waste burial is proposed at Hanford on land owned by the Federal Government and leased to the State of Washington. California Nuclear, Inc., Lafayette, Ind., is presently licensed by the AEC to receive, process, repackage and store radioactive waste materials at the site; a proposed new license will permit the company to operate a land burial ground under a sublease from the state."

On 24 August, one day before issuance of the license, Nuclear Engineering interferred as noted above by sending the following telegram:

"Secy, US Atomic Energy Comm, Wash DC

Re California Nuclear Inc proposed license, Hanford Wash the undersigned respectfully request a hearing pursuant to title 10 CFR on the issuance of the above license insofar as it relates to disposal of contaminated liquids. We are of the opinion that the proposed method is not feasible and hence is a menace to public health. Confirming letter to follow. Nuclear Engineering Co. Terry D. Hufft, President, Dated 1965 Aug 24 PM 6:15"

Beierle sent a night letter stating the claim was irrelevant as we planned to process all liquids prior to burial in accordance with License No. 13-10042-1, Amendment No. 1.

The AEC proceeded to issue the license.

As noted, the Thurston County Court on 26 July 1965 set 20 September 1965 for a hearing on the constitutionality of the law giving the State of Washington authority to sublease Hanford land. For some reason this hearing was put

off until early in 1966.

Meanwhile Washington applied for and became a socalled "agreement state". This means that the state had established a State Government Section or Department manned with trained nuclear people who could license and inspect nuclear facilities.

Also by December the various "Port" authorities of the State of Washington became alarmed by the suit against California Nuclear. As I understood the problem the Constitution, as noted previously, stated that no state funds could be used to bring industry to the State. This meant that there was a legal question concerning all State contracts dealing with industry. Since Washington "lives", as Bill Johnson put it, on the Port Authorities, this was of great interest to the State. Even inland counties and cities in Washington which are served by any small navigable stream is a "Port" and has a "Port Authority". This was significant to a lot of people.

Meanwhile the Atomic Energy Commission almost ordered us to build an 8 inch waterline to our site and to construct a building. We did so but constructed only the smallest building possible. The waterline cost about $20,000 and the building $8,000. The Ben Franklin Industrial Corporation and the Bank of Richland assisted us by loans. We applied for a Small Business Administration loan but we were denied the loan because of the legal question of the Constitutionality of the sublease.

Some 60 industries had at one time or another indicated an interest in building and operating manufacturing facilities on land to be leased from the State of Washington and in the general area of our waste disposal site. One firm that planned a $60,000,000 plant started construction in California before the case was settled. Isochem leased land directly from the AEC. Other firms just sat out the decision of the court. We were given the impression that if the court ruled against us that the AEC would lease other land to us just across the road from our planned site or would take over the State's lease and let us proceed on our chosen area.

On 1 December 1965 the Tri-City Herald carried the following article with a picture of the U.S. Testing Laboratory plant which was built on Port of Benton property in the Richland Industrial Park. Benton County is the county on which Richland is built.

"HANFORD SUIT CLOUDS ACTIVITIES OF PORTS
STATE PORT GROUP
MAY ENTER FIGHT
By Carroll Clark
Harold Staff Writer

Washington Public Ports Association will this week consider entering the court fight over the sublease of state land at Hanford.

If the state is barred from leasing land, the port districts may be faced with the same legal ban.

George Butler, attorney for the Port of Benton, will make a presentation on the constitutional aspects of the law to the association's trustees meeting tomorrow through Saturday in Tacoma.

Port of Benton commissioners have indicated their willingness to join other districts in filing a brief in the case to be heard Jan. 14 on the constitutionality of the state's right to sublease land at the 1,000-acre nuclear industrial park.

The case, which will be heard by Judge Charles T. Wright in Thurston County Superior Court, was brought by Tacoma businessman William Drury. He contends the lease is unconstitutional because it permits the state to lend its credit without a public purpose.

Earlier this year Judge Wright dismissed an injunction that had kept the state from subleasing 100 acres to California Nuclear, Inc. for an atomic waste disposal operation.

The dismissal came after the 1965 legislature enacted a law authorizing the state to sublease land at the industrial park. However, Judge Wright allowed Drury to use the same lawsuit to test the constitutionality of that law.

Butler explained that the laws permitting port districts to lease land are the same as the laws being challenged in the state case.

He said that the crux of the issue is the opposition to the use of public funds to foster industrial development.

At present the Port of Benton has two plants on leased sites--U.S. Testing Co. at the Richland industrial park, and Seneca Grape Juice Co., at the Prosser industrial park.

The Port of Kennewick has three industrial facilities on leased land--California Chemical at the Hedges industrial site, Oregon-Portland Cement Co. at the Ivy Street terminal, and part of the North Pacific grain elevator on East Clearwater Avenue.

Metz Marina and the yacht club on Clover Island also are on land leased from the port.

Fifty three companies are leasing property from the Port of Pasco at the airport, the marine terminal and Big Pasco.

Other port districts throughout the state lease land to industries and businesses, and in some cases furnish, or

build, the required structures.

The port districts are a subdivision of the state government, created under, and regulated by, state laws. So are cities, counties and other agencies.

Conceivably, an adverse ruling by the court could affect the lease arrangements between a great number of these public agencies, officials feel.

Attending the Tacoma meeting from the Port of Benton with Butler will be Phil George, manager, and Commissioner M. Harold Kinney, a trustee of the association; from the Port of Kennewick, Ray Hamilton, state trustee; John Westland, port attorney, and John Neuman, port manager, who will also attend a seminar on industrial development, and from the Port of Pasco, manager H. W. Parkinson and commissioners Dell Smick and Jim Keane. Parkinson will also moderate a 2-1/2 hour panel discussion on airports."

Then on 3 December the Tri-City Herald carried the article:

"STATE PORTS JOIN
HANFORD LAND SUIT

Washington Public Ports Association will join the state in the legal battle over constitutionality of leasing land at Hanford.

The five-member association executive committee voted unanimously in Tacoma yesterday to spend up to $1,500 on legal fees in the court hassle.

Richard Ford, executive secretary, said a 'top-notch' legal firm on the coast will be retained to represent the association.

George Butler, Port of Benton attorney, who made a presentation to the committee said the group was unanimously in favor of taking part.

MOTION

He said a motion for lease to intervene in the suit will be filed with Thurston County Superior Court as soon as it can be prepared.

Butler said that the association realized that its own interests were deeply involved in the constitutionality issue of whether the state has the right to lease the 1,000 acres at Hanford to private industries.

He said that the legal firm hired will be in the fight from the opening day in court and will appear independently, representing the port association.

William Drury, Tacoma businessman, has filed a suit challenging the constitutionality of the law passed by the 1965 legislature permitting the state to lease the property.

He is contending the state has no right to lease the land because it amounts to lending the state's credit without public purpose.

TENANT

So far, the state has one tenant, California Nuclear, Inc., which has leased 100 acres.

Port districts became concerned over the case because the same basic legal principal is at stake which permits them to lease land.

Pasco, Kennewick and Benton port districts all have industrial facilities that have been constructed on leased property.

Judge James T. Wright will hear the case on Jan. 14 in Thurston County Superior Court."

In late December Mr. Butler asked for a $1,000 fee for research on the constitutionality suit. He stated also he wanted me to visit his office on 6 January 1966 and to be at the hearing on 14 January to discuss our project.

On 6 January we had a meeting in George Butler's office in Richland. Attending the meeting was a Mr. Graham and another man from a Seattle law firm as well as George Butler, Fred, and me. The Seattle people were representing the Washington Port Authority as a decision against us would have closed the Port Authorities in all the Washington communities--in fact, they could have issued no more checks.

It turned out that Mr. Graham was a constitutional lawyer and he appeared to make an excellent analysis of what should be done. He stated that we probably would win in the lower court but that the suit would be carried on to the Court of Appeals and the State Supreme Court. Therefore, our case had to be prepared for the Supreme Court review. So it became necessary to include considerable background information in order to educate the Supreme Court judges not only in the case itself but in respect to nuclear energy and radioactive wastes.

During the day both Mr. Graham and Mr. Butler asked me questions and I tried to answer offhand. Their only objection was the length of my answers. But how do you explain nuclear power and radioactive wastes in simple terms?

During the next couple of weeks I prepared testimony. This was possible as the hearing was rescheduled for 8 February 1966. We also presented testimony to several members of the Atomic Energy Commission in

Washington. Copies of this were sent to Chet Holifield, Chairman of the Joint Committee of Congress on Atomic Energy, to Senator Birch Bayh, one of Indiana's U.S. Senators, to Governor Daniel Evans of Washington, and Senator Henry Jackson of Washington.

We also considered a countersuit against Nuclear Engineering.

Then on 2 February we were told the suit had been dropped, as indicated in the following article from the Tri-City Herald on 2 February 1966:

"HANFORD SUIT
TO BE DROPPED

The suit challenging the constitutional right of the state to sublease 1,000 acres of land at Hanford will be dropped.

Daniel B. Ward, director of the State Department of Commerce, made the announcement at today's meeting of the Governor's Advisory Council on Nuclear Industry and Radiation in Richland.

Ward said he had received a notice of the intent to file a dismissal of the litigation from the plaintiff, Tacoma businessman William Drury.

The dismissal, Ward said he had been advised, is based on the plaintiff's belief that the public's best interest is being served at this time.

Ward said his department 'can now proceed with its responsibility to make available the 1,000 acres of leased land on the Hanford reservation to prospective industry.' The state has already leased 100 acres to California Nuclear, Inc.

The case was to have been heard in Thurston County Superior Court Tuesday.

Ports Association had entered the case on the side of the state because the principal being attacked would have a bearing on the right of ports to lease and develop land.

Drury had contended that the subleasing was unconstitutional because it amounted to lending the state's credit without serving any public good."

Thus the whole thing was simply harassment by Nuclear Engineering.

b. Operations

During the second half of 1965 we continued

to do a reasonable amount of business. Since Nuclear Engineering had not been able to keep us from obtaining the site in Washington they began to underbid us, and did so on several contracts. Also they continued the legal problems as discussed previously.

Whether or not there was any connection between Nuclear Engineering and California Nuclear's action, Stewart Corbett "resigned" from Nuclear Engineering effective 1 September. He may have been fired for elbow bending, I do not know. But he immediately applied to us for work. As related elsewhere, we did subsequently hire him for a time.

In August we hired three people as truck drivers, mechanics, crane operators, etc. Beierle and these people built nearly a mile of road and set up maintenance and radioactive waste storage facilities. Beierle purchased a D-8 caterpillar doser, 16 yard scraper, dump truck and a water truck. Groundbreaking ceremonies were held on 5 August.

We lost the bid at General Dynamics to Nuclear Engineering for over 1000 cuft of wastes.

In October Stewart Corbett told us that if we would hire him he believed we could obtain General Electric's contract for some 20,000 cuft per year.

Business in general did pick up but not enough that we were profitable. Then on 24 October the following was published in the Tri-City Herald:

"HANFORD FIRM CONSIDERS
BRANCHING INTO 4 FIELDS
By Carrol Clark
Harold Staff Writer

One of the firms brought to the Tri-Cities by the Hanford diversification program is considering doing some diversification of its own.

Fred Beierle, vice president of California Nuclear, Inc., said in addition to the firm's active waste burial and storage program at the 100 acre Hanford site, consideration is being given to branching out into four other fields.

These include decontamination of such items as motors and water pumps from nuclear ships and submarines, automobiles and various other pieces of equipment that may have come into contact with radioactive materials; processing and disposal of radioactive water from such places as hospitals and laboratories; a laundry service for the private enterprise activities of other contractors and nuclear industries; and

pickup and delivery of radioactive materials and manufactured products.

PROVIDES KEY

William Johnson, one of the founders of California Nuclear, explained that the waste disposal site provides the key to enter these other doors of enterprise.

Outside of the transportation operation, all of the other programs require a place to dispose of the contaminated items or cleaning materials.

Johnson said that there is great potential in these allied fields, and the company is planning to move into them as rapidly as possible.

In the meantime, however, California Nuclear could hardly be accused of twiddling its thumbs.

Beierle said that eight employees and several pieces of equipment have been added since the company was awarded the waste disposal contract at Hanford last July.

To date, $150,000 has been spent for equipment, salaries, promotion and licensing. In addition, the firm hopes to break ground next month on a $70,000 office and maintenance building at the disposal site.

FIRST BUILDING

Johnson said that this will be just the first of many buildings that will go onto the site as the company develops customers. So far, a road has been constructed to the site, water is being piped in and electricity is available.

To date Beierle said 7,500 cubic feet of low level radioactive materials have been buried in containers at the site by California Nuclear.

Not all of this material has been from Hanford.

The young firm has lined up customers from as far away as Michigan. The list of regional customers includes the University of Washington, Washington State University, University of Oregon, Oregon State University, Reed College, the U.S. Bureau of Mines at Albany, Ore., the Veterans Hospital at Seattle, and Bremerton Naval Shipyards.

Beierle is looking forward to continued growth and hopes that the number of employees will be increased to 50 in the next three or four years."

Actually the statements made in all the Tri-City Herald articles were overstated and exaggerated by the Herald writers.

Our business grew slowly. But Nuclear Engineering continued to try to underbid us. They were in operation in Nevada while we were just starting burial operations in Washington--a much longer haul and more mountains.

Nevertheless Atomics International in November seriously considered awarding us their contract, even though Nuclear Engineering underbid us. Then on 6 November we were notified by the University of California that they had granted us the contract to remove the waste from the Radiation Laboratory at Berkeley. I don't know whether or not we were the low bidder. I have often wondered what my actions in respect to the Livermore Project as an AEC representative was thought of at the time. Anyway, from then on we had the Berkeley contract.

"The Magnet", which is a publication for the employees and families of the Lawrence Radiation Laboratory, carried the following article in December:

"RADIOACTIVE WASTES
ARE ON THEIR WAY
TO BURIAL GROUND

Five hundred and eighty-nine sturdy steel barrels--carefully sealed, meticulously labeled, and filled with the oddest assortment of junk you ever did see--were loaded onto trucks at LRL Berkeley last month and sent off to be laid to rest in a Federally controlled burial site near Hanford, Washington.

Nobody opened the barrels to look inside, but, if they had, they would have seen a baffling hodgepodge of odds and ends; hundreds of ordinary glass test tubes and beakers (most of them seemingly in usable condition, many without a scratch), enough rubber surgeon's gloves to stock a good-sized hospital, a quantity of wadded paper towels and rags, dozens of quart canning jars containing a gelatinous goop about the color and consistency of mud-pie jello, and, finally, several hundred drums filled with concrete and vermiculite.

The only thing that united the varied elements of this odd shipment (and destined them for a common fate) was the fact that each of them had, at some time during the past year, been contaminated with radioactive chemicals. Such materials, here at the Laboratory, are treated with almost ceremonious respect and caution. They are handled only by specially-trained monitors, are stored in isolated and controlled areas, and, about once a year, are sent off for underground disposal away from densely populated urban districts.

SEA BURIAL ENDED

Until a few years ago, radioactive waste was buried at sea in water-tight drums. Recently, however--in response to the pressures of international politics--the Laboratory, along with all other government agencies and contractors,

has switched to underground disposal on dry land. Today, LRL Berkeley deals with an independent commercial contracting firm, which picks up the waste at Health Chemistry's storage lot behind Building 75, loads it onto their own trucks, and buries it on owned or leased land in a remote area near Hanford, Washington. This year's disposal operation began on November 15, and was completed in the early weeks of December.

Though this disposal operation takes place only once a year, collection, storage, and treatment of radioactive waste is a full time, year-round job for Berkeley's Health Chemistry Department, directed by Pat Howe, and his Operations supervisor Dick Grill. Disposal operations are supervised by Harry Ielonek and involve the efforts of Health Chemistry monitors, technicians, and transportation crew members.

Health Chem procedural manuals generally divide radioactive waste materials into two broad categories--'D.A.W.,' or dry active waste, and 'L.A.W.,' or liquid active waste. Dry waste may be anything from the test tubes used in an experiment to the rubber gloves worn by all handlers of radioisotopes. Liquid waste may be any solution produced or used in a reaction, the body waste of experimental animal subjects, or simply the wet chemicals left over in bottles and beakers at the end of an experiment.

KINDS OF RADIOACTIVITY

Dry and liquid wastes are further classed according to their level of activity ('high,' 'medium,' or 'low') and their type of activity (alpha, beta, gamma, or neutron). These classifications help in determining the kind of protection needed for safe handling of a given product. Alpha particles, which consist of a cluster of two neutrons and two protons, collide readily with other atoms, and thus have little penetrating power. They can be stopped by ordinary tissue paper, rubber gloves, human skin, or less than two inches of air. Beta particles (accelerated electrons) do not collide quite so readily with other particles, and thus may travel several yards in air; they require shielding made of glass, wood, aluminum, or similar material.

Most penetrating of all are the gamma rays (radiations similar to X rays) and the neutrons. Gamma rays travel with the speed of light, can pass through up to two miles of air, and can penetrate many inches of solid substance. Neutrons, though large in cross-section like alpha particles, can travel many inches, since they are electrically neutral.

BERKELEY BOXES

LRL is generally credited with having pioneered the system of radioactivity control known as 'absolute containment'--the policy that all work with radioactive isotopes or materials, no matter how brief or how complicated, must

take place inside an enclosed box or container. It was this Laboratory, in fact, which gave its name to the enclosed glove boxes (or 'Berkeley boxes') now used for this purpose in laboratories all over the world. At LRL today, Berkeley boxes are used extensively for work with alpha and beta emitters; experiments involving gamma and neutron emitters take place in boxes equipped with extra external shielding. Those with the thickest shields are called caves. Cave shielding may consist of several feet of water, concrete, or lead.

With few exceptions, just about anything that goes into a glove box or cave during an experiment (whether it be a tool, a container, a rag, or part of the chemical substance of the experiment itself) comes out as either dry active waste or liquid active waste, though an occasional expensive tool or instrument may be judged worth the time and expense involved in decontamination and re-use. (Such recoveries average a saving of about $30,000 a month at the Lab.)

While an experiment is in progress, wastes are collected in containers within each glove box or cave. Dry wastes go into white cardboard ice-cream cartons; liquid wastes go into plastic bottles (usually one to a bottle, since mixing liquid chemicals indiscriminately could be dangerous). About once a week, the containers in each glove box or cave are removed by the area's Health Chemistry monitor and are transferred to the storage receptacle appropriate for each level and type of radioactivity.

LOOK, NO HANDS

Low-level alpha and beta wastes (which constitute a high proportion of the waste in a typical LRL chemistry laboratory) are removed from the glove boxes 'by hand'--but no hand ever actually touches the radioactive material at any point during the operation. Health Chemistry monitors have worked out, over the years, a technique for this transfer operation that is almost as strictly choreographed (and nearly as much fun to watch) as a ballet. It is performed by two persons--usually the area Health Chem monitor and the experimenter--working together with great deftness and precision.

First, the monitor takes a large, heavy-gauge plastic bag and folds down a deep cuff around the open edge. He then dons a pair of surgeon's rubber gloves, puts his gloved hands inside the cuff, and holding the mouth of the bag open, places it against the pass-through port of the Berkeley box in such a way as to completely cover the opening. The door is then opened and hands and cuff are quickly inserted a few inches into the box. Immediately, the other man (working through the long rubber gloves attached to the Berkeley box) picks up the accumulated ice-cream cartons and bottles

and carefully places them in the plastic bag. The monitor then withdraws his hands, squeezing the bag as he does so to force all of the air in it (which has now become contaminated) back into the Berkeley box.

The bag is then taped shut (or, sometimes, sealed shut by means of a portable heat-seal apparatus), and its radioactivity level is checked with a small, portable counter. Contents are labeled as to chemical composition and radioactivity level, and the bag is placed inside one of the large galvanized receptacles (marked with the distinctive fuchsia-and-yellow radiation warning symbol) which are liberally distributed throughout the Hill's chemistry buildings.

The receptacles, lined with heavy plastic and five thicknesses of sturdy brown paper, provide satisfactory shielding for short-term storage of low-level alpha and beta wastes. They are themselves emptied when full into large central storage bins like the one located on the loading dock between Buildings 70 and 70A.

LEAD PIGS

High-level wastes--including almost all gamma and neutron emitters--receive even more respectful treatment from the Health Chemistry staff. In Nuclear Chemistry's water-shielded caves in Building 70, intensely radioactive ion-exchange columns, used in the isotope separation program directed by chemist Bob Latimer, are sealed into lead-lined boxes (or 'pigs') by remote-controlled master-slave manipulators before they are even brought out of the cave. After removal, the entire pig is stored in a steel barrel lined with a six-inch layer of cement (and sometimes an additional four inches of lead). As with low-level wastes, radiation readings are taken both before and after the barrels are sealed, and the barrels are clearly labeled as to contents and radioactivity level.

JUNIOR CAVES

A particularly ingenious system of disposal has been worked out by Health Chemistry research-and-development engineers for the 'junior caves' used in the Atomic Beam Group's research. These caves resemble glove boxes in size and shape, but come equipped with extra heavy shielding, 'tong'-type manipulators, and a built-in disposal system. The system consists of a porthole in the floor of the cave, to which a plastic bag is attached by means of an air-tight gasket. When materials in the cave are due for disposal, a heavy pig is wheeled into place under the cave, the plastic bag is inserted in the pig, the hole in the floor is briefly opened, and the wastes drop into the bag. The bag is then automatically sealed shut by an 'on-line' heat-seal apparatus and cut on the seal. The heavy lead lid of the pig is then lowered into place. While awaiting pick-up by transportation crews, the pigs are stored in cement-lined barrels of (if

medium-level wastes are involved), in tin lard cans filled with sand.

At least once a day, Health Chemistry transportation crews make their rounds, empty the large storage bins, and deliver the contents to the decontamination and waste-treatment laboratories in Building 75. Here--in what is probably the phase of the operation least familiar to the average Laboratory employee--a five-man Health Chemistry crew processes the waste and packages it for long-term storage.

In the Building 75 laboratories, all liquid wastes are solidified to eliminate the hazard of spilling or leakage. It is here, by the way, that the meticulous labeling done earlier by the area monitor really pays off, since each of the plastic bottles may have to be treated differently. Acid wastes are neutralized by being combined with sodium carbonate in a special container designed to draw off the heat generated in the reaction. The neutralized acids are then poured into a mixture of cement and vermiculite, which hardens within a few hours to a rock-like substance which can be treated just like any other dry active waste.

This technique will not work, however, with liquids which are not miscible in water; instead, such wastes are solidified to a soft jelly-like texture by mixing them in quart jars with napalm (an aluminum derivative more familiar as the stuff which goes into the jellied gasoline used in flame-throwers and incendiary bombs).

All these operations, of course, must be carried out in glove boxes, caves, or other suitable enclosures, since the change in state from liquid to solid in no way reduces the radioactivity of the wastes or their possible hazard.

Finally, the waste material (by now all in the solid state) is packed into steel drums, which are then sealed with rubber gaskets, weighed and labeled, and monitored one last time to check for surface radioactivity. The drums, finally, are stacked in Health Chemistry's storage yard to await the annual pickup and burial.

Throughout all these operations, Health Chemistry personnel manage to maintain a health-and-safety record that is the envy of many Laboratory groups in much less potentially-hazardous occupations. Health Chem's Eldred Calhoon, a veteran monitor and now senior monitor for Building 70, attributes this outstanding record to the department's broad scope and to its two-fold approach of 'prevention plus constant monitoring.' Health Chem (unlike the radiation-safety groups at many other institutions) is involved in many different phases of research at the Laboratory, from the planning of experiments through the design of equipment to the everyday monitoring of potential hazards. This grass-roots involvement breeds in the staff

a familiarity with the problems and a confidence in the department's procedures that pay off handsomly on the job--for the monitor himself, for the scientist he works with, and for the rest of us too."

And in conclusion we received the following letter:

"UNIVERSITY OF CALIFORNIA

Lawrence Radiation Laboratory
Berkeley, California 94720

January 28, 1966

California Nuclear Incorporated
Post Office Box 638
Richland, Washington 99352

Subject: Lawrence Radiation Laboratory
Purchase Order 3416502

Gentlemen:

The subject purchase order covered the pick up, transportation and burial of processed and packaged radioactive waste materials from the Berkeley Site, University of California Lawrence Radiation Laboratory. The work was to be accomplished within a thirty day period.

The contract was completed within the prescribed time in a very efficient manner. Your efforts to meet the requirements contracted for are appreciated.

Very truly yours,

/s/ J. K. LYTLE

J. K. Lytle
Purchasing Department

JKL/jm"

About this time I realized that Fred and Bill had to be separated. Lew also was wanting to run the entire West Coast and was thinking of leaving. I sent them a letter trying to separate Bill and Fred's duties. Lew called and indicated Fred was trying to take over everyone's duties. I should have expected these troubles as all three are headstrong, opinionated, and capable. There was only one possible out and that was to let Fred run the Illinois area.

Of course, Fred and Bill had been working very closely together as they had been spending a lot of time transferring the wastes stored at Concord to Richland for burial. Mostly they drove the old Mack truck. Both men were excellent truck drivers and belonged to the Teamster's Union. Then I learned that Fred had laid everyone off except him and Bill. This included Kay DeMars; so they had no secretary.

Also we lost the Lawrence Radiation Laboratory bid at $45,000 to Nuclear Engineering at $35,000. We believe their Purchasing Agent, Robert Fennel, told Nuclear Engineering our bid. At least we knew that there was a long series of secret negotiations and changes in specifications. This is a serious charge but we believe true.

10. 1965 in the East, July thru December

The main effort in the second half of 1965 in Illinois was the continued contacts with the Illinois Department of Public Health relative to the waste disposal site in Illinois. This is discussed in the next section.

Walton Rodger and Stanley Reese discussed joining with us. However, they finally went to Rockford and established their own consulting firm.

Work went along well. We were shipping some wastes to West Valley at a small profit. One special shipment was made from the Electric Boat Company at Groton to West Mifflin, Pennsylvania, that required construction of a special cask, special permits, etc.

In respect to finance I talked to the Small Business Administration people in Chicago and got nowhere.

In October we had to have a special shareholders' meeting to change Article 8 of our corporate papers. This dealt with restrictions on sale of stock and we removed these totally. However, the Commissioner continued to hold all stock in escrow and we failed to obtain SEC approval to sell stock.

On 3 November I talked to Craig Cain. He stated he was very interested in working with us and perhaps helping financially, but his partners weren't enthusiastic. He stated he would talk to the others again and perhaps help us with getting equipment. Later he did help us considerably by loans and I think would have helped us more if Fred

and Bill had agreed.

As noted above, at this time I was planning to teach a course in Nuclear Fuel Management to Commonwealth and other Midwest Utilities. Based on my work and their own, Commonwealth set up a $10,000,000 service company for which I never received a thank you letter. I certainly did not do a good job of teaching either.

Also, during this period I was spending at least one week a month at San Jose on the Tarapur Project. However, the Commonwealth Edison work was a part of my Purdue duties; so I only had about four half time jobs, none of which I was able to do well. These were California Nuclear, Purdue University, course at Commonwealth Edison as a part of Purdue, and the Tarapur Project. Luckily the Tarapur work was near the California office.

Commonwealth also asked for a copy of our proposal.

Fred Beierle talked to Ernest Tremmel about this time. Tremmel told him that they were making plans for waste disposal sites in Colorado and New Mexico.

a. Illinois Contract

On 31 July 1965 I sent a long letter to Beierle relative to organization and the Illinois site. Allied Crossroads, who had a permit to transport radioactive wastes, had proposed to General Dynamics and the Liquid Carbonic Corporation that they open and operate the Illinois site. John Murphy of Allied had talked to Ed Peterson of Nuclear Fuels Services, who promptly called me.

Murphy claimed he had talked to the Illinois people and they stated to Murphy they had a 100% chance to get the site. He was told the runners up were California Nuclear, and Health Physics Associates. Murphy was told that Illinois had 28 proposals only three of which they considered seriously.

General Dynamics dropped out and Murphy lost interest in Allied Crossroads.

About this time there was a change in management of Nuclear Fuels Services and the new President was not friendly to Walton Rodger and the others running Nuclear Fuels Services. Walt for a time considered returning to McLain-Rodger Associates. However, they patched up a part

of their troubles and Walt stayed until the Nuclear Fuels Services plant began operations. As noted previously, the Company then bought his contract and he moved to Rockford.

John Murphy considered resigning from Allied Crossroads and joining California Nuclear to strengthen our bid but he did not do so. He stated that one of the steel companies approached him with the proposition that he join the steel company to design and build casks, etc. About this time one of the steel companies offered Lugene an excellent position.

Bill Johnson and Fred Beierle also began to have troubles and both suggested a definite break in responsibilities. So to solve the Washington and the Illinois problems, several months later I moved Beierle to Illinois. I also tried to get Fred to do some sales work on the Whole Body Counter as Lew Helgeson did not push sales.

Murphy later suggested a combination of Allied Crossroads and California Nuclear on an exchange of stock. We did nothing more as we would have been swallowed up.

On 8 September 1965 Bob French called and stated that: The Department of Public Health has recommended to the Governor of Illinois that the Illinois site be assigned to California Nuclear. He also stated that Health Physics Associates had requested their State Legislator, Mr. Pierce, to talk to Dr. Yoder and emphasize that the site should be assigned to an Illinois firm and not to an out-of-state firm. Health Physics Associates also claimed that we had held several meetings with the Illinois Department of Health and that the specifications were written for California Nuclear.

Mr. Pierce asked for a meeting on 1 October with the Health Physics people and us. This was later changed to 8 October.

On 21 September I sent a letter to Mr. Robert W. Deffenbaugh asking him to attend the hearings on 8 October with Mr. William K. Bennett and myself. In that letter I reviewed the background information re the hearing.

Apparently Health Physics Associates of Highland Park not only objected to assigning the site to a non Illinois company, but they stated their proposal did not receive fair or serious consideration. They also claimed that the criteria were written by California Nuclear and

were published that way so that California Nuclear would have a priority. This latter claim was partly true in that the Department of Health sent out early in January a tentative list of criteria relative to the geology, hydrology, etc. for a waste disposal site for comments. Presumably the list was sent to Health Physics Associates as well as California Nuclear. I do not know. I commented and the criteria were revised quite largely following my recommendations. Some of the wording was taken directly from my letter. I am proud of it--that I wrote the first of the criteria should be to the credit of the technical ability of the company. This was the main objection they brought up. Actually, some of the criteria were taken from a report issued by John Hopkins University in 1956 and had been agreed upon by most people involved.

At the hearing on 8 October William Bennett and Robert Deffenbaugh and I represented California Nuclear. I talked very little and Bennett and Deffengaugh not at all. A Mr. Fields and Mr. Rivkin and an attorney represented Health Physics Associates. Mr. Verdun Randolph of the Department of Public Health acted as Chairman.

Mr. Randolph stated that the question of whether the contractor should be in state or out of state was a political question to be decided by the Governor and was not a question to be discussed at the meeting. Mr. Randolph asked Mr. Stratton to review the criteria which had been used in evaluating the proposals and Mr. Stratton read the criteria. Mr. Stratton then went down item by item, reading what was said in the two proposals under discussion. There was little difference in some cases. We both charged $0.75/ft^3. The main difference was concerning the technical ability of the personnel. It appeared that Health Physics Associates did not have persons with technical ability in waste disposal in charge, and this was the main item the State Board of Health had emphasized.

When the above subject was raised, Mr. Rivkin started to explain in great detail what they planned to do. Mr. Randolph stopped him after about ten minutes and stated that the discussion was limited to the proposals as submitted on 14 June and no new information could be accepted.

The last statement was a Certification. By oversight Health Physics had omitted this. It was obviously an oversight and Mr. Rivkin stated it was implied.

After the meeting Mr. Bennett stated that he believed that the meeting was held to permit Health Physics

an opportunity to elaborate on anything not understood in their proposal and to show them that both proposals had been thoroughly summarized and considered.

Nothing happened immediately. About 25 October I was told that the Department of Public Health recommended California Nuclear to the Governor but no action had been taken as yet. Then on 27 October Robert French called and stated the Governor had informed Clarence Klassen to go ahead with the California Nuclear letter. Later in the day Gene Bailey called and stated that Dr. Yoder had signed the letter to us, as indicated below. The lease is also presented below.

"STATE OF ILLINOIS
DEPARTMENT OF PUBLIC HEALTH
Springfield

Franklin D. Yoder, M.D., MPH
Director

October 29, 1965

Stuart McLain
President
California Nuclear, Inc.
2323 South Ninth Street
Lafayette, Indiana

Subject: Radioactive Waste Disposal
Letter of Intent

Dear Mr. McLain:

This Department has completed its review of the proposals received for an Illinois Radioactive Waste Storage Facility.

This letter is to officially notify you of the intent of this Department to award the contract to California Nuclear, Inc. We shall look forward to negotiating a mutually agreeable contract and hope that the proposed facility will be receiving radioactive wastes in the very near future.

Yours sincerely,
/s/ FRANKLIN D. YODER
Franklin D. Yoder, M.D.
Director of Public Health

cc: Governor Kerner"

b. Operations

As noted earlier, we measured the activity in the resins at Dresden. On 28 September I talked to Mr. Norman Wandke and Gene Bailey about the resins. We suggested packaging the wastes and holding at Dresden until the Illinois site was opened and then issue another contract for burial. The Commonwealth people stated they would proceed to send requests to bid to California Nuclear, AMF, Long Island Nuclear, Allied Crossroads, and Nuclear Engineering. I was a bit upset at being treated that way as we had spent over $3,000 in making measurements, etc. and they then planned to use the information in their request for bids. Since they took no immediate action, I calmed down eventually. Actually we should have never told Commonwealth what our measurements showed! We could have bid double what we did.

On 4 November I had another meeting with Bailey, Wandke, and Hughes of Commonwealth Edison. They stated among other things that they had been waiting for a decision on the Illinois site. They stated that they would proceed with sending out requests for bids but will try to write the requests so that we will be the only ones that will be considered. They want to bring in Craig Cain also. They want the wastes to be solidified in concrete or fly ash for storage in the open.

Then on 12 November I met with Bob French and Stratton at Springfield. Commonwealth Edison had asked General Electric, Westinghouse, and probably others to submit proposals for a reprocessing plant at Dresden. French stated that General Electric had stated that they would cooperate with us but had any other firm been selected to operate the waste disposal site, they would have insisted on a separate site.

Following the meeting with French and Stratton we had a meeting with a much larger group. Included were:

F. D. Yoder, Director of Public Health
Clarence Klassen, Department of Public Health
Leroy Stratton, Department of Public Health
Robert French, Department of Public Health
Eugene Bailey, Commonwealth Edison Administrative Engineer
J. H. Hughes, Commonwealth Edison Assistant to the Treasurer
E. J. Carraro, General Electric Sales, Chicago
C. Wesley Smith, General Electric Licensing and Regulation, Santa Clara
Arthur B. Carson, General Electric, Project Manager, Fuel Recovery Operations, Santa Clara

Mr. Bailey acted as Chairman. He suggested that all parties should cooperate and use one site. Dr. Klassen stated the site selection was the most important factor in the negotiations with us.

The General Electric plant was being designed to produce only high level wastes that will be stored and can be recovered.

Both General Electric and Commonwealth Edison people stated that they had been impressed with the low quality of the waste disposal firms. It was stated that California Nuclear were the only people who "understand the nuclear business".

Commonwealth Edison again pushed for the area north of Dresden. I knew the geology was unfavorable but I kept still. I agreed to keep General Electric informed of our plans. It was agreed to meet again on 18 November.

Then on 14 November the Chicago Tribune printed the following article:

"ATOMIC DUMP CONTRACT LET
BY THE STATE

Negotiate Terms with Indiana Firm

Contract terms for establishing the first low yield radioactive dumping area in Illinois are now being negotiated by the state department of health and California Nuclear, Inc. the Tribune learned yesterday.

Altho Dr. Franklin Yoder, Illinois health director, declined to comment on what sites are being considered, he said the area probably would exceed 100 acres and would act as a collection point for radioactive waste material throughout the midwest. Yoder said his office would withhold an official announcement of the company chosen and where it would operate until a public information program was under way "to explain the safety precautions which will be taken."

According to Yoder, Illinois hospitals and industry now dispose of their radioactive wastes by hiring common carriers to haul it out of the state or waiting for the materials to decay and flushing them down the sewer.

Is Indiana Firm

California Nuclear, Inc., which now operates a similar service in Washington and California, is headquartered in Lafayette, Ind. Stewart McLaine, company president, would not confirm the decision but said contract negotiations were now under way. McLaine said his contract with the state of

Washington is for 10 years with an option to renew for two 15-year periods.

Under the radioactive waste materials act passed by the Illinois state legislature in 1963, the board of health is authorized to cooperate with a private firm in setting up a dumping area for radioactive waste materials. After the firm purchases a site agreeable to the board, it must deed the land to the state in return for operating privileges. Competing radioactive waste companies must then pay whatever price is named in the contract for dumping privileges.

Boss is Disappointed

Health Physics Associated in Highland Park, the only other company to apply for the contract, received notification from Yoder's office this week that it had not been selected.

William Rivkin, company president, said he was disappointed at the board's decision. His company has been operating in the midwest since 1961.

"While Gov. Kerner is in Japan seeking more support for Illinois business men, his departments are giving away contracts to out-of-state companies," said Rivkin.

Robert French, chief radiological consultant for the board of health, said the dump site and its operation would have to comply with a number of regulations set up by the Atomic Energy Commission. He said AEC requirements vary in regard to how close a dumping area may be to residential areas, but that all radioactive materials must be sealed in containers before they are buried.

French said another problem to be considered in Illinois is finding an area which did not have limestone deposits near the surface. He said the deposits form channels which would permit contaminated liquids to flow into underground water reservoirs."

On 20 November we took Naomi and William Pullen to Illinois to look for a suitable site. After some time in the Chicago-Genoa area we decided that a site south of Genoa might work out. When we obtained the detailed geological data, it was decided this site would not be acceptable.

Also, on 24 November I sent a long letter to Dick Cunningham of the AEC about the Illinois site.

On 9 December I visited Central States Small Business Investment people in Ft. Wayne. Most of the day I talked to Mr. Curtis, President (Toy was very soon made President or Curtis was Vice President). Curtis had spent one day at Oak Ridge National Laboratory and one day at AEC

headquarters talking to Sam Sapirie. He had picked up a good knowledge of radioactive wastes and was enthusiastic about an investment in California Nuclear.

On 15 December James Toy visited us and discussed means of increasing our business. On 16 December Bailey said that he had talked to Bowers (their Treasurer) who said he would talk to Cory (their Vice President) about financing California Nuclear. Bailey stated they wanted us to bring the Whole Body Counter to Dresden. Commonwealth never approved loans or other financing of California Nuclear.

On 20 December Toy called and stated "their bank" would make limited loans to us.

One thing that caused some argument was that Fred and Lew Helgeson received many of the checks which they promptly cashed and used the funds even though we had more urgent needs at Lafayette. So we had to order them to stop cashing checks except in dire emergencies and after calls to Lafayette. And I had to order Beierle to move to Illinois or leave.

On 20 December I sent a letter to the Illinois Department of Public Health stating we believed the proposed site near Dresden was not too suitable. The Department of Public Health wanted the low level waste site and Reprocessing Plants to be next door. As it turned out we were very cautious and moved farther away from Dresden. General Electric built the Reprocessing Plant on a geological foundation that we considered unsatisfactory for a waste burial site. I personally think that the General Electric site was not safe for the Reprocessing Plant.

Under date of 22 December 1965 we sent the following resume of our activities to Mr. Richard Egli of the Division of Industrial Participation of the AEC. The enclosures to the letter are omitted here.

"22 December 1965

Mr. Richard Egli
Division of Industrial Participation
U.S. Atomic Energy Commission
Washington, D.C. 20545

Our file: 12225.1

Dear Mr. Egli:-

On December 14, 1965 you telephoned me relative to the status of California Nuclear, Inc.; our relationships

to the Richland Operations Office; and our general progress to date. You also requested that I send you background material such as copies of our licenses, brochures, etc. The purpose of this letter is to review some of the history of the company; to indicate the directions in which we are going; and to send you additional background information. We will send you another letter in a few days that will be more specific in respect to some of the assistance that we need.

We have forwarded letters at various times to Mr. Tremmel. These include the following:

1. On 5 February 1964 Mr. Tremmel wrote us relative to the contract for the waste burial site at Richland.

2. On 9 March 1964 we wrote Mr. Tremmel concerning the status of the waste burial facility.

3. Letter addressed to Mr. Paul G. Holsted at Richland dated 6 June 1964 relative to operation of certain facilities at Richland. This was an extension of our proposal to open a waste burial facility at Hanford. No action was taken as a result of the letter.

4. On 24 March 1964 we wrote Mr. Tremmel re the Navy contract at Mare Island and referred to our letters of January 21, February 18, and March 9, 1964.

5. Mr. Tremmel wrote us on April 9, 1964 relative to the lease of land by the AEC to the State of Washington.

6. On April 10, 1964 Mr. Tremmel wrote us relative to shipment of wastes to Beatty, Nevada.

7. On April 8, 1964 we wrote Mr. Tremmel relative to our plans.

8. Mr. Tremmel replied under date of April 15, 1964. Unfortunately the delays caused by the taxpayer's suit in Washington have held up our expansion plans.

9. On July 27, 1964 Mr. Tremmel wrote relative to receipt of information concerning the waste burial site at Richland.

10. On 23 February 1965 we wrote Mr. Tremmel reviewing the history of the difficulties encountered in obtaining the contract for the waste burial facility at Richland.

11. On 5 November 1965 we wrote Mr. Tremmel a letter requesting assistance in obtaining sufficient wastes from the Atomic Energy Commission contractors to be able to continue operations.

12. Recently Mr. Fredrick P. Beierle sent you a copy of a letter from Mr. D. G. Williams, Manager of the Richland Operations Office to the Small Business Administration at Seattle concerning California Nuclear, Inc.

History of the Company

California Nuclear, Inc. was incorporated in California on 1 May 1963 to conduct various types of services to the nuclear industry. Waste collection and decontamination services were started in California on 1 September 1963. In September and October, 1963 we obtained licenses to collect and store low level solid wastes at Cowell (near Concord, about 30 miles east of San Francisco). Over the past two years we collected several thousand cubic feet and stored them at Cowell. The waste collection business has been expanded slowly to other states. In addition, we have conducted four decontamination projects for the following firms:

Advanced Technology Laboratories - Mountain View, California;
Blodgett Memorial Hospital - Grand Rapids, Michigan;
Bush Electric Company - San Francisco, California; and
Dental Metals Company - San Francisco, California.

The Dental Metals Company decontamination work dealt with mercury only while the others dealt with radioactive materials.

Before the Company was organized we visited the Atomic Energy Development and Radiation Protection Office of California. We were given the impression that a low level radioactive waste burial site would be opened in California in 1963 or 1964. A Legislative Subcommittee held public hearings in Los Angeles relative to such a site on 2 December 1963. As a result, it was obvious that several members of the Subcommittee would vote against the necessary enabling legislation--the law which had been previously passed did not permit the Department of Public Health of California to select an operator for a single site and to restrict the number of sites, and unlimited sites would be allowed if one site were to be opened. Nuclear Engineering Company, Inc., who operate a site at Beatty, Nevada, testified against opening a site and California Nuclear, Inc., among others, testified that there was a need for a site in California.

Subsequent to this meeting we approached the State of Washington and were given a letter of intent on 1 July 1964 to contract with the State of Washington to open and operate a waste burial site near Richland, Washington. Competitive proposals for this site had been submitted by Washington Nuclear, Inc. and California Nuclear, Inc. The site was to be located on land to be leased from the Federal Atomic Energy Commission by the State of Washington. Actual location of the site was a 100 acre plot about 25 miles northwest of Richland, Washington, on land which had been a part of the Hanford Works of the Atomic Energy Commission (just southwest of the 200 East Area).

Due to legal difficulties encountered in the transfer of the land to the State, contract negotiations were prolonged between the AEC and the State of Washington. After the land had been leased to the State, the writing of the sublease with California Nuclear, Inc. took some time due to the liability clauses. Nevertheless, a contract dated 10 November 1964 was agreed to and signed by California Nuclear, Inc.

On that date a taxpayer's suit was started by a member of the firm of Washington Nuclear, Inc., a company reportedly partially owned by Nuclear Engineering Company, Inc. The suit delayed action by the State. In a hearing on 10 December 1964 the Thurston County Court ruled the State of Washington lacked authority to sign the sublease with California Nuclear, Inc. The legislature met in January and passed, nearly unanimously, new enabling legislation. Subsequently the State of Washington called for new proposals and proposals were submitted on 19 April 1965 by Nuclear Engineering Company, Inc. and California Nuclear, Inc. Copies of these were reviewed by an Advisory Committee of the State of Washington Department of Commerce and Economic Development and the Department's staff. We were again selected as the operator of the site. On 29 July 1965 the Thurston County Court raised the injunction against the State's signing a sublease with us and the State signed the sublease on that date.

During the fall of 1964 we surveyed the site, collected the necessary geological, hydrological, and meteorological data, primarily from Richland's reports, and applied for a storage and an operating license from the Federal AEC. The storage license was issued at that time but the burial license was issued only after the sublease was signed. The burial license was dated 10 September 1965. The delay after signing the sublease was accounted for by the 15 day requirement for public objections after publication in the Federal Register

and an interference by Nuclear Engineering Company, Inc. There were other minor legal actions but those listed were the most significant ones. The constitutionality question, just what are the limits of the State's authority in respect to contracts, has not been settled but will be argued in the Thurston County Court on 14 January 1966. As a result, it was only late in September 1965 that we were able to start operations at the Richland site. Indirectly the constitutionality question has had considerable effect on the movement of private industry to the Richland area. The Tri-City Herald reported some 60 industrial concerns were planning to move into the Richland area but few of these have done so. We believe that the constitutionality question has been an important reason why they have not done so.

Since 10 September we have opened the burial site at Richland, fenced it, built about 3/4 mile of gravel road, installed temporary buildings, and buried some 20,000 cubic feet of wastes. We built the entrance road and the fencing and opened the site with our own personnel.

We applied for a loan from the Small Business Administration for $147,000 to develop the Richland site, but this loan was not approved due to the constitutionality question. Recently the Bank of Richland indicated it would approve a loan for purchase of equipment, a permanent building, and installation of an 8 inch water line from the nearest AEC facility (the Hanford 200 East Reprocessing Area) to our site. Construction of these facilities has not been started pending the outcome of the constitutionality question.

In respect to Richland, we opened an office with three people in August, 1964 and maintained the office with very little income until we started burial operations in October 1965. Mr. Fredrick P. Beierle, who was in charge of the office, spent most of his time trying to get the legal difficulties solved, obtaining Atomic Energy Commission licenses, etc. When not needed in Washington, both he and Mr. DeMars, the second employee, spent considerable time working in California and elsewhere developing waste business.

Since opening the waste burial site in October, we have transferred all the wastes in storage at Cowell to Richland for burial and have carried out one small contract for Lawrence Radiation Laboratory at Berkeley as well as conducted our regular waste collection business. At present we are conducting low level solid and liquid waste collection in California, Oregon, Washington, Michigan, Illinois, Indiana and Iowa.

In 1963 the State Legislature of Illinois passed

enabling legislation to open a waste burial site. On 23 October 1963 we submitted an unsolicited proposal to the Department of Public Health of Illinois. However, the State Department of Public Health did not make serious plans until the latter part of 1964 and early in 1965 to select a contractor to open and operate a waste burial site in Illinois. Requests for proposals were issued with the premise that the proposals were to be submitted on 14 June 1965. As a result of the review of our proposal, a letter of intent dated 29 October 1965 assigned the site to us. No contract for operation of the site has been negotiated.

We are presently studying several sites in Illinois. Since there is a question of construction of a radioactive reprocessing plant in Illinois, we are examining the sites in view of criteria for waste burial and for radioactive fuel reprocessing. We plan to have a preliminary report prepared for consideration of the Illinois Department of Public Health and the U. S. Atomic Energy Commission by the end of this month. Mr. Richard Cunningham of the Division of Licensing and Regulations has been informed of our progress. If preliminary approval is obtained, we will proceed with purchase of options on the selected site, core drillings, etc, preparation of the applications for licenses, and after the licenses have been obtained, purchase and deeding of the land to the State of Illinois.

Once the burial facility is opened we expect a rapid industrial development to occur in the immediate neighborhood. Some of the facilities we can forsee are tabulated below.

Business	Capital Investment, $/10^6$	Employees
Nuclear Fuel Reprocessing	25	150
Nuclear Fuel Manufacture	10	50
Nuclear Fuel Tubing Facility	10	50
Radioactive Sources	10	50
Laundry (California Nuclear, Inc.)	0.03	20
Instrument Testing	0.02	10
Miscellaneous in 10 years, about 100 industries	200	10,000

We have also made an application to Arizona for a contract to open and operate a waste burial site. We do not know what action will be taken by the State. They have been looking for a person to head their Commission.

Beginning in the fall of 1964, we constructed an improved portable whole body counter. This required considerable development work and testing. We have mounted

the counter on a trailer and move it from point to point. We have "counted" personnel for the following organizations:

U. S. Navy, Mare Island, California
Atomics International, Canoga Park, California
Pacific Gas & Electric Company, Eureka, California
Reynolds Electrical & Engineering, Jackass Flats, Nevada
Pan American Aviation, Jackass Flats, Nevada

It is expected that these organizations, plus others, will use our services in 1966.

Present Contracts

Most of the waste disposal business has been conducted on purchase order or limited contract. Organizations which have used our services are listed below:

California

Advanced Technology Laboratories, Mountain View
Aerojet General Corporation, San Ramon
A.I.R. Corporation, Oakland
Alameda County, Oakland
Atomics International, Canoga Park
Bruce Lyon Memorial Research Laboratory, Oakland
Bush Electric Company, San Francisco
California Institute of Technology, Pasadena
Dental Metals Company, San Francisco
Dow Chemical Company, Pittsburg
Eitel-McLullough, Inc., San Carlos
El Toro Marine Corps Air Station, Santa Ana
General Atomic, San Diego
General Electric, Palo Alto
General Radioisotopes Processing Company, Berkeley
Hazelton Nuclear Science Corporation, Palo Alto
Highland Alameda County Hospital, Oakland
Kaiser Foundation Research Institute, Richmond
Kaiser Hospital, Oakland
Lawrence Radiation Laboratory, Berkeley
Pacific Gas & Electric Company, San Francisco
Pasadena Foundation for Medical Research, Pasadena
Radiation Detection Company, Mountain View
Radiation Products, Santa Clara
RHC Instrument, Monrovia
St. Luke's Hospital, San Francisco
Salk Institute for Biological Studies, LaJolla
San Jose Hospital, San Jose
San Jose State College, San Jose
Scripps Clinic & Research Foundation, LaJolla
Shell Development Corporation, Modesto

Stanford University, Palo Alto
State Department of Public Health, Berkeley
Syntex Corporation, Palo Alto
U. S. Naval Radiological Defense Laboratory, San Francisco
U. S. Navy, Mare Island
University of California, Berkeley
University of California, Davis
University of California, Los Angeles
University of California, San Francisco
University of Southern California, Los Angeles
Varian Associates, Palo Alto
Watkins Johnson Company, Palo Alto
Wesix Electric Company, San Francisco
X-Ray Engineering Company, San Mateo

Colorado
U. S. Bureau of Mines, Denver

Illinois
Abbott Laboratories, Chicago
Department of Water & Sewers, Chicago
Illinois Institute of Technology, Chicago
International Minerals & Chemical Corporation, Skokie
MacNeal Memorial Hospital Association, Berwyn
Northwestern University, Evanston
S & C Electric Company, Chicago
G. D. Searle & Company, Chicago
Sinclair Research Laboratory, Chicago
V. A. Hospital, Hines
V. A. West Side Hospital, Chicago
Westclox Company, LaSalle

Indiana
American Maize Products
Drs. Buchanan, Thornton, Lockhart, South Bend
Eli Lilly & Company, Indianapolis
Indiana State College, Terre Haute
Miles Laboratory, Inc., Elkhart

Iowa
Iowa State University, Ames
Marycrest College, Davenport
Mercy Hospital, Davenport
St. Luke's Methodist Hospital, Cedar Rapids
University of Iowa, Iowa City

Michigan
Bendix Corporation, Southfield
Blodgett Memorial Hospital, Grand Rapids
Dow Chemical Company, Midland

Nevada

Pan American, Jackass Flats
Reynolds Electrical and Engineering, Jackass Flats

Oregon

Oregon State University, Corvallis
Portland State College, Portland
Reed College, Portland
University of Oregon, Eugene
Veterans Administration Hospital, Portland

Washington

Benton County P.U.D., Kennewick
Central Washington State College, Ellensburg
Deaconess Hospital, Spokane
Flodin, Sunnyside
Gonzaga University, Spokane
King County Hospital System, Seattle
Nuclear Reactor Laboratory, Pullman
Puget Sound Naval Shipyard, Bremerton
Rocket Research Corporation, Seattle
Sacred Heart Hospital, Spokane
Seattle University, Seattle
Tacoma General Hospital, Tacoma
Tumor Institute of the Swedish Hospital, Seattle
United States Testing Company, Richland
University Hospital, Seattle
University of Washington, Seattle
Veterans Administration Hospital, Seattle
Walla Walla College, College Place
Washington State University, Puyallup
Western Fish Nutrition Laboratory, Cook
Western Washington Experiment Station, Puyallup
Whitman College, Walla Walla

Company Facilities

At the present time California Nuclear, Inc. is operating the following facilities:

Low level solid radioactive burial facility, Richland, Washington.

Low level liquid and solid radioactive collection in California, Oregon, Washington, Illinois, Iowa, Indiana, and Michigan.

Low level liquid and solid radioactive waste storage facility at Cowell, California.

Offices at Richland, Washington; Pleasanton, California; and Lafayette, Indiana. A post office box and telephone service are maintained at Downers Grove, Illinois.

Owns and operates a portable whole body counter.

Reduces liquids to solids at Cowell, California.

Conducts decontamination work, both chemical and radioactive.

The bulk of our present business is the pickup, shipment, storage, and permanent storage of radioactive wastes. Most of the pickups are on a purchase order basis and not by extended contracts.

Employees

We have had to build up a larger staff than required for our normal level of operations. This has been necessary to develop the Richland site. Recently we have cut back our employees to four full time and seven part time.

Securities and Exchange Commission

We have tried unsuccessfully to date to obtain a permit from the Securities and Exchange Commission to sell stock to the public. Such approval is expected in the near future. At the same time we have been negotiating sale of blocks of stock to other firms.

Plans for the Future

In addition to the waste disposal and whole body counter work, we plan to enter the radioactive laundry business with construction of a laundry at the Chicago area. We have a contract for consulting in health physics with one firm and one of our men is teaching health physics in a college.

We plan to open a warehouse in the near future in the Chicago area. As soon as a storage license for that facility can be obtained, we will start collection and storage of low level solid wastes. If a license can be obtained, low level liquid wastes will be collected and reduced to solids.

It is our intention to expand our business to cover the entire country. How fast we proceed will of course depend upon income and secondarily on sale of stock.

I hope that the above information proves of value to you. Attached are several items that may prove of interest. Please let me know if you need additional information. As noted above, we will send you a letter in a few days requesting assistance on specific contracts.

Sincerely yours,

/s/ STUART McLAIN

Stuart McLain, President

SM/ib
Encls.
cc - Beierle, Helgeson"

On 30 December Bailey again suggested that Commonwealth Edison buy the burial site and give it to California Nuclear. But nothing came of it.

11. 1966 in the West

We entered 1966 in the West in a mixed mood. We had been assigned the burial site at Richland and were moving the stored wastes at Concord to Richland for burial. So one of our worries was removed. In this respect Fred and Bill moved most of the wastes via the old Mack truck with 16 gears. They had no trouble although they had to go over the Hump (the Mt. Shasta ranges north of San Francisco) in snow and ice.

Lew Helgeson had developed the Whole Body Counter. But he was unhappy and had threatened to leave and join Isotopes. Isotopes, Inc. also tried to buy California Nuclear but I quoted a price which they thought was too high. This is of interest in that a few years later Isotopes bought 35% of Nuclear Engineering in the CARCO deal and tried to buy Hungerford's and McLain's Nuclear Engineering stock at about 21 to 22 or 33 to 34 based on the $10 California Nuclear stock value and we refused to sell the stock at that price. They could have bought the whole company for $150,000 although I am not sure that this was the amount I asked. Later they offered us nearly $600,000 for just our stock.

Lew always, I now believe, planned to use California Nuclear as a step toward his own company. On 28 January Lew Helgeson resigned. He stated he could take title to many of the aspects of the Whole Body Counter. I never believed he could but we never sued him either.

I would prefer someone like Bill Johnson who complained a lot but who would never knife anyone in the back. Perhaps Lew will pray for me and cut down my time in Pergatory a bit.

While I was in Richland early in January 1966, I visited the burial site. It was the best looking burial site for radioactive wastes in the country.

Early in January I visited the AEC in Washington and talked to Tremmel and others relative to our getting perhaps 100,000 cubic feet per year of Richland wastes. My arguments were:

a. It is AEC policy to use commercial facilities where available;
b. It is AEC policy to help small businesses; and
c. It is important to help the diversification program.

Tremmel was interested but what pressure he brought on the Richland authorities I do not know. Also I never was quite sure that Fred pushed the idea. Beierle agreed to talk to Glen Lee of the Tri-City Council.

Tremmel also suggested we contact people in Oak Ridge and try to operate the Oak Ridge site. He also suggested picking up the Dow wastes at Rocky Flats. Later I did push for the Rock Flats wastes, but we sold the company before we got a Colorado site in operation.

I had to talk to the AEC about our experiences and then I was asked to write them up. This I did with particular interest on the "suit". However, the AEC never awarded us any waste disposal contracts.

We discussed prices with the AEC. We had bid 62-1/2 cents/ft^3 at Hanford for Hanford wastes. Had we cut this to 50 cents we might have received a considerable amount of Hanford's wastes. Fred objected. I should have overruled him.

This leads to a general principle relative to new companies. In general, only one of the entrepreneurs continues in the operations. The others are either forced out or drop out before the company becomes successful. I believe this happens in a well run organization where only one man can establish policy and make the final decisions. Except marriages, everything finally is settled by one person and I think it is so in nearly 100% of the happy

marriages.

In respect to finance I discussed the situation with Mr. George Butler on 8 January 1966 while I was in Richland. George said that if we got SEC approval to sell stock there were people in Richland who would buy up to $50,000 of our stock. He said that the fact we had remained in Richland for a year and fought through the various suits and legal problems indicated our integrity and desire to remain in business. He then offered to help by talking to the SEC. I do not know whether or not he did. Since when we got SEC approval we failed to get California approval, we never sold the stock.

Typical of the weird things that happen was the following. On 18 January Beierle called and said that the Richland bank would not loan us any more money. Then later in the day he called and stated he met the bank president, Volpentest, on the street and Volpentest stopped and said, "Oh, about that credit, drop in. We'll give you $5,000." Everyone was just that good to us even though we never paid bills on time.

In spite of Lew's leaving we continued to make bids for use of the Whole Body Counter. Essentially all we did was to finish contracts. Actually Lew left the equipment in so poor a shape that it was difficult to use. Apparently he never expected we could get it going and use it again. As noted later, Eugene went out, figured out the electronics, and got the device to work. But she was too far away and too valuable to spend much time on the widgit. So after a time we shut it down.

Lew also soon asked for the $8,000 he had loaned to California Nuclear. Even though we had no obligation to return it to him immediately, we did so at considerable inconvenience to California Nuclear and the McLains.

As noted earlier, we hired Stewart Corbett to act as a Health Physicist and take care of the California Operations. But after a short time we had to discharge him.

And of course we got several requests as soon as Lew left for work on the Whole Body Counter. As a result we bid on several jobs but Lew underbid us on all of them. Nice guy.

We also had trouble with Mare Island. I never quite understood why. Partly I think Lew did not follow

through. When he decided to leave us he simply stopped doing more than we could sue him for. Also we had talked to the Small Business Administration people in Seattle and they had apparently pressed Mare Island even before we received their request to bid. Anyway they became unhappy with us but I believe we continued to get their contracts except for one year.

We also contracted with Battelle Northwest about this time for checking their people with the Whole Body Counter. We also heard that the Public Health Service wished to count a number of Alaskan Eskimos; so we made a bid. Later the Public Health people built a "lap" whole body counter and did count a number of these people.

In April Harry and Kay DeMars resigned and returned to Minnesota. They gave as the reason that Harry's health was bad in the West. Actually they may have been dissatisfied. I do know that Kay stated a couple of years later that Harry had recovered; so I now believe what they said was true. Both are wonderful people.

More on Corbett. In April 1966 I talked to Richard Cunningham and Nathan Basin of the AEC. They expressed little faith in Corbett and were surprised that we had hired him. They stated he did not know the waste disposal business, including pricing. We used Corbett until he fell off the wagon. As noted above, I learned Corbett was working for Nuclear Engineering in 1973 and also later for Chem Nuclear for a time.

Again in April the question of the Richland wastes came up. One point in our argument was that the AEC regulations for packaging should not apply to Richland as we would handle all the wastes over private roads. Richland had never used public transportation type of packaging. It was finally agreed that we could bid for the wastes in the Richland packages.

In May I ordered some equipment to revise and update the Whole Body Counter. Actually this was delivered but due to the fact that the counting of Eskimos in Alaska was essentially cancelled, we never installed the equipment and some of it was finally returned to Harshaw Chemical. Meanwhile Low Helgeson built an improved Whole Body Counter and equipped it with a small computer and readout system which made our equipment obsolete. Low has been able to expand and now I understand has at least two portable Whole Body Counters in use.

Again on 17 May I met with Corbett. I had wanted

him to visit Hanford and teach one of our men there, a Mr. Pelton, fundamentals of Health Physics, and give him an examination so that we would have a properly trained Health Physicist at Richland. I told Corbett he would have to change his way of thinking or we would have to drop him. Poor Corbett.

Stew wanted us to buy a second hand butane tank truck for transport of very low level liquid wastes but we did not do so.

In May the Richland Bank represented by Mr. James Winchell, loaned us $40,000 on a mortgage on the equipment at Richland. This was a big help.

On 16 June we received a letter from R. E. Hollingsworth, General Manager of the Washington AEC, that Hanford would not send any wastes to us. He claimed that our costs were higher than Hanford's. I have always believed this was due to the packaging costs as we were required to handle all wastes in packages while Hanford dumped the barrels, etc into open pits and reused the barrels, etc.

I immediately wrote a letter to the Manager of the Richland Operations Office but got nowhere.

One point that always bothered me was Battelle Northwest carried out some commercial work at Hanford and I believe dumped the "commercial" wastes in the dump with the other wastes. I don't know.

On 5 July Bill Johnson called and reported that Stewart Corbett "had wandered off again". This left us in a bad way with respect to the Whole Body Counter. We had ordered a larger crystal for $7,500 and had planned to continue in business in competition with Helgeson. But without a satisfactory and well trained operator available quickly we were in a pinch. We had a contract with Pacific Gas and Electric to test their people at Eureka. So we transferred the Whole Body Counter to Eureka.

I immediately notified the AEC and Nate Basin approved Bill Johnson as our Health Physicist in place of Corbett. Lugene Hungerford and others got the Whole Body Counter in action at Eureka.

I think her report and Bill Johnson's letter are classics of what people can do. It should be noted that Johnson's call on 5 July was a "report" on what happened on Lugene's arrival in San Francisco. Stew was to meet

Lugene, as noted above. Following Lugene's report is a letter from Johnson covering the same period.

"Journal Report of PG&E Whole Body Counting
Lugene Hungerford

My report on the trip to California can be described very briefly as one BIG HEADACHE.

Friday, July 1, 1966 - The decision was made about 1530 that I should start for California as soon as possible. Airline and motel reservations were made and driving was started at 2015. I stayed at the Mayflower Motel that night.

Saturday, July 2, 1966 - I drove to O'Hare Field for flight to San Francisco. Just as we were due to leave we were told the air conditioner wasn't working and we would have to change planes. This was a one and a quarter hour delay. Arrived in San Francisco and could not find Stew Corbett. After 1/2 hour with two pages for him from the American Airlines Information desk, I left a message for him there and went down to check on my luggage. Found that my small bag was missing. Fortunately, it was the small one with small essentials such as cosmetics, raincoat, sweater and travel iron. I continued to page Stew every 15 to 20 minutes from the American Airlines Baggage area. This happened so often in the next 1-1/2 hours that the courtesy phone operator began to tell me that she knew when I told her who I was and where. Finally about 1530 I called Loretta a second time and she came to meet me. It was so late by this time that she suggested that I take the helicopter to Oakland Airport. From there to Pleasanton to the office, the motel in Livermore, and back to Loretta's for dinner. After dinner we returned to the office mostly to watch lee Gronemyer with the electronic equipment.

Sunday, July 3, 1966 - I studied the manuals on the instruments until Bill Johnson came to pick me up to go to the warehouse where the trailer was parked. He and I loaded the instruments in the Chevy Van from the Pleasanton office and started to Cowell. The trip was uneventful except for a flat tire and a lug wrench which was too large. Nevertheless we changed the tire and got the instruments in the trailer. When I first started to help change the tire, Bill said he would do the job as I would get my hands dirty. That was the last time that he said that, as he saw that night while we were working with Lee that I had come to do a job and wasn't afraid of the dirt. Lee and I worked until 2230 and had the instruments calibrated with the exception

of the X-Y pen write-out. He took this with him to see if he could get it in operation at Valecitos.

Stew Corbett called while I was at the motel in the morning and said that he had been at the airport until 4:00 p.m. the day before and had answered two pages and had had me paged twice. I don't know what happened, but we didn't make contact. Just the confusion of two strangers meeting, I guess.

Monday, July 4, 1966 - After a late breakfast I started calling trying to find some place open to buy a pail and some cleaning supplies. Then out to two places to find all that I needed. After about 6-1/2 hours of cleaning and polishing the Whole Body Counter and cleaning the floor with a rag, the place looked presentable. What a mess!! Some holiday!! At least I had a nice dinner with Bill in Clayton. Returned to the motel to find a note to call Lee G. before 7:30 a.m.

Tuesday, July 5, 1966 - The motel manager opened the switchboard at 7:10 a.m. as agreed the night before. I called only to find that there was a mistake in the time. Lee was due at work at 7:30. His wife told me that he said he had the instrument working so I started for Pleasanton to meet Frank Dement. When I arrived in Pleasanton I discovered that the X-Y Recorder was not working due to a missing plug, but Lee was going to swap instruments with us if we could get the plug. It had happened that my cleaning job of the day before was useful because I had found the plug, but not wired, I knew where it was and we called Johnson and had Shadwick drive it down in the Corvan loaded with the rest of the equipment. While he was coming down, Frank and I drove out with our X-Y to Vallecitos and Loretta was to take the plug out later. Frank and I left Pleasanton about 1100 to drive to Eureka. We had road construction delays and were a little slow driving as neither of us was familiar with driving the Corvan. It was about 1545 by the time we had the equipment unloaded. Bill had arrived earlier since he had left Cowell a little after 9:00. We left a note for him and started out for a motel and dinner. Bill returned while we were finding a motel and flagged us down on the highway a few minutes later. We had dinner and all returned to the trailer for an hour or so.

Wednesday, July 6, 1966 - Frank and I were back at PG&E at 0820 trying to get the whole body counter to running and the instruments calibrated. It turned out that none of the work done in calibrating in Pleasanton and Cowell had been of any value except to know that the equipment was

working. This is a major consideration for any future plans for the whole body counter because it seems that the instruments are just too sensitive to disconnect and move about in any truck without spending a major amount of time in re-calibrating. This is of major importance if we do a job like the Public Health Service, because it would be almost impossible to keep them in close calibration with their counter in Cincinnati. After we began to get the instruments reading within the ballpark, I went shopping for a few minutes for a few missing supplies. With continuous work, including hamburgers while we worked for lunch, we began counting about 1500. This was a man who was terminating to go into the service one hour later. This continued with some of the swing shift until almost 1800. Johnson left for Pleasanton and Cowell about 1600. Before Bill left, G. Allen had told Bill that he would like a few calculations before we left of those who had had previously high Zn-65 and were still showing it. This included the first man. Bill seemed to feel that Allen partly wanted to see if we knew what we were doing. This put me on the spot as I had never done such calculations. I studied Lew's previous work the next two nights and found that I could do the calculations if the person did not have a large K dosage plus a large Zn-65 dosage. In this case the value of K has to be corrected before any other calculations can be complete. I never discovered the method to do this, but by studying the K source writeouts and those for Zn, I was able to tell that this would not affect the Zn calculations by more than 5% to 10%. This I could estimate quite closely for each individual by studying their curves versus the K and Zn source curves.

Thursday, July 7, 1966 - We began early with the first counts about 0645 for the graveyard shift. We ran continuously all day until 1650. We ate separately for lunch so as not to lose a minute. We started to leave only to find that the Corvan wouldn't start. I went into the office while Frank went to look for the watchman. The offices were closed, but I soon saw 5 men in a conference room. I asked where to call for service and before Frank returned I had five men at the van. They all pushed and we soon had it started. After we had cleaned up for dinner the van refused again. This time just Frank and I got it started by pushing. We didn't stop again until we found a mechanic. This was also difficult as most mechanics were on strike there and only some of the truck stops had a mechanic. Our problem turned out to be only dirty battery cables which were cleaned. After dinner Frank let me off at the motel to call Stuart and to work on the calculations some more. Frank was to return to PG&E to readout a counting run which we had left on background during dinner. Within a very few minutes he

was knocking on my door saying we had a flat tire. This was only 3 days since Bill had bought four tires. Well it seems that he must have not bought new tubes as this was a tube. That night I went to bed exhausted without having learned the needed correction factor and not certain if I would physically last through the job.

Friday, July 8, 1966 - I slept so late that I was not ready when Frank returned to the motel for breakfast after he had gone out alone to count the last three on the graveyard shift. There were our last persons for a total of only 44. After breakfast we ran more background and phantom counts. I talked with Gale Allen and explained my inability to do the K correction factor. I showed him why it was necessary and explained how I could give him a close answer on those with the high Zn dosage. The highest was about 400 mc without the correction. I seemed to have convinced him that I understood the theory but did not know the handbook factor. By calculations, taking ratios of curves I verbally gave him some reasonably accurate figures and satisfied him. I heard later from Lee Gronemyer that Allen was quite satisfied. In fact, he brought two Oyster Creek Health Physicists in to see the WBC and said it was the only accurate way to check radiation dosage. He seemed to be a good salesman.

I drove Frank to the Arcata Airport to arrive about 6:00 p.m. for an 8:18 flight to San Francisco as he was on standby and we wanted him to be first. My American Express came in handy as he was too short of cash to buy his ticket. So I charged it to my personal account. The airline agent recommended Merriman's for dinner. We went there and were met at the door with the information that his flight was confirmed. This helped as we had heard about the airline strike that morning and didn't know what we were up against except that Frank was due back at work Saturday morning and we didn't have time to drive together and Bill could not get a plane up to drive "The Bug" back. I knew that I was stuck with driving it back to Pleasanton with all of the electronics. We did have a very nice dinner and a view of the ocean that was one of the most beautiful I had ever seen from any ocean-side restaurant.

Saturday, July 9, 1966 - Left Eureka at 0940 and arrived in Pleasanton at 1730. I called Loretta and Ron came down to help unload the instruments. Then I was on the phone trying to find plane reservations and a motel. Found solid booking until July 19 for direct flights from San Francisco to Chicago as American was the only one flying direct. The best I could do was Tuesday to Los Angeles and about a 3-1/2

hour layover for a flight to Chicago. I will not arrive in Chicago until the wee hours of the morning on Wednesday. Called Stuart to report status.

Sunday, July 10, 1966 - Met Bill and Stew Corbett and his family in the office about 1100. I knew that Bill was to be there as he was to meet the AEC man at noon. They found out that the AEC inspection was delayed due to airline strike. After Stew left, I asked Johnson about his meeting with Turner. He said Turner had told him that there was something wrong with the financial statement and he would not send it to the Corporate Commissioner. Bill had also told me that Turner said that the three officers had signed away the rights to accrued salaries. Also, that by issuing stocks in cancellation of debt CNI was becoming public in contradiction to the commissioner's ruling. The whole thing sounds muddy to me. I am wondering if I could make a visit to Turner and clarify the statement but will not do so until I can reach Stuart.

In addition, Frank Dement called while Bill was here and Frank left work to come right over. I could see that they wanted privacy so I started typing this while they were in the other room. Bill told me later that he had made Dement an offer of $800 per month in cash and $100 per month to accrue. As I understand it, this is a firm offer subject only to McLain's veto and the promise that Dement will try for certification within two years or less. He is to start July 25, 1966. Bill asked me to tell Stuart when I return.

Monday, July 11 - I spent about 5 hours in the Pleasanton office. Most of the time was consumed in handling details such as discussions with Loretta and Stew Corbett. The item of major importance was repeated efforts to reach Turner concerning the problems which he had discussed with Bill Johnson and which Bill had told me Sunday. I finally reached him personally about 1630. We had quite a discussion about the issuance of stock to cancel loan indebtedness. I believe I finally convinced him that this was fair action. He admitted that I had given him a different view and he would present it to the Corporate Commissioner. He even asked if I could return later to go with him to the Commissioner. I agreed to do so if it would help.

Tuesday, July 12 - About 1-1/2 hours were spent in the office on details such as discussions of requirements for a secretary for Loretta to interview. Loretta drove me to the airport starting about 1230 PDT. I arrived in Chicago 0200 CDT. Stayed in hotel in Downers Grove. My luck was even continuing in hotels. First I, and then the night clerk and finally the manager had to try to unlock the door. Then

the room was HOT.

Wednesday, July 13 - Returned to Lafayette office at 1430 to catch up on last 12 days."

"CALIFORNIA NUCLEAR INC.
Post Office Box 519
4377 First St.
Pleasanton, California 94566

July 9, 1966

Dr. Stuart McLain
California Nuclear, Inc.
2323 South Ninth St.
Lafayette, Indiana 47905 Our File: No. 796.1

Dear Stuart:

The following is a short breakdown of activities since Friday, July 1st.

FRIDAY, July 1, 1966
Left Richland with whole body counter approximately 9:30 p.m. Lost the generator on the diesel at Satos, waited for daylight and then stopped in Smelt, Oregon and tightened fan belt. Stopped at Klammath Falls, Oregon and overhauled generator.

SUNDAY, July 3, 1966
Arrived at Cowell approximately 2:30 a.m. Picked up Lugene in Livermore about noon and we went to the Pleasanton office. Loaded the electronics. Left Pleasanton approximately 2:30 p.m. and went to Cowell and placed equipment in trailer. Took Lugene to Concord Motel and registered her and then we had lunch. Returned to Cowell and met with Lee Gronemyer at 7:00 p.m. I left Cowell around 9:45 p.m. Lugene and Lee Gronemyer still working.

MONDAY, July 4, 1966
Bought 3 tires for Chevy-Van. Drove almost to Walnut Creek and lost tire. (One of the new ones.) Returned to tire store, bought another tire to replace the new one. (Completely destroyed.) Met Lugene approximately 7:00 p.m. Took Lugene to dinner at Clayton and then returned her to motel approximately 10:00 p.m.

TUESDAY, July 5, 1966
In the morning I dispatched B. Shadwick to Pleasanton with electronic connector for Lee Gronemyer. Left for

Eureka from Cowell with whole body counter in diesel around 9:30 a.m. Arrived Eureka at 6:00 p.m. Flagged down F. Dement and L. Hungerford in Eureka at 8:00 p.m. and had dinner at Town House. Returned to trailer at power station approximately 9:30. Worked on electronics until about midnight. Returned to motel.

WEDNESDAY, July 6, 1966

Frank Dement and Eugene went early to trailer, had difficulty with electronics, everything out of synchronization. Worked until about 3:00 at which time counting commenced. Having satisfied myself the quality of the work was good, I had a short conversation with Gale Allen, Health Physicist at P.G.&E., talked to Eugene, and left in diesel tractor for the Bay area approximately 5:30 p.m. Arrived at Cowell at 1:30 a.m. Thursday morning.

THURSDAY, July 7, 1966

Went to Pleasanton Office around 11:00. Informed Lee Gronemyer that P.G.&E. was requesting approval on the whole body counting job by a Certified Health Physicist. He approached Bob Thorburn of G.E., but he felt it could possibly be compromising in his position. Got in contact with Dr. Frank Holden, Radiation Detection Co., Mountain View. Dr. Holden is a Certified Health Physicist and he will be quite happy to review Lee Gronemyer's evaluation and certify them.

Contacted AEC regarding Richland site licensee inspection on July 13th. Inspection was definitely on "full dress" however, with airline strike they are not attempting to inspect licensees during this transportation interruption. Should the strike be settled by noon Sunday, they will be there.

FRIDAY, July 8, 1966

Have signed an agreement with Art Hilliker whereby CNI's lease in the Pleasanton office is cancelled as of August 15th. He has absolved us of $300.00 rent for the period to 2/15, however, he will keep the original $260.00 deposit. We will pay $80.00 rent covering the period July 15 to August 15.

Loretta is definitely leaving on July 29, 1966. She had tentatively scheduled her vacation time to begin July 11th, however, in our present rather uncontrolled situation in California she is willing to take cash in lieu of vacation and will remain on the job to break in someone for replacement. Her vacation accumulation time is 3 weeks, therefore, when you send her the end of the month paycheck, please send her a check for this accumulation of vacation time.

Concerning the office in California; preliminary investigations have been made into the cost and possibility

of placing a trailer house at Cowell, and this seems to be the most feasible approach. Office trailers of some vintage are retailing approximately $2,000. Parking will be in the neighborhood of $20.00/month. The Cowell number will be in the trailer. We will inform all our customers of our move, and Loretta has tentatively agreed to keeping the Pleasanton extension in her home for some reasonable short period of time so that an orderly transition can be made. We have not investigated the possibility of financing the trailer, however, this will be done and we are confident it can be done. We have tentatively scheduled making a serious attempt to find a girl from the Concord area who will spend the final 2 weeks of July with Loretta, at which time she can work with Loretta and get to know the general office procedure.

Contacted Fred Beierle concerning the very complicated situation on the West Coast, and he agreed to aid me prior and during the inspection at Richland. Making connections with the airlines on strike may be very difficult. I am sure you have had previous conversation with him by this time.

As of this date the plan is that Stew Corbett will accompany me to Richland in the diesel Sunday. He will remain with me for 2, possibly 3 weeks and we will go over the licenses and the changes and the radiological safety manual of the company and prepare a current report and submit to your new health physicist in Lafayette. Any license changes or amendments will be then forwarded to him.

I am considering making a job offer to Frank Dement. If he is not receptive to approximately $800/month or $850, I will then get in contact with Lee Gronemyer. Frank with much hard work can become certified in about a year. About the same for Gronemyer. The job offer to either of these individuals will be predicated upon their bending every effort towards certification. We need more strength in health physics in California than Bill Shadwick can provide, and with 4 people named on the license, 2 in Richland and 2 in California, we should be able to perform much better in heavy load situations, and provide vacation and sick relief.

Sincerely,

CALIFORNIA NUCLEAR, INC.

/s/ W. D. JOHNSON

W. D. Johnson
West Coast Manager

WDJ/lw
P.S. The short breakdown turned into a short essay."

It may be of interest to note that in the three month period April to June, 1966, in Washington we paid 11 employees, including Beierle, who had not moved to Illinois,

eight were full time. We had about five in California and four in Indiana.

On 21 July the Tri-City Herald published an article relative to Washington becoming an agreement state as follows:

"NUCLEAR PACT
SEEN FOR STATE

The state is expected to assume part of the federal government's regulatory authority over the use and transportation of radioactive materials in the state by the end of the year.

Gov. Daniel Evans announced today at a press conference at Pasco Airport that he believes Washington will become the nation's 14th 'nuclear - agreement' state late this year.

The proposal is being considered and processed now by the Atomic Energy Commission in Washington, D.C.

Gov. Evans said he believes the transfer of nuclear authority will 'serve as an added stimulus for the development of nuclear industry and nuclear technology in Washington.'

Under the agreement, the AEC would transfer to the State of Washington regulatory responsibility for the use of radioisotopes, uranium and thorium, and small amounts of fissionable materials.

The AEC first must determine that the state's program is compatible with that of the commission and that public health and safety will be safeguarded adequately.

Other states with regulatory control authority are Alabama, Arkansas, California, Florida, Kansas, Kentucky, Mississippi, New Hampshire, New York, North Carolina, Oregon, Tennessee, and Texas."

It was mentioned previously that all our personnel were on salary. As a result most of the truck, tractor and crane repair work was done by our own staff. For example, in July 1966 Johnson and his group buried a large volume of wastes, including the 26 carloads received from Argonne; assisted with the Whole Body Counter work at Eureka; excavated 15,000 yards of trenches; and also repaired the diesel tractor, crane and scraper using a total parts list for $1,800.

On 1 August Lugene sent Harold Turner a copy of our Financial Report. We believed this report should have been ample to justify the sale of stock.

On 1 August I sent a wire to the AEC stating Corbett was off our staff for good.

On 18 August 1966 Bill Johnson presented a check for $5,100 to the Supervisor of Business Management of the Washington Department of Commerce and Economic Devélopment. Then on 29 August the Tri-City Herald carried the following item:

"NUCLEAR-CONTROL GROUP NEAR
AEC'S 'AGREEMENT' STATUS

Olympia (AP)--Gov. Dan Evans last week praised the action of the state technical advisory board on radiation control in rules and regulations to control sources of radiation.

The move by the board was a step toward the state's reaching designation by the Atomic Energy Commission as an 'agreement state'.

The proposed agreement would allow the AEC to transfer to the state some regulatory responsibilities over the use of radioactive materials.

Before entering such an agreement the AEC must find the state program is compatible with their own and that rules are adequate to protect the public.

In a letter to the board, the governor said the move is 'further proof that the state is ready to accept the responsibilities of the nuclear age'.

'We have the technological ability, the governmental structure, dedicated people, full cooperation of all state departments, and a full measure of commitment by this administration to establish the new role for our state with a standard of excellence exceeded by none.

The governor said benefits that will result will be increased interest and development in nuclear-related industry and in advancements in medicine, food processing and energy production."

One item of interest came up in mid September. We were asked to dispose of several vials of gaseous tritium. This meant finally the writing of a full feasibility report and the obtaining of a special permit before the insignificant amount of gas could be buried. Finally the vials were surrounded with an oxidizer, potassium pemangnate, a catalyst, a steel pipe, concrete, and buried in a steel drum. How silly can things get?

On 5 October we sent Mr. Harold Turner another letter request for California approval of the issue of $400,000 of stock. We still planned to proceed with transfer to a Delaware corporation. I believe I did not push the transfer to Delaware or some other state sufficiently.

By mid October California sales were $3,900 per month and the area was profitable. Regular pickups were being made as noted above and liquids were being reduced to solids at Cowell. Nevertheless most large accounts were being handled by Nuclear Engineering. Basic monthly expenses were near $2,000 per month.

The Richland area continued to lose money as basic expenses were $2,400 and sales only $630 per month. Later we did receive the Bremerton Navy Yard contract for removal of some wastes. This is discussed below. Of course, we blamed the "taxpayer suit" instituted by Nuclear Engineering for part of our losses as it drove away potential customers. Too, the AEC permitted Battelle West to use the government facilities for private work but never forced them to send the corresponding wastes to us.

During this period I visited Arizona and discussed the possibility of a site near Parker. Dr. Norman Hilberry helped us. I believe Nuclear Engineering presented a proposal also just to muddy the water.

In October I wrote to the AEC, stating that the wastes produced from the Nuclear Power Reactor at Richland should be sent to us since it was producing power. Actually it was producing power for distribution to the public through a public power group. They claimed our costs were too high, even though we were never allowed to use the burial procedures used by the AEC and we had to pay a fee to the state. They never let us quote on a particular job in competition with the AEC. Actually, for several years we argued with the State of Washington that we should be the recipient of those radioactive wastes produced at Hanford involved with the private or non Hanford production facilities. But we lost all our arguments. Perhaps we should have started suit in Federal Court even though this would have required years in court.

On 6 December 1966 the Tri-City Herald carried the following article. While it is only distantly related to California Nuclear, it is added here for general interest:

"WASHINGTON NUCLEAR AGREEMENT PRAISED

Washington has taken a big stride into the nuclear field by becoming an 'agreement state' Glenn C. Lee, secretary of the Tri-City Nuclear Industrial Council, said today.

But it is only one step of many that are required if the state is to make the first one mean anything, he added.

Lee was one of the speakers at ceremonies today in Richland during which Gov. Dan Evans and W. E. Johnson, former Hanford plant manager for General Electric Company and now an AEC commissioner, signed papers making Washington an agreement state.

CEREMONY

The ceremony took place in the Federal Building.

Washington has both a responsibility and an opportunity by becoming able to administer its own regulations on some uses of nuclear energy Lee declared.

But the key thing will be how well it accepts the responsibility or arises to the opportunity.

'The burden falls on the state of Washington to have adequate funds available to attract and retain an adequate staff of properly implement agreement state requirements so that the Atomic Energy Commission is satisfied that proper procedures are being maintained,' he said.

'The nuclear council is well aware of the facts of life and what goes on in the busy world today. Stock-piling of plutonium continues. We have competition from other AEC sites where plutonium is also manufactured and where diversification too is needed. We are also well aware that there are new projects on the horizon for the near future, that these projects might be located at Hanford, but that other sites are being considered in competition with Hanford.

HELP CONTRACTORS

'So we must continue to do something that we can to help the new contractors carry out their objectives so that diversification is not looked upon as a milepost or a slogan but rather it is a continuing campaign and program with a bright future and not just a static condition or one that we take for granted.

'Becoming an agreement state is but one step yet a necessary one. It will enable private enterprise to do business with state regulations without being entirely dependent upon such authority from the Washington, D.C., level or the Atomic Energy Commission,' Lee declared.

Lee also pointed out that in both the 1963 and 1965 sessions of the legislature, the proposal to become an agreement state met with opposition from Puget Sound-based industry and also from the Association of Washington Industries.

'We believe this misunderstanding has been fully resolved and we sincerely hope that there will be peace, harmony and progress for the objectives of both sides of this state in the nuclear field,' he stated. 'Certainly this will come about as the benefits to be derived from this move are felt.'

OPPORTUNITY

'For example, if the State Department of Commerce and Economic Development can keep in close touch, and work

hand in hand with the Department of Health, so that when information is available and valuable about opportunity for new industry in the nuclear field the department can move in and take advantage of it.

'Also, if there are 'problems' the department can be helpful. In short, we want a positive, aggressive program statewide for development in the nuclear field.

'We hope not to see any of the predictions come true that were expressed by the opponents of the legislation for the agreement state.

'We see new opportunity in the nuclear field in agriculture, air and space activity, power generation, medicine and dentistry, studies of air and water pollution, industrial applications of radio isotopes, nuclear propulsion of ships, waste handling and disposal, education in our universities, and in the production of scientific instruments and equipment.'

DIVERSIFICATIONS

Lee also said that as far as the nuclear council is concerned, 'the surface has only been scratched, concerning the diversification at Hanford.'

'There is much to be done,' he continued.

'The Hanford operations has been segmented. New contractors are in place operating portions of the project, but the eyes of the world are now upon them.

'A mandate rests on their shoulders to continue to diversify this region and bring new payrolls and new industry to carry out the basic objective of segmentation and diversification. By the same token, AEC must continue to cooperate with the new contractors to speed diversification."

a. Arizona

I had talked to Norman Hilberry about an Arizona site. He talked to me on 30 October. He stated that Arizona definitely needs a new law; California Salvage has also submitted a proposal for a site; and he wanted me to visit Arizona as soon as possible.

We retained Stevens and Liebow as our attorneys. Not only did they ask for large fees but requested we approve a bonus of $2,500 if we got a license. This was the only case of such a request. The lawyers in Alabama asked for a deposit but did not request that the original deposit be maintained. The Springfield, Illinois lawyers even did not send any bill for several years as they said they never billed a new company until it was on a profit basis. This is discussed elsewhere.

b. Colorado

Early in 1966 we were asked to look into the Rocky Flats waste situation. The Government was shipping these wastes via Government truck to the Idaho burial area.

I talked to Mr. Venable about these wastes at Rocky Flats. Venable was at Midland but he was the Administrative Officer for Dow in respect to operation of Rocky Flats. Apparently, Nuclear Engineering had also pushed them and further had agreed to open a waste disposal site in Colorado if they were given a two year contract. Shipment to Washington or Illinois was too expensive. I believe shipment has continued to this date to Arco. We did follow through as noted below. Mr. Venable suggested I call on a Mr. Bowman at Rocky Flats the next time I could get to Denver. So on 24 March 1966 I flew to Denver from San Francisco as I had been at San Jose on the Tarapur Project. On arrival at Denver my niece, Maureen, met me. We had dinner and talked to 2330.

On arrival at Denver I called the car rentals and was told no car was available. So I called the bus company and was told to take a No. 14 bus to the Interurban Bus Station where I could get a bus to Golden. Presumably I could walk or hitch hike to Rocky Flats or stay the rest of my life in Golden. So the next morning I walked out of the hotel to find a No. 14 bus just starting to leave. The driver kindly stopped. I told him where I wanted to go. So when we got to the bus station he pointed out the right bus and warned me to hurry. I just got to the bus as the driver started to close the door. So I was on my way to Golden in a hurry. The driver, on arrival at Golden, informed me there was no way to get to Rocky Flats except official visitors could ride the mail truck if it had not left. As we passed the Golden Post Office he pointed out the Government truck and let me off. In a few minutes I had talked the driver into letting me ride with him and we were on our way to the Rocky Flats plant.

At Rocky Flats I had a meeting with five Dow people. These were:

Carlton, Assistant Purchasing Agent
Bowman
Walkel
Ryan, Health Physicist
Putzier, Health Physicist

They stated the unclassified wastes could be shipped to us. These amount to about 130,000 cubic feet

per year. They estimated another 20,000 cubic feet could be picked up in the area.

They stated that they already had two proposals. One of these was made by the Ammunition Corporation of America, which was headed by a man named Krause. The other was Allied Crossroads. They indicated that neither of these companies were acceptable--particularly the ammunition company.

Later I talked to Mr. Lloyd Grow, Technical Specialist at Rocky Flats AEC office. He stated the AEC would support a bid to open a site near Denver. He reviewed the known geology of the Rocky Flats area and compared this with the area east of Denver. He also stated that the Arapohoe Chemical Company was disposing of their chemical wastes as was the Government in respect to the nerve gases as the deep wells had resulted in minor earthquakes.

I then talked to P. W. Jacoe, Chief Radiological Health Section, Public Health Department. He stated he would welcome a proposal to open a radioactive waste burial site. He also stated that the Colorado State University at Fort Collins had many large animal carcasses to dispose of and they would welcome someone to handle their wastes.

On return to Lafayette I checked on attorneys and geologists. As a result we employed William W. Whitley as geologist. He immediately started looking at suitable waste burial areas. He reviewed the geology and located several suitable areas about 50 miles northeast of Denver.

On 15 April 1966 we submitted a formal proposal to open a site in Colorado.

On 16 May I stopped at Denver on my way back from San Jose. Again I spent the evening with my niece, Maureen McLain. Maureen was an Associate Editor of the magazine Plastics. She also was a friend of the Governor and his wife. As such she had been helping with preparation of a proposal which was submitted to the Federal Government as a part of the effort to build the National Accelerator in Colorado. So she was able to discuss the hydrology and geology of the Denver area. Later she sent me some portions of their report.

The next day I talked to Whitley, our geologist consultant. He had located what he considered a suitable area near Roggen on a ridge separating the Box Elder and

Kiowa Creeks, just north of Route 80. This would permit trucking from Rocky Flats to Boulder, then straight east. The site consisted of the Laramie which is a clay mixture and Pierres formation which is a shale.

Then I visited Mr. Simpson of the State Board of Land Commissioners. He stated that he believed new legislation would be required and that he would write the legislation for submittal in January 1967.

On 18 June 1966 we received a letter from Dow Chemical stating that they would negotiate a contract with us for the Rocky Flats wastes as soon as we obtained a contract with the State of Colorado for a site.

On 22 June I sent Mr. P. W. Jacoe, Chief of the Radiological Health Division in Denver a letter reviewing a possible site in Colorado. Then on 27 June I sent Mr. Jacoe a statement relative to the geology of the area with particular attention to a "blowout". We had not previously considered "blowouts" but in Colorado this is important.

On 1 July we were notified officially that new legislation would be required before a site could be opened in Colorado. However, it was stated that legal counsel was still studying this question.

In mid July our Denver attorney, Mr. Voorhees, of Moran, Reidy and Voorhees, wrote to us saying in essence that we probably could buy private land for a waste disposal site. However, it appeared the best procedure was to try to get a new law through the Legislature. Due to our severe lack of funds we chose the latter action. I did authorize an option of land but we never followed through on this.

About 4 August our attorney, Mr. Voorhees, had a meeting with the Colorado Attorney General to explain and clarify the waste disposal situation. Meanwhile I kept Dr. P. W. Jacoe, Chief of the Radiological Health Section of the Colorado Department of Public Health informed of our plans.

On 26 August I again visited Colorado. Mr. Jacoe indicated interest in sending us a "Letter of Intent". I agreed to send him a model letter and also a "model law" which had to be passed by the Legislature. These were copies of the Illinois and Washington laws and a copy of a letter

of intent. On my return to Lafayette I sent Jacoe a letter dated 29 August 1966 reviewing the Colorado situation and including copies of the information he needed.

I also wrote Mr. Carlton of the Dow Company at Rocky Flats, reviewing the situation. I also suggested temporary shipment to Richland by rail and burial at that site.

In October the Attorney General ruled that enabling legislation would be required. The Board of Land Commissioners prepared the law based on the Illinois law. Dow Chemical indicated they would ship the Rocky Flats wastes to us as soon as we received a "Letter of Intent" from Colorado. We located suitable land near Roggen but did not escrow the land pending passage of the enabling legislation.

The Denver Post on 15 November 1966 carried the following article:

"LEGISLATION NEEDED: PLAN TO BURY
U-WASTE OKED
By Fred Brown
Denver Post Staff Writer

The State Board of Health gave its tentative blessing Monday to an Indiana firm that wants to build a Colorado burial ground for radioactive wastes from all over the nation.

The health board sent a letter to the firm, California Nuclear, Inc., of Lafayette, Ind., approving a contract for the burial site subject to enabling legislation from the 1967 Colorado General Assembly.

Legislative action is necessary because California Nuclear proposes to deed the land it buys over to the state when the ground can no longer be used for burial--in about 20 years.

SITE NOT SELECTED

No site has been selected for the waste disposal facility.

California Nuclear said it would bury intermediate to low level radioactive wastes in containers placed in trenches and covered with four to five feet of dirt.

The firm hopes to have a Colorado site in operation by the middle of next year.

Another problem with radioactive waste was discussed by the board at its meeting Monday.

Dr. Richard Reece, director of radiological and occupational health in the State Health Department, urged stabilization of uranium mill tailings at scattered areas in western

Colorado.

Reece said there's no conclusive evidence the tailings--waste dumps--cause excessive radiation.

But since the tailings may erode away through wind and water action, and since they have such long radioactive half-lives, Reece said, it's 'prudent' to stabilize the wastes.

He suggested this can be done by burying the material and then planting over it. He said this has been tried successfully by the Atomic Energy Commission at Monticello, Utah.

The health board will have a public hearing Dec. 12 on stabilization of uranium mill tailings.

Discussions will include 10 areas in Colorado where tailings are a problem: Canon City, Grand Junction, two near Rifle, Durango, Gunnison, Uravan, Naturita, Slick Rock and Maybell."

Early in December we received a Letter of Intent for Colorado. While we planned to proceed we failed to do so due to lack of capital even though we had a letter from Rocky Flats awarding us the contract for their wastes and this contract alone would have put us on a profit basis.

Early in January 1967 our lawyers advised us that the Legislature would probably require a bond. We ignored this. Meanwhile Dow proceeded to prepare a contract with us and this was sent to the AEC for approval early in January but the AEC refused to approve it and shipments continued to Idaho Falls.

Then on 24 January 1967 the Public Health and Welfare Committee of the Colorado Senate held a hearing under the chairmanship of Senator Bermingham. Dr. Jacoe and Dr. Reece of the Public Health Department were there. I discussed something of my background and the history of California Nuclear. After this there were several questions asked by two Senators who were very poorly informed. One advocated giving the contract to a Colorado concern. After two hours of discussion the Committee agreed to carry out a closed discussion later. Mr. Voorhees, our attorney, gave an excellent discussion and Mr. Whitley discussed the geology briefly. In general Dr. Jacoe and Dr. Reece said nothing.

Later we asked several organizations to write to Senator Bermingham and indicate their interest in a site in Colorado.

On 21 February 1967 Mr. Carleton of Dow Chemical called and wanted to know about our merger plans with Nuclear

Engineering. He stated they were still interested in our proposed site in Colorado.

Then on 27 February Mr. Voorhees, our lawyer in Denver, called and stated that the Atomic Storage Company was opposing the projected law. They wanted to dispose of liquid toxic wastes in deep formations. Also the Government wanted to make several minor changes in the proposed wording of the law. I agreed to these changes.

On 8 March Mr. Carleton of Dow Chemical called and stated they were rejecting our bid as they could not go over about $0.60 per cuft while we bid a minimum of $0.725. So we lost this bit of business. However, had we had a site in Colorado we could have lived with it. There were about 140,000 cuft per year and we could have picked up other wastes in the West.

The AEC decided Rocky Flats had to go out for bids to everyone that might be interested. By this time or August 1967 the enabling legislation had been passed unanimously and approved by the Governor. But due to the fact that Dow Chemical was required to go out for bids and due to the impending merger with Nuclear Engineering we stopped further work in the state and so notified the state on 21 August 1967.

On 16 September Lugene and I visited Whitley in Denver. We told him to proceed with land option, etc. This fell through as we soon countermanded the request due to lack of interest by Nuclear Engineering Company. Also Dow indicated they would continue to ship to Idaho. I believe if we had opened a site in Colorado we could have discounted the price a bit and obtained the contract.

On 21 February 1968 we sent a letter to the Director of the Colorado Department of Public Health, stating that we planned to join Nuclear Engineering and that the Board of Directors of Nuclear Engineering had reaffirmed the proposal made to Colorado by Nuclear Engineering as well as the Technical Standards of California Nuclear.

After we had completed the contract with Nuclear Engineering on 28 June 1968 Harvey stated the letter of intent sent us by Colorado "was not worth the paper it was written on". So Nuclear Engineering did nothing more about it.

Then Chem Nuclear, in 1972 or 1973 made a proposal to open a site in Colorado. They were told the

state had no interest in such a site.

12. 1966 in the East

We entered 1966 uncertain regarding the location of a waste burial site in Illinois and very uncertain relative to finance. We were still optimistic relative to the business.

Personally, I was still involved in too many things. First, I was supposed to spend half time at Purdue University. Dr. Philip Powers had come in as Head of the Department of Nuclear Engineering but I was still on the faculty. I also spent about half of my half time at Purdue on Engineering Research--mainly I was interested in a food production proposal which we never were able to sell to the Government. I always thought the agriculture people objected. Also the required funds were greater than the Government officials wanted to commit on a new project. I should have aksed for only a small amount and then increased the request the second year.

Second, I was involved in the Tarapur Project as McLain Associates. As noted above, I had to spend one week a month at General Electric Company in San Jose reviewing drawings. Dr. Joseph Thie also spent a good part of each month on a review of the drawings and specifications. I was also doing a small amount of other consulting, including some pump and general advice for Aluminium of Canada.

Third, I spent considerable time trying to get Commonwealth Edison to sponsor and get involved with nuclear fuel management. At several meetings with Eugene Bailey, Administrative Engineer, we discussed the need for a reprocessing plant and Bailey kept after me to try to get a reprocessing group together. I talked to Walton Rodger and to William Muller. Muller got Dr. Hammer to agree to finance the plant but Walt refused to go ahead so we dropped the project. Walt would have gotten $1,000,000 of stock and a free hand. This is discussed in more detail below.

During these discussions I pointed out to Commonwealth Edison that their reprocessing schedule was not realistic in that it was 1.5 years out of phase. I believe this saved them several hundred thousands of dollars. The cost estimate and time schedule were sent to them on 31 January 1966.

General Electric had made use of the uranium volatilization work done at Argonne and Hanford and had

obtained a patent on the process as applied to reprocessing. I personally think the patent is of no value as the work was done by Government people. Commonwealth asked General Chemical Company to build a reprocessing plant near Dresden for conversion of UO_2 to UF_6 at this same time. However, General Chemical decided to build the plant at Metropolis. Then Commonwealth tried to get General Chemical to build a reprocessing plant near Dresden. They indicated no interest. So again I suggested Walt and others build the plant if Commonwealth would arrange financing. This I think Corey, Vice President of Commonwealth, objected to. Anyway General Electric moved in later and built a reprocessing plant a few miles from Dresden. The wastes are, I believe, solidified and stored. No one but General Electric or Westinghouse could have gotten AEC approval for the site.

Turning now to California Nuclear, our first and greatest problem, as always, was finance. Early in the year we borrowed $55,000 from Central States Small Business Investment Corporation of Fort Wayne. They wrote a very complicated contract which included among other things:

a. Ten year loan, first payment in 2 years;
b. Interest on unpaid balance, 10%;
c. Loan could be increased to $90,000. Actually we increased the loan later to $120,000;
d. Option to buy 15% of our stock;
e. We could buy the stock back at 10 times earning or twice market;
f. Winifred and I had to guarantee the loan;
g. I had to take out a life insurance policy to cover the loan; and
h. We had to pay Toy a large fee as a business consultant. He never did anything that I considered was not part of his responsibility to look after his company's interests. But Toy was a very religious person, as was Lew, and I should have expected the worst.

Lugene wrote one clause into that contract that permitted the McLains to buy the stock back which Central States was to receive. Actually this later saved us a very large amount of money, nearly $200,000.

About the same time that we signed the contract with Central States the Securities and Exchange Commission cleared us to go public for a total stock sales of $400,000. But the California Commissioner of Corporations never approved the sale of stock. We should have transferred to another state but did not do so. I think I was too busy to take

care of the papers.

It may be of interest to note our Organization and Responsibilities as shown following:

"CALIFORNIA NUCLEAR, INC.
2323 South Ninth Street
Lafayette, Indiana 47905

7 March 1966

ORGANIZATION AND RESPONSIBILITIES

The organization of the Company as it now exists is shown on the attached page. The general rules of operation are presented below:

1. Board of Directors
Meetings are held at least twice yearly. The President presently acts as Chairman of the Board.

2. Administration
The overall planning, auditing, and control is handled by the Lafayette office. Each area office has a revolving fund for travel and local expenses, including intermittent and casual labor, but normally all salaries and purchases are handled from the Lafayette office. This is necessary to maintain adequate tax and auditing records. Proposals are made by each office and invoices are issued for work done by each office, with two copies to the Lafayette office. Financial and audited financial reports are issued by the Lafayette office. Approval of employment of all persons except casual and part time personnel is obtained from the Lafayette office.

3. Financial Reports
All area offices must send bi-monthly financial reports within one week past the middle and end of each month to the Lafayette office.

4. Personnel Work Reports
Monthly time reports are kept by all full time employees and forwarded to the Lafayette office for tax record purposes. By-monthly time reports are made for all regular part time employees and payrolls are calculated from these.

5. Monthly Reports
Each office prepares monthly reports and submits these to the Lafayette office. These are assembled and copies

sent to the Directors.

6. Maintenance

Schedules of equipment maintenance must be prepared and filed with the Lafayette office. The monthly reports must include a statement of compliance. The equipment referred to includes the motorized equipment, film badges, etc, and electronic equipment. The latter will include dates of standardization.

7. Salaries

Salaries are normally paid on a bi-monthly basis.

8. Insurance

The Company maintains $10,000 life insurance and pays a portion of major medical insurance for its employees.

9. Vacations

Each person is expected to take three weeks vacation per year with pay. At least two weeks must be continuous. The other week may be taken as a separate full week with the appropriate manager's approval.

Board of Directors

Responsible to the stockholders for goals and general policies of the Company. Approves officers appointments and salaries.

President

Responsible for the overall management and finances, including auditing of the Company. Directs and approves all the regular operations. Specific duties include:

a. Acts as Chairman of the Board of Directors.
b. Plans and executes the business program of the Company.
c. Prepares expansion and new business plans.
d. Arranges financing.
e. Selects key personnel.
f. Directs, through the Chief Radiation Protection Officer, the radiological and industrial safety program and licensing.
g. Plans sales and promotional programs.

Vice President

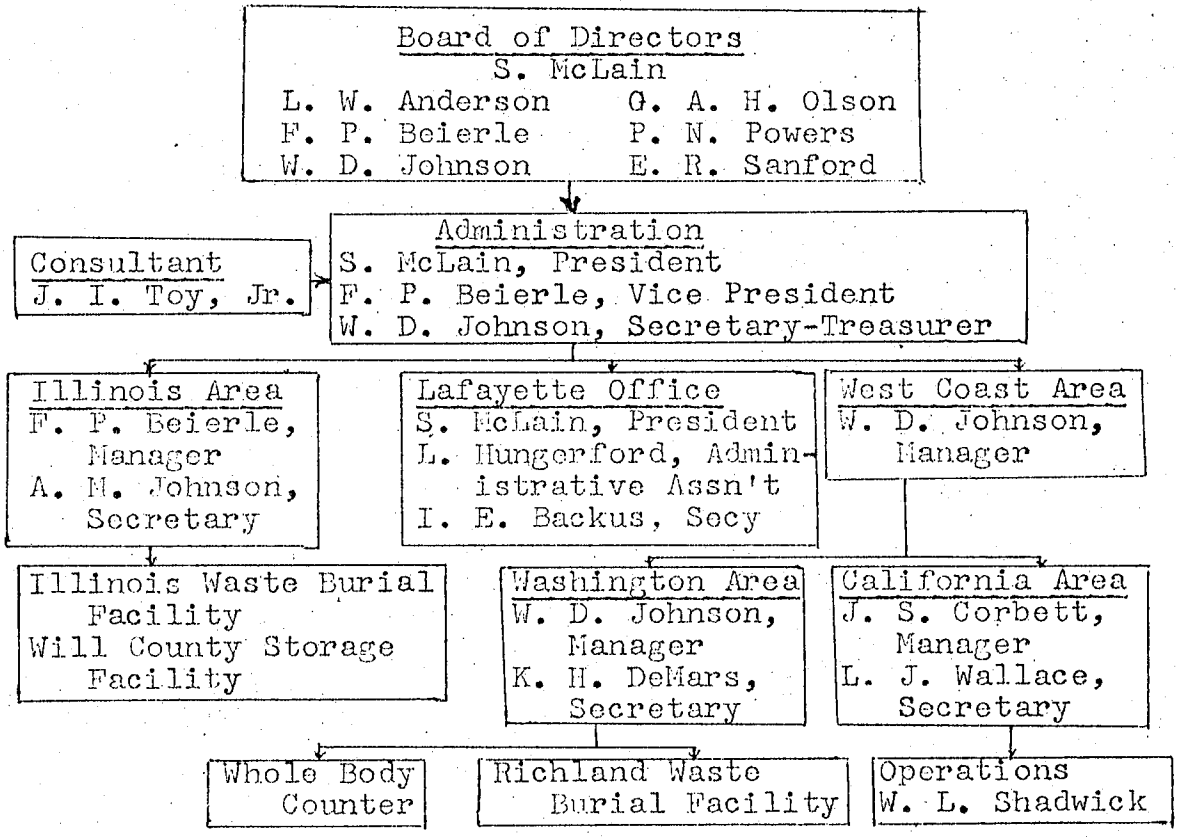
a. Acts in the President's absence.
b. Details and directs the sales and promotional programs of the Company.
c. Assists in procuring new business.
d. Assists area managers in preparation of proposals.

Secretary-Treasurer

a. Approves legal papers and reports and keeps official minute book of the Company.

Area Managers

a. Manage local operations, including preparing proposals and bids, directing waste burial operations, employment of casual and part time personnel, recommends employment of permanent employees, responsible for equipment maintenance, records, etc.



10 March 1966"

As noted, Commonwealth kept urging us to work on reprocessing. We discussed pyrometallurgy at length. Commonwealth wanted us to use the land just north of the Dresden Plant. But the geology was not good, as noted several times, and it was especially poor for burial of wastes. Then Nuclear Chicago wanted to buy us. This is discussed in Section 15.

Even though our financial status was extremely poor we turned down LaGrua's offer completely in a letter

dated 18 February 1966. We did this in complete faith that the Nuclear Chicago merger or sale would go through. On 18 February Robert Phillip of Richland called and recommended that we stay away from all Small Business Investment Corporations but rather try to get bank loans to tide us over. The Small Business Administration office in Seattle had been trying to get a loan approval for us. Mr. Leon Barnes of that office was most helpful as was Mr. Phillip in Richland, but they never got us any money.

One item of general interest is that the question of vacation policy was raised when we hired Corbett in February. Our policy was modelled on Argonne's. It was simply that all persons must take a three week, preferably continuous, vacation each year. Argonne required a month.

Also one item that always came up on every contract was insurance. Sometimes I think insurance should never have been invented. We carried:

Workmen's Compensation, included were occupational diseases;
Employer's Liability, $50,000/person and $300,000 for each accident arising from occupational diseases, and $25,000 per person and $100,000 for each accident other than occupational diseases;
Comprehensive Liability, $50,000/person and $300,000 for each accident, plus $10,000 for property damage;
Automotive, same as Comprehensive; and
Nuclear Liability, NELIA, $1,000,000.

We also discussed warehousing with Commonwealth and actually rented land for a small warehouse from them but never built the warehouse as we shipped Argonne's wastes directly to Richland and other wastes to Sheffield.

On 4 February we completed the proposal to Illinois. On this same date we completed negotiations for the loan from Central States Small Business Investment Company. Also Irene Backus, our secretary, got her divorce and became a "free lady".

About this time James Schumar and Sabato of Buenos Aires wanted to form an International Fuels Production firm. Jim asked me for ideas. I suggested a number of persons to be brought into the Board. It was an excellent idea and I should have grabbed the ball and run but I left it to Jim and Sabato. It still is an excellent idea. So in June 1973 I wrote to Jim about it and we may look into it again.

On 6 April 1966 Dr. Harry Brown of Hazelton Nuclear Service said he had talked to Tremmel and Okle of the Washington AEC and he was informed that the AEC would make no effort to help us with Hanford wastes.

On 12 April we bid on a large job for General Electric. This was to remove a considerable volume of wastes from the Big Rock Nuclear Power Plant. Apparently they didn't like our bid as we did not get the job.

On 8 April I talked to Mr. Boehning, partner of our lawyer, William Bennett, about a Delaware corporation. We got together the necessary information to forward to Delaware. This resulted in delays. What we should have done was to sell California Nuclear to Indiana Research and Development or something like that.

We were outgrowing our Lafayette office on South Ninth. So we looked at the basement of an apartment house across from the Electrical Engineering Building of Purdue. Lugene sketched up some floor plans and the owner agreed to install the suggested walls if we would pay for the materials. This we did. And we still occupy this office (September, 1973).

On 16 April we signed the formal agreement with Central States Small Business Investment Company of Ft. Wayne for the full loan of $120,000. This probably was one of the most significant mistakes we ever made. The contract called for Toy to be on the Board and for him to do consulting for us. As noted above, he contributed very little until we started negotiations to combine California Nuclear with Nuclear Engineering; here he may have helped, I don't know. As a consultant he did essentially nothing.

Soon after this contract was signed Toy developed a cancer of the face, went through many treatments that must have been very, very uncomfortable, finally had several operations, and died soon after the final contract was signed with Nuclear Engineering. He was married and had, I believe, two or three boys. He was friendly in general but very mean when crossed. I always associated some of this with his pain. I liked him when we were not talking business.

As noted previously, he disagreed with Lugene many times and a few times was outright obnoxious enough that he could have been sued for cussing her. He never did this in my presence. I never knew how much was due to his pain and how much to dislike of Lugene. Lugene certainly saw through his tricks and brought him up sharp.

Fred Beierle moved to Sheffield and in mid June 1966 bought a house there. He opened an office in an old store which was used until we got an office in the Operations Building at the site.

On 28 June I sent a letter to Pennsylvania relative to opening a waste site in that state. Nothing came of this. As noted under Nuclear Management in 1973 we again submitted a formal proposal but were turned down again.

On 28 June 1966 I wrote a letter to Corbett relative to the Dresden resins, see Section 12, d.

On 27 June Mayor Schutz of Sheffield reported he had located a farm just south of the Peabody land that we could and did purchase for $340/acre. This became necessary due to the objections of the Coal Miners Union. On 29 June we talked to Clarence Klassen. He stated that the state would not condemn the Peabody land. I agreed that we would buy farmland and proceed. I have always believed that a strip mined area would have made better use of our country's total land.

The financial report was issued in June. For the year ended 30 April 1966 we had revenues of $79,005 and a net loss for the year of $106,518, for a total loss of $223,304 to that date.

In July we discussed at some length the decontamination of the Hallam Reactor. The 550,000 lbs of sodium was to be shipped to Beatty or Hanford for burial and the vessel was to be left in place after decontamination.

On 18 July I talked to the Joliot Bank and others about finance but none ever approved loans due to our deficit nature.

On 20 July a congressional representative, Robert H. Michel, wrote me asking about a statement that I had made in a letter to Representative Schisler. I had said that, "It is expected that a nuclear fuels reprocessing plant will be built in the next few years in the Midwest." I told him that the statement was based on discussions with the State of Illinois Department of Public Health but I refused to tell him the company's name. I told him I believed an announcement would be made soon by the company involved. I also stated my calculations indicated such a plant would be needed by 1975. Actually, soon after my letter General Electric announced such a plant and it is now in operation near Dresden, as noted above. (Note added January 1975 - This plant failed to operate properly and is now shutdown.)

As noted above also, one thing that went on during several months was consideration of the Romeoville Storage Facility. Commonwealth Edison rented us space on the Will County Power Plant for $10 per month. We obtained a license to use this facility for storage of wastes. Due to our expected license to store at Sheffield, we never constructed a warehouse or used the Romeoville Facility.

Also at this time the Department of Public Health asked us to bid on counting a large number of children. Since we planned to continue the Whole Body Counter work, we updated the device by purchase of a larger crystal, as noted in Section 11. This gave us the best portable equipment in the country. If the Public Health had followed through on their request we could have paid for the crystal. However, their funds were cut and the project dropped. Helgeson also bid on the job but we had superior equipment. As a result of this we never used the Whole Body Counter again.

On 2 August I had a talk with Walt Rodger. Walt indicated continued interest in a fuels reprocessing plant. Walt stated he would like to help us as he had heard we were in financial trouble--which we were.

Then on 20 August I submitted a proposal to Commonwealth Edison Company relative to construction of a Nuclear Fuels Reprocessing Plant. Nothing came of this. About the same time General Electric began making moves to build the plant in the Midwest. Subsequently they did so, as noted above. Since Commonwealth had purchased I believe three General Electric Reactors by this time, interest in our proposal became nearly nil for a time but later Commonwealth renewed their interest.

During this same time I was involved in planning a Nuclear Fuels Management Course which I presented for the succeeding three school years at Commonwealth Edison. Actually during the first year we had engineers from the following organizations in the course:

Commonwealth Edison Company
Consumers Power Company
Sargent and Lundy Design Engineers
Iowa-Illinois Electric Power Company
Northern States Power Company

At the suggestion of Dick Duffey, Professor of Nuclear Engineering at the University of Maryland, we

submitted a letter and later a proposal to open a radioactive waste site in Maryland. This was actually discussed seriously by the state officials but due to lack of funds we did not follow through rapidly. Then too we had difficulty locating a suitable burial area. This is also discussed below.

On 12 September I sent a more complete proposal to Commonwealth. This was never carried out due to the fact that Walt backed out later. On 13 September a Mr. Rex Blazer of Ashland Oil Company called and asked about the reprocessing plant. He indicated an interest in financing such a reprocessing plant. Also a Mr. Jose Solari indicated an interest in investing in California Nuclear by means of setting up a Delaware corporation and "buying" California Nuclear with the new stock. Nothing came of this due to his death, as noted below.

Then on 16 September we bid on Whole Body Counting of U. S. Army personnel at Ft. Knox. While many organizations indicated interest in Whole Body Counting, only the nuclear power plants awarded any contracts.

Mr. Eugene Bailey, on 22 September, again brought up the question of the reprocessing plant. In spite of General Electric's plans, he indicated they have no agreement with General Electric, they are afraid of the amounts of gaseous releases, including krypton which might cause troubles in locating the source, and they would prefer a plant near Sheffield on the Rock Island. It was suggested we work with N L Industries.

Toward the end of September we began to again firm up ideas on a reprocessing plant. Muller had been very interested. Actually Muller had been "fired" by Great Lakes Carbon for reasons unknown to us. But I had no reason to distrust him as much as I should have. The President of Great Lakes Carbon, Joseph Solari, was killed in an accident on 25 September--he was with a "bush pilot" flying up a blind canyon in Idaho.

Muller had been to Tennessee and had a verbal commitment of $30,000,000 in 5% bonds. About $5,000,000 in equity and a guarantee of the bonds was required. We discussed Citco, Humble, and Ashland Oil Companies.

Wandke of Commonwealth again indicated little interest in the General Electric proposal and an interest in our plans. Rodger was in Europe; so we could not talk to him.

On 6 October I wrote to Humble Oil about a reprocessing plant but they took no action. We got a rather good prospectus out on 26 October. On 20 October Beierle resigned as an officer and director. He did this under the impression that we were proceeding with the merger with Nuclear Engineering without the approval of the Board of Directors. I explained that it was not so. I emphasized that only a few people could negotiate but that definite contracts would be submitted to the Board.

On 29 October Arthur Matheison came in. Art had been at Metals and Controls when I lectured and consulted there. He had left to join what is now Gulf Nuclear at San Diego. There he had worked with James Schumar. He was willing to join us if the reprocessing plant worked out. Art is a sales type but he does have a good technical background.

Toward the end of October we decided to set up a Delaware corporation and transfer the assets to this company. We did set up the Delaware company which eventually became Nuclear Management. However, we never transferred California Nuclear to the Delaware corporation.

Then on 30 October we had a meeting in Pittsburgh at the American Nuclear Society meeting on the reprocessing plant with:

Eugene Hungerford, Purdue
Lugene Hungerford, California Nuclear
William Muller, Consultant
Stanley Reese, Consultant
Walton Rodger, Consultant
James Schumar, Argonne.

For some reason Art Matheson did not attend the meeting. Reese and Rodger were working together in Washington. Muller had talked to Dr. Hammer, as noted above, and had approval of Occidental Petroleum Company to proceed with design and construction of a Nuclear Fuels Reprocessing Plant. We offered Walt the General Manager's job and practically a million dollars worth of stock. He refused to accept the position. Why, I don't know. As a result our work on reprocessing came to naught.

Walt and Reese had been working with N L Industries and Walt thought this had better prospects. At least they stated they would continue to work with N L Industries.

On 3 November Federman stated that both Occidental

Petroleum and Cities Service were interested in the reprocessing plant. I indicated that without Walt we should not go ahead.

However, I decided to contact Floyd Culler. He had headed up the Chemical Reprocessing work at Oak Ridge and at the time I called he was Deputy Director of the Laboratory. He is now Director. Floyd stated that it was a sad day for Oak Ridge when I resigned.

So on 11 November I called him. He stated he was very interested and I should visit Oak Ridge as soon as possible. He suggested that we add Ferguson, Watson and Birch. Floyd also stated he had looked for a suitable site and had located one that could be served by barge near Oak Ridge.

Later I talked to James Schumar again. He stated we should hire Art Schuk, Handwerk, and Nolan. With these he said he could design and build fuel fabrication facilities. But we never got the company going.

On 12 November we had a Board meeting in Sheffield. At this meeting both Beierle and Johnson indicated dissatisfaction with what was being done. I think they both believed that they would be given more complete authority to run the two sites under Nuclear Engineering. We voted to join Nuclear Engineering under the conditions that those who had loaned money to California Nuclear could buy stock up to 10% of the combined company, a new executive officer would be appointed, either Admiral Mills or someone acceptable to us, and legal matters be straightened out. At the end of the meeting both Beierle and Johnson resigned as Directors.

On 28 November Lugene and I drove to Peru, Indiana where we met James Toy and worked out a new agreement relative to the stock which could have been purchased by Central States.

On 29 November 1966 we fairly well were stuck for finances. So Bill Bennett, our lawyer, bought $5,500 of stock. Later he loaned California Nuclear $10,000. He certainly was a help in every way. When Bill couldn't answer a question he said so and we called Bob Williams in San Francisco. Of course, Bill did well on his stock as I think he sold for some $25,000 plus getting his loan paid with interest, plus considerable attorney fees.

In November we estimated that we would soon have the Illinois site and $20,000 would see us on to a profit basis. Of course, the long delays with the Illinois site

kept us from doing this.

Returning to finances, we again tried to get approval for a public offering of our stock but never did so as California Nuclear.

Then on 16 November, in view of the possible sale of 51% of our stock to Searle or Nuclear-Chicago, we talked to Toy under what conditions we could buy Central States' rights in addition to paying the loan. He stated that it would require $54,000 cash. It was apparent that he had not yet read his contract carefully.

On 22 November 1966 I sent out copies of a "Prospectus for a Nuclear Fuels Reprocessing Plant". This was listed as a joint proposal with William Muller. Muller tried to sell the idea but as noted elsewhere, nothing came of this.

On 12 December I talked to Floyd Culler again and he agreed to join us if the reprocessing plant was approved.

On 16 December Lugene and I visited Crummins, Kent, Bradley and Burns in San Francisco and retained Mr. Porter officially and Robert Williams actually as our lawyers in California. Bob continued for several years and we still sometimes call him.

The amounts of business that California Nuclear did while it was in business were about as follows:

Year	Total Sales
1963	~4,000
1964	~21,000
1965	~81,000
1966	145,982
1967	~450,000

a. Argonne Contract

On 18 January 1966 we bid on the Argonne wastes. There were about 96,000 cubic feet. We bid three ways--on storage until we got an Illinois site, shipment by truck to West Valley, and shipment by rail to Hanford. On 28 January Argonne notified us that we were low bidder for their wastes but that the way the "request for bids" had been written we would have to ship directly to a burial ground. This also suited Argonne because of the ease to load railway cars at

Argonne.

On 21 February I met with Mr. J. Russell Foote, Purchasing Agent of Argonne National Laboratory, to discuss storage or shipment of the wastes. I told Russell we expected to lease land and would build a warehouse to hold the wastes until we could open a site in Illinois, but Russell reaffirmed their decision that we would have to ship directly to a burial ground, even though California Nuclear would take possession of the wastes when loaded at Argonne. By that time we had leased land adjacent to the Will County Power Station only 10 miles or so from Argonne.

Foote also stated we could ship by our own trucks but not by commercial truck. Since we had bid $0.89/ft3 we had to ship by rail.

Subsequently we arranged to ship via Santa Fe and Union Pacific, the whole shipment of 26 carloads. This was necessary as the eastern railroads at that time had not established a tariff. The western roads all called me and urged us to use their facilities. This included the Milwaukee, Northern Pacific, and Union Pacific. Since Argonne is located on the Santa Fe, we had to use it as the initiating road and they transferred at Omaha to the Union Pacific, which hauled the shipment to Richland.

Later the Genex Corporation offered to transport the Argonne wastes by piggy back truck but the Union Pacific Railroad objected. We finally got approval to use gondolas.

On 12 April a Mr. Paul Walsh, of the Northern Pacific, called and wanted to know how we wished to ship the Argonne wastes. He stated they worked with the Santa Fe and would make up a joint rate with the Santa Fe. Apparently the Union Pacific gave the Santa Fe the best percentage.

On 8 June we signed the formal contract with Argonne. Probably we bid too low but we knew that Nuclear Engineering was bidding below their costs to keep us from getting the contract. We made some money but not as much as we should have. For one thing the Union Pacific bid on the transportation but did not include switching costs over the AEC tracks, which I thought were included in the bid.

On 10 June we received the following letter:

"ARGONNE NATIONAL LABORATORY
Operated by the University of Chicago
9700 South Cass Avenue
Argonne, Illinois 60440

June 10, 1966

Mr. Stuart McLain
California Nuclear, Inc.
2323 South 9th Street
Lafayette, Indiana 47905

Dear Mr. McLain:

Reference is made to our Purchase Contract No. 31-109-38-520454 whereby California Nuclear will dispose of all low level radioactive waste sent them by Argonne National Laboratory during the period June 8, 1966 through June 30, 1967.

We have at present about 540 bins which we would like to ship to you on June 20, 1966. The bins will be contained in approximately 27 railroad gondola cars. The exact number of bins and cars will be determined by the length of the goldolas received. All cars used will be filled to capacity. The bins are all 4 feet by 5 feet by 6 feet except two which are 4 feet by 6 feet by 10 feet. The average weight is 2200 pounds each with a maximum of 7000 pounds. Total shipping weight will be approximately 600 tons.

There will be an estimated 3.7 curies (60 grams) of plutonium, 2 millicures (993 grams) of enriched uranium, 34 millicuries (46 pounds) of source material and 243 curies of beta gamma activity. The radioactive contents will be fairly evenly distributed throughout the bins.

All necessary forms for the shipment of this waste will be turned over to your courier escorts prior to pickup by the Santa Fe Railroad.

Every effort has been made to comply with the requirements of your license and our contract. Only bins which have radiation levels of 200 mr/hr or less are being shipped. However, there is a possibility that these levels could change due to settling during transit. All containers have been checked and found to be free from external contamination, but in the event that decontamination of public carrier equipment is necessary the costs incurred should be submitted to the Laboratory.

We would appreciate hearing from you with regard to this

matter if there are any details of this shipment that need to be modified.

It is understood that you will submit your request for payment at the time the cars are loaded at the Laboratory.

Very truly yours,
/s/ BENJAMIN EVANS
Benjamin Evans, Manager
Plant Operations and Services

BE mc"

It was agreed that Stewart Corbett and Tim Masterson, both of Pleasanton, California, would come to Argonne and ride the train with the wastes to Richland. Argonne required courier service and paid this in a separate check. The total cost to Argonne was $59,380.80 for the wastes and $740.80 for the courier service. The wastes were shipped on 20 June.

The shipment of the Argonne wastes, as noted above, was via the Santa Fe--Union Pacific systems. We "borrowed" an unused caboose from the Government and placed this in the middle of the 26 car shipment. Corbett and Masterson rode in this caboose. By agreement, the maximum speed limit was 35 miles per hour. To this the Union Pacific crews objected since this was increasing the time of their "daily" runs. However, Corbett held to his orders.

A couple of holddown straps broke but no damage was done and the shipment arrived at Hanford with no trouble.

The Tri-City Herald carried the following announcement about the shipment on 13 June:

"HANFORD TO BURY ARGONNE WASTES

A 25-carload shipment of radioactive waste materials will arrive at Hanford about June 26 from Argonne National Laboratories.

William Johnson, West Coast manager of California Nuclear Inc., said today his firm has signed a one-year contract with the laboratory to handle disposal of low level solid waste material.

He said the first shipment of about 500 steel containers is scheduled to leave Chicago next week. It amounts to about 60,000 cubic feet of materials.

Johnson said it will take about six weeks to accomplish

the burial on 100 acres of land California Nuclear leases from the State of Washington.

The firm has 10 permanent employees and will add about three more to handle the Argonne shipment."

They also printed a picture of the cars as loaded at Argonne. Then on 3 July the Tri-City Herald carried a picture of the unloading operations at Richland and the following article:

"25 CARS OF A-WASTES
UNLOADED AT HANFORD

Riding in a caboose smackdab in the middle of 25 cars loaded with radioactive wastes falls considerably short of being a holiday on rails.

The motion and jerking of the train, coupled with the responsibility for the safety of the cargo, also makes for five sleepless days and nights.

Steward Corbett, California Nuclear, Inc. radiation officer, said the trip from Chicago to Hanford was 'quite an experience' but indicated he would readily bow to a 'volunteer' for future shipments.

The wastes from Argonne National Laboratory were unloaded from the gondola cars this week at California Nuclear's 100-acre site. Preparations are underway to bury the 4 x 4 x 5 foot steel boxes.

Corbett said he got little sleep because the steel boxes, strapped together with steel straps in bunches of four, had to be checked frequently for the possibility a strap had broken and the boxes of material were bouncing in the cars.

He said that straps did break on three or four occasions but there was no real danger.

It was clearly understood by the railroad that the 25 cars were the most important part of the train, which numbered about 100 cars at one stage of the cross-country trip.

One quick wave of a flare and the engineer was under instructions to halt the train immediately. He added that Union Pacific agents were helpful and offered any assistance necessary at train stops."

No troubles were encountered except that the agent in LaGrande had to drive Corbett all over town one night and, when they couldn't find a store open to buy a flashlight, the agent gave him his.

Corbett also noted that radiation signs on the cars stimulated curiosity but no one seemed particularly concerned or worried about possible hazards.

It may be of interest to review the information letter submitted to us by Argonne. This was as follows:

"California Nuclear was awarded a one-year contract to handle disposal of radioactive wastes from Argonne. This first shipment was made up of about 500 boxes, adding up to approximately 60,000 cubic feet of materials."

By 4 July all the railroad cars had been unloaded, the three slightly contaminated cars cleaned up, and the wastes buried.

b. Illinois Site

On 9 March 1966 Beierle and I visited Bailey at Commonwealth. Among the questions discussed was that of the Dresden resins (see section d. below). We planned to package and store these but did not do so. On 10 March we applied to the State of Illinois for a permit to open a warehouse. This was granted. Also I appeared before the Will County Board of Commissioners to plead our case. I gave a 15 minute talk. The Commissioners seemed to have so little interest that the motion to approve our request was passed in about two seconds.

On 11 March 1966 Beierle, William Pullen, Professor of Geology, from Purdue, and I drove to Urbana to talk to the State geology people relative to the Illinois site. Those present included:

Leroy Stratton, Department of Public Health
Robert E. Bergstrom, Ground Water Division, Department of Geology
James E. Hackett, Geological Survey, Naperville
H. F. Smith, State Water Survey
W. Callum Smith, Engineering Geology

It was pointed out that the site north of Dresden was not satisfactory for a burial site and we should look elsewhere. This agreed with my previous conclusion.

The State of Illinois announced that a radioactive waste disposal site would be opened in the state.

The following announcement was clipped from the Ottowa Daily Republican-Times issue of 18 March 1966:

"TO PICK DISPOSAL SITE SOON
By Ray Serati
Copley News Service

Springfield--Dr. Franklin D. Yoder, director of the public health department, says there is a possibility that a site for a proposed radioactive waste disposal facility may be selected next month.

The department is currently negotiating with California Nuclear Corp. to operate the facility.

Yoder told Copley News Service that proposed sites are scattered throughout the state. This includes the northeast which circles the Chicago area starting at Waukegan, going through Elgin, Aurora, Joliet and Kankakee.

There is a need for a radioactive waste disposal area, Yoder said, because industry is stepping up its activities in the radioactive material field. He cited the increase of work at Dresden.

Yoder has said that there appears to be considerable interest by industries involved in the radioactive field in establishing such a facility in the midwest particularly in Illinois. Such a facility in the state could also be used as an inducement for nuclear and allied industries to locate in the state.

The storage facility would have to conform with several regulations and be licensed to operate by the atomic energy commission.

The area chosen probably would be more than 100 acres and it would serve as a collection point for radioactive waste from throughout the midwest.

Illinois firms and institutions now dispose of their radioactive wastes by either hiring common carriers to haul it out of the state, waiting for the materials to decay and then flushing them down the sewer or burying them in small quantities on privately owned land."

Then on 19 March Pullen, Winnie and I drove over the area south of Danville. This is a mined over area. We found nothing of interest.

On 9 April Fred and Bill came in from the West and we went to see Bill Pullen about the Illinois site. Pullen had given up trying to find an area as close even as Peoria and Bloomington, and decided to look at greater distances. The Pennsylvania shale formation on the drainage

systems indicated that there were several areas where loess soils were present. In general, these are alongside ancient river valleys and the loess formations were built upon the south and west sides due to the winds and dryness associated with slow retreat of the glaciers. These deposits are as much as 90 feet deep along the eastern side of the Sangamon River, Henderson Creek, Green River, and along the east side of the Mississippi River for long distances. Areas which are thought to be coal-free and might make suitable sites were located east of Beardstown, west of Monmouth, east of Geneseo, with two small areas near Fulton. These latter are on outcroppings of Pennsylvania shales which are small in size. This last site is also located on an aquifer. The first three sites--that is, the Petersburgh, Monmouth, and Geneseo areas--are on deep aquifers and drain away from Chicago and the major river valleys.

Pullen had also indicated one area which he stated could be defended on the Shawneetown hills west of Shawneetown. After discussing the geology we decided to go look at the sites near Beardstown, Monmouth, Atkinson, etc. Accordingly, Winnie, Bill, and Fred and I left at noon for Springfield from which we drove to Oakford, turned west on a county road, where we found suitable sites within approximately 2 miles southwest of Oakford. We then drove to Monmouth where we stayed overnight.

In the morning, Easter Sunday, we drove west from Monmouth through the hill area on the eastern side of the Mississippi valley just east of Oquawka. After some troubles with a flat tire, etc, we located a suitable site a mile and a half west of Rozetta. We then drove to Atkinson and looked for possible sites in a mined over area which is on the northwest corner of the coal area. This area was low and we found no suitable sites in the regular mined area but did look at the dump. This is an area of approximately 100 acres raised about 30 feet above the surroundings and included the abandoned washing, office, and equipment areas. This appeared to be an ideal site as it is on the Rock Island Railway, Route 6, and just off Route 80. It is also located on Pennsylvania with no near surface coal left in the immediate area.

On 23 April I sent a proposal to the Midland Electric Coal Company at Farmington, Illinois to purchase the land and the dump described above. Subsequently they refused to sell this to us. Their refusal was based on a complaint made by the Coal Miners' Union to the effect that the Peabody Coal Company was helping nuclear power to compete with the coal industry.

Beierle proceeded to look at other areas near the mined over area. After looking at the logs of several of the wells of several towns, including Annawan's well to 1500 feet, Beierle chose a loess area a few miles from Sheffield as a probable site. He soon found two sites. Actually we finally settled on an area near Sheffield, at the suggestion of Dr. Schutz, Mayor of Sheffield.

On 23 May Professor William Melhorn, also Professor of Geology at Purdue, and I drove from Lafayette to Urbana to discuss the proposed Illinois area for the waste burial site. The people present were:

Jack Simon, State Geology Division
W. Calhoun Smith, State Geology Division
John Frye, Head of the Geology Division
James Hackett, Water Division, Naperville
Leroy Stratton, Department of Public Health

Plus Melborn and Me.

We reviewed the geology and the water tables of the proposed site near Indian Hill, which was near Sheffield and Mineral. It was agreed that this was a suitable area and that we should proceed with option on the land, detailed studies, and core drillings.

In the evening Fred called from Kewanee as I had returned to Lafayette. He stated there was a good deal of hostility developing in the area against California Nuclear due to an editorial in the local newspaper. It appeared that the announcement of our opening a site near Sheffield had been made in the local papers a couple of days earlier.

(1) Local Opposition

On 23 May 1966 the Star-Courier of Kewaunee carried an editorial as follows:

"OUR PAGE OF OPINION

WILL WE GET NUCLEAR GARBAGE?

As most of our readers should know after seeing articles in the last two editions of our newspaper, the strip mined area in Mineral Township, just across the line into Bureau County, may become a graveyard or dumping ground for nuclear waste.

There's no use hedging on the matter.

WE'RE AGAINST IT.

The region, which has been left partially barren with slag heaps and deep gullies from irresponsible coal mining operations, was considered as a possible site for the proposed Atomic Energy Commission's atom smasher.

But our state politicians were busier promoting sites near Chicago--where the votes are--and we were left out in the cold when the decision was made to narrow the field. Weston, near Chicago, remains in the running for what is called the scientific plum of the century.

A meeting, we understand, is to be held today when a state report on the possibilities will be made. This could determine whether California Nuclear Inc. with home offices in Lafayette, Ind., would buy the land from Peabody Coal Co. and then turn it over to the State of Illinois to assume adequate safeguards and controls 'FOREVER'.

We hope you noted that word, 'forever'.

Members of the Area Mayor's Committee heard the outline of the plan in Annawan last week when L. E. Stratton, Springfield, sanitary engineer of the State Department of Public Health, told of the project.

The Peabody Coal Co. owns some 5,000 acres of land in the region around Mineral, Sheffield and Buda northeast of Kewanee.

California Nuclear, Inc. hopes to purchase 100 of those acres to deposit atomic waste.

The state has a contract with the firm to establish a waste plant under the Radioactive Waste Act adopted by Illinois in August 1963.

If approved, the site would be used for disposal of low-yield nuclear waste products or materials, such as contaminated hand tissues or clothing.

We believe Orin Pomeroy, Bureau County supervisor of assessment, worded it very well at the Annaway meeting.

He stated, 'Chicago (Weston) is being considered for the atom smasher plant; Cordova has the atomic electric generating plant and all you're offering us is the garbage!'

There also would be a distinct economic loss to Bureau County.

Land owned by the state is not taxable of course.

The area land around Kewanee already has been ruined sufficiently by coal mining operations, but some reclamation is possible.

We can't see advantages of making a cemetery or garbage heap for atomic waste in this area to put it beyond productive use 'forever'. That's a long time.

Let's pass the message along: We're not interested."

On 24 May the Star-Courier carried the following news item:

"MANAGER OF NUCLEAR WASTE FIRM
DEFENDS PROJECT FOR STIP MINES

Nuclear waste material, which would be deposited in the proposed storage facility in strip mined land in Mineral Township, is no more dangerous than the radium dial of a wrist watch.

This was told to The Star-Courier Tuesday in rebuttal to the newspaper's editorial stand Monday concerning the nuclear burial grounds to be established northeast of Kewanee in Bureau County.

Fred P. Beierle, Richmond, Wash., manager of California Nuclear Inc., gave assurances that adequate safeguards are taken at all times so there is no danger to individuals or to the communities surrounding the nuclear waste storage site.

'We're talking about very low level (radioactive) material,' he stated, 'Practically all the material we pick up I could take to bed with me. The worst is about as dangerous as the radium dial of a wrist watch.'

Last week The Star-Courier announced that California Nuclear Inc., which has its headquarters in Lafayette, Ind., intended to buy 100 acres of strip mined land from Peabody Coal Co. and turn it over to the state for control.

Beierle states that only about 10 acres would be used at the start and that the 100 acres should serve the state for at least 100 years.

Particular emphasis was placed by Beierle that such a nuclear waste facility would not prove a deterrent to industry, but actually would attract it.

He cited instances in other states and advised checking with sources in those site areas.

The company has been awarded a contract from Illinois through Franklin D. Yoder, director of public health, to establish an Illinois radioactive waste storage facility.

'We looked all over the state, hired consultants and checked with the state geologists and finally settled on a region fairly clost to Interstate 80 between Moline and LaSalle.'

'After talking with farmers and many people of the area, we hit upon the Peabody Coal Co. area as being a good location.

' We checked with the Peabody people and the response was pretty much the same as your newspaper. They told us: We don't want this.

'But after explaining about the facility and telling about sites in other states, they decided it wouldn't be so bad after all.

'There is no other disposal site in Illinois now. In the United States they are located at West Valley, N.Y., Morehead, Ky., Beatty, Nev., and Richmond, Wash.'

Beierle urged any local people to check with officials and newspaper people in communities where disposal sites are located to determine whether they have proved to be advantageous.

'If public opinion is against us, we won't come in,' he admitted. But he added that the problem is chiefly one of education and acquainting people with nuclear developments.

He said the first step now is to get core drillings to see if the land is suitable. If approval is received from the Atomic Energy Commission in Washington, D.C., a contract for a building will be completed.

A 40 by 80 foot building would be constructed as an office, laboratory, laundry and a decontamination center. About 12 technical and non-technical personnel would be involved at the start, probably increasing to 50, all hired locally. Beierle said he would be the manager.

Technical and consulting services would be offered.

Clothing and garments used in nuclear work would be cleaned at the plant 'laundry'. All waste would be stored in 55 gallon steel drums and buried underground to the depth of 20 feet.

'In about 30 years most of this nuclear waste would be gone. It's like a hot coal pulled out of a furnace; gradually it's cooled off.

'You have to deal with radioactivity every day. From the Chinese bomb test, every time it rains in Kewanee it brings it down here and even gets in the water supply.'

He also pointed out that radioactivity from the waste 'is far less penetrating than from X-rays.'

The disposal site would be surrounded by a chain link fence, chiefly to keep animals from digging in the area.

'This is a clean operation. At the end of each day the storage area is backfilled and seeded. Recreation uses are possible and the state already is interested in starting a recreation project immediately adjacent.

'There is no odor or smoke. Even if a container should happen to break underground, which is almost impossible, the material would tend to bond with the soil and the radioactivity probably wouldn't extend more than a foot. The mined land is ideal for this purpose.

'In Illinois there are some 1,000 licensees for use of radioactive materials, including radiologists at hospitals. The state feels it is safer to have one storage area than to have them scattered. All dangers will be minimized.

'We are putting in a temporary storage facility in Romeoville between Downers Grove and Joliet without any problem.

'All of our operations are policed very carefully.

'Let's say we pick up material at the University of Illinois. First of all, they inspect it and we inspect it. Forms are filled out, containers are checked with Geiger counters. Then they are loaded aboard trucks. Vehicles must meet Interstate Commerce Commission regulations. After being transported to the site, the containers are removed and buried and trucks are checked. Everything is cleaned before departure and reports are written on every vehicle.'

The company carries a $1 million policy on anyone transporting material.

Under the perpetuity agreement with the state, he said the company would be taxed five cents a cubic foot for the benefit of the state.

In conclusion, he said the nuclear waste disposal sites are kept safe through extensive safeguards; recreation and fishing could be continued in adjacent strip mine lands; parks could be developed; undoubtedly industry would be attracted to the region; extensive technical and consulting services would be provided, such as for research institutions, colleges, clinics, laboratories, including the Argonne Laboratory.

Actual site in Mineral Township is three miles west of Sheffield, four miles north of Neponset and three miles east of the Henry-Bureau county line."

Then on 26 May the Star-Courier carried the following article:

"BUT WHAT'S YOUR OPINION?

The editorial columns of The Star-Courier represent the opinion of the management of this newspaper.

This part of Page 2 daily is reserved for our views, based on information gathered on a variety of subjects.

But we like to hear from you, too.

In the above editorial, we have expressed opposition to the proposal to establish a nuclear waste area in Mineral Township, northeast of Kewanee.

We admit we don't have all the information about radioactivity and the low yield nuclear waste products that would be deposited there.

But we know that the state would have to have control of the land 'forever' to assure proper safeguards.

That sounds ominous enough for us.

We would much prefer to have the land reclaimed, if possible. Industrial possibilities are not ruled out.

Water is plentiful. Strip mine lakes offer recreational possibilities.

But we'd like to hear from you.

What is your opinion about the nuclear waste proposal?

Why not take a few minutes off and drop us a letter, less than 200 words, if possible. All must be signed with your name and address.

Just address your comments to the 'Letters to the Editor' Department of The Star-Courier, 105 E. Central Blvd., Kewanee.

ABOUT NUCLEAR WASTE PLANT IN AREA?

Daily in these editorial columns on Page 2, The Star-Courier publishes its opinions about a variety of subjects.

We hope that they are also representative of the feelings of those who wish the community and region to progress.

The other day we commented about the possibility of a nuclear waste plant being established in the strip mined area in Mineral Township, northeast of Kewanee.

We also have published an interview with the manager of California Nuclear Inc., Fred P. Beierle of Richmond, Wash., and he has minimized the dangers. He also believes such a radioactive waste storage facility will attract other industry to the area.

This is an appeal to you residents to express your opinions about the matter.

QUESTION: Do you believe a nuclear waste plant or dumping ground should be established in the area?

YOUR ANSWER: (8 lines deleted)

Name _____ Address _____

Mail to: Editorial Department, The Star-Courier, 105 E. Central Blvd."

Then on 26 May The Star-Courier started printing letters. Those printed on that date follow:

"LETTERS TO THE EDITOR

Dear Sir:

The Tri-County Municipal Association, Inc. was created for a number of reasons. One of the prime reasons was to give to the area complete knowledge of any new industry wanting to locate in the surrounding area.

On May 19, 1966 the news was released at the Tri-County Municipal Assoc. meeting that a firm called California Nuclear, Inc., was interested in locating in the strip mined area.

California Nuclear, Inc., are handlers of low energy radioactive waste, consultants for cleaning up radioactive waste, manufacturers of equipment for decontamination and detection of radioactive contamination.

The Tri-County Municipal Association agreed to have representatives of the State Geological Survey committee and the California Nuclear, Inc. at their June 16 meeting so that complete facts may be presented before the area renders an opinion as to the value of California Nuclear, Inc., for the Western Bureau County area.

The editorial which appeared in the May 23 edition of The Star-Courier certainly did not present all the facts. The irresponsible reporting of California Nuclear, Inc., without complete facts, definitely defeats the purpose of the Tri-County Municipal Association. The mayors of the various villages and municipalities who are members of this association are competant people who will weigh all the facts and investigate all facets of California Nuclear, Inc., before rendering an opinion.

One glaring factor was presented at the Tri-County meeting which was left out of the editorial. The handling of low level radioactive waste products is far less dangerous than the Atom Smasher would have been.

Other factors which the editorial failed to mention is the industrial growth which will follow California Nuclear, Inc. It is known that industries in the nuclear field investing millions of dollars in buildings and equipment and hiring 300 or more people may follow.

The strip mine area site was selected by California Nuclear, Inc. and not by the State of Illinois. This site is one in the state where the geology is acceptable by the State Sanitary Public Health Dept. for the operation of disposable low energy radioactive waste. Consideration was also given the convenient transportation to the area from out of state.

The editor of The Star-Courier is cordially invited to attend the June 16 meeting of the Tri-County Municipal Association meeting so that all the facts may be given to the people.

Sincerely,
Dr. D. W. Schultz
Pres. of Tri-County
Municipal Association

Dear Sir:

Why don't you report facts instead of opinion from ignorant people? Give Mr. Beierle a front page story.

Mrs. M. Smith
Sheffield

Dear Sir:
I don't believe such an area will attract other industry to the area. Let them dump it in the desert out west. There is ample room there and no population.

John Miller
Box 27
Neponset

Dear Sir:
Nuclear waste plant? Definitely not. How could it possibly attract other industries? Is there any guarantee our lives would not be in danger now or years to come?

Mr. and Mrs. Mel Fuhrman
215 W. Garfield

Dear Sir:
Bring this issue to a vote. Let everyone have a chance (rich or poor). There are thousands of acres out West, mountains, deserts, to dump this waste. Why should we have to live on top of this treacherous stuff? We are paying taxes now on this strip mining area. We do not want this. So I say let the nuclear waste firm plant their material where it is made. Do not bring it here.

Mr. and Mrs. Harry Hand
Sheffield

Dear Sir:
No, I do not believe a nuclear waste dumping ground should be established in this area. If it is so desirable why aren't other localities asking for it?
It seems to me that the ground should be put back into production to raise crops or for a recreational area. What will this waste do to our water supply?

Jessie Manley
300 S. Vine St.
Kewanee

Dear Sir:
No! I feel the people in this area should be given more information with regards to the health hazards involved as compared to future potential benefits. The fact that Mr. Beierle of Richland, Wash., minimized the danger of radioactive waste storage does not always make it so. As a senior citizen of Kewanee, I would not subject the future generation's health to the constant pollution of the air that is so vital to man's existence.

Max Kleinschmidt
410 Ross St.

Dear Sir:
Looks to me like there would be more room for their waste material out West or on the desert with a lot less expense than to bring it out to the Midwest. Also we won't be in so much danger of radioactive fallout should there be any in this waste matter.

Mrs. Garnet Houser
103 S. Grove

Dear Sir:
Just to receive their garbage? No. However, if we had ever gotten some of the plums that went out to the coast and to some of the Southern states, then we would be duty bound to take it. As it now stands, No.

Garnet Houser
103 S. Grove

Dear Sir:
Why not have a park with all recreation, etc. It would make money. Also everyone could enjoy it instead of a dump that everyone would fear. Why should we be subjected to radioactive material and danger? Are they afraid to have it where it is made?
Our state could use a little recreation resort instead of going elsewhere to spend their money.

Gurad Williams
New Bedford

Dear Sir:
No, We do not!

John & Elaine Mock
Neponset

Dear Sir:
If the situation were reversed would Chicago and surrounding areas accept our garbage? The government is spending millions of dollars each year trying to fight air and water pollution. We in the Midwest like to have our water and air clean also.
Why not have a Tri-County voluntary election and see what the verdict is? If any new industry were planning on locating in our area, what would their opinion be of a nuclear waste dumping ground?
My answer is a big NO.

Charles De Sy
429 Rice St.
Kewanee

Dear Sir:
No! No! A million times No! If the area can't get anything good from the atomic program, we don't need the

junk. Let them bury it in Chicago or dump it in Lake Michigan if it's so safe. We have enough potential water pollution problems. It would be rather costly to get water here from the Mississippi if somebody 'miscalculated' on activity, life of buried steel drums, etc.

Dale Whitman
Galva

Dear Sir:

Yes, I firmly believe people of the Tri-Counties should wake up and accept new industry or any business where people are employed instead of being against everything.

No wonder about 40 per cent must drive to the Tri-Cities, Galesburg or LaSalle to find employment.

Peter Standard
140 S. Adams
Sheffield"

In the same issue the Star-Courier printed the following news item:

"TO DISCUSS WASTE FACILITY
NUCLEAR MANAGER TO RETURN
JUNE 15 TO ADDRESS KIWANIS

Fred P. Beierle, manager of California Nuclear, Inc., will return to the city to address members of the Kiwanis Club on Wednesday, June 15, at the Hotel Kewanee.

The Richmond, Wash., man, whose firm is interested in establishing a nuclear waste storage facility in the strip mined land of Mineral Township northeast of Kewanee, will discuss the project.

Arrangements for the program were announced by Jerry Moriarity, program chairman, who said that part of the program would be reserved for a question and answer period on the controversial topic.

Beierle's firm, which has its headquarters in Lafayette, Ind., has been authorized to establish a radioactive waste storage facility somewhere in the state.

Because questions have been raised in regard to the project's suitability for the area, Beierle has agreed to return to Kewanee to discuss nuclear matters with a local audience."

And on the 27th the following letters were published:

"ABOUT NUCLEAR WASTE PLANT IN AREA?

QUESTION: Do you believe a nuclear waste plant or dumping ground should be established in the area?

Dear Sir:

Yes, I think more can be gained than lost for now and centuries to come.

Mrs. Eva Werderman
1229 Western Ave.

Dear Sir:

Definitely, no! We here do not wish to furnish an Atomic Outhouse for Mayor Kelly and the Chicago group after they have finished digesting the 'Political Plum' of the Century unquote. Let them take care of their own garbage, if they can, after that they can take a stab at cleaning up politics at City Hall.

This immediate area here has been desecreated beyond (stet) belief in the past by uncontrolled strip mining with the same song and dance, 'It will benefit the community.' The benefits have been momentary; the spoil banks remain. Now it has been suggested that we further contaminate them--perpetually with Atomic refuse.

If Mr. Beierle's statement in tonight's paper is correct, isn't it idotic to transport this material such a (stet) distance? Surely there must be hundreds of square miles of mighty worthless land lying closer to the sources of such refuse. Let them dispose of it elsewhere. I have no desire to take it to bed with me and I am sure that the other members of this community feel as I do.

Sincerely,
Francis A. Immesoete
Cmdr., Post 1031
American Legion
Mineral

I am speaking as an individual, not for the Post.

Dear Sir:

You are pushing very hard to get help to support you and I feel as I'm sure many around here do and that is not to use our location as an atomic garbage disposal.

If anyone will take Route 34 out of Sheffield and head toward Neponset on the first big S curve, you will see how the ag boys from Neponset have already claimed back some of the mined area for farming. They raise fine hay and are doing well at raising corn.

Philip Manthe is a farmer and has a fine dairy herd. They graze this area and it is beautiful to see from the road. Every bar pit is full of good drinking water for (stet)

stock.

In time I know that every bit of the mined area would be of very much use to our community.

I would say that this could very easily be the best ranch in any part of any state.

Why not pick a spot in the desert that has no water or no vegetation on it? The waste could be easily flown in by plane.

This area is too thickly populated. It would be impossible to get over five miles from any town.

I'm against it.

Clinton Thompson
Sheffield

Dear Sir:

As residents of the area north of Neponset, we and others do not want this land used as a nuclear waste dumping ground.

If it is as harmless as they contend, why do they transport it such great distances from their plants? Our ground and our water supply are as dear to us as their ground and water.

Dean Blake
Neponset

Dear Sir:

NO.

Andy W. Lee
227 S. Cottage

Dear Sir:

If by dumping the waste material here will attract industry, why aren't other areas similar to ours jumping for the chance to have it. Let California or someone else have it. And let's make the entire area into a recreation area for everyone.

Mr. and Mrs. Joseph Labedis
200 E. 8th St.

Dear Sir:

In response to your editorial on 'Will We Get Nuclear Garbage--Forever'--here is a very strong 'No'.

Surely this country has sufficient desert area, not populated as this section, for such trash. So, please fight this outrageous effort by Peabody Coal Co., to get out from under and collect once more!

May I suggest, to make it easier for protestors to register their opinion, that you set up a sort of 'form' with space for signature and address?

You could state in just a few lines of type the action being protested.

Sincerely,
Agnes C. Tenhunen
Box 265
Wyoming, Ill.

Dear Sir:

No. With the industry and population that will be coming into this area in the next several years, this area will need recreation, fishing and wildlife refuges. What better place could we ask for?

Gerald Zellhuber
215 S. Park

Dear Sir:

Why can't they destroy their own waste instead of spending thousands of dollars to send it here to make a dumping ground for something harmful that they don't want.

There are a lot of ways the government could save money themselves instead of taxing the poor man to death. If the big shots had to spend their own money, they would not be so liberal.

P.R.G. Williams
Manlius

Dear Sir:

No, but since no other community would want waste of this type dumped near it either, my suggestion would be to put government scientists to work to endeavor to find a useful byproduct from it. Why does a California company not use its desert instead of Illinois land?

Mrs. F. J. Bystry
304 S. Grove

Dear Sir:

With the childish attitude that Kewanee people have reflected in their recent 'Letters to the Editor' regarding the proposed nuclear waste plant, I can understand why the Kewanee area has had difficulty in attracting new industries and keeping what they have.

If these people want the best, most and greatest of everything, WHY are they living in Kewanee?

I certainly hope the opinions of the 'little' uninformed people given in your newspaper don't influence the decision of California Nuclear Inc.

Maybe a more suitable road sign for Bureau County would be:

BUREAU COUNTY
COUNTY OF GROW
GROWING MINDS
GROWING IDEAS
GROWING INDUSTRY

Signed,
Marjorie Smith
Sheffield

P.S. I hope you don't have as much trouble with Smith as

you do with the name of our mayor. (Note--His name is D. W. Schutz.)

Dear Sir:

We need nuclear waste in this area like we need three tails. Let them dump it in the Arctic or the desert someplace where it won't be even close to anybody. As for taking it to bed, some guys will go to bed with anything and then wish they hadn't in a couple of weeks when it's too late. Nuf said.

Signed,
Ambrose Jarman
Galva

Dear Sir:

Why dump radioactive nuclear garbage right smack in the population center of the United States?

We have millions of acres of desert and waste land in the southwest inhabited only by rattlesnakes and Gila monsters. Feed the stuff to them.

We've already contaminated that area by nuclear experiments. Why spread nuclear garbage over the whole country?

W. D. Herrstrom
910 SE 2nd St.
Galva

Dear Sir:

If they dump this, it might not be all they'll dump. But why should strip mines be left like they are? They are all machinery dug. Why not insist they be leveled again? The area where we used to live, one-half mile south, has been sold to strip miners. We got enough dumps as it is.

Mrs. K. J. Crow
Toulon"

On the 27th the Atkinson paper carried the following news item:

"AREA MAY GET ATOM-WASTE

The possibility of establishing an atomic waste site on property owned by Peabody Coal Co. in the Neponset, Mineral and Sheffield areas was told by L. E. Stratton, Springfield, sanitary engineer with the state Department of Public Health, meeting with 15 village and county officials of the Tri-County Municipal Association last week in Annawan.

Association President D. W. Shutz, mayor of Sheffield,

in introducing Stratton, said that the atomic waste site proposal came up before the Tri-County group could schedule a special meeting on its proposal to establish a dump ground on Peabody Coal Co. property to serve seven area towns.

Alton Grandt, of Peabody, when contacted about setting up a meeting on the proposed community dump ground, said that the dump might be incorporated into an atomic waste plan, pending approval of a California firm considering the site, or any other firm interested in Peabody acreage for atomic waste purposes.

It was brought out that the coal company owns 5,800 acres of land which it is interested in developing for recreational and other uses.

Shutz said last night that California Nuclear, Inc. has contacted Peabody about purchasing 100 acres for the atomic waste site.

The State of Illinois has a contract with the California firm to establish a nuclear waste plant under the Radioactive Waste Act adopted by Illinois Aug. 1963. Stratton said that the site is needed for the disposal of low-yield nuclear waste products or materials, such as hand tissues or clothing, which has become contaminated.

Disposal of the contaminated materials would be carried out by experts, he added.

Supervision of any plant of this type established in the state would be under the state Department of Public Health. The plant would have to be licensed by the federal Atomic Energy Commission, he said.

Site specifications considered in locating any such plant include a minimum distance from area communities; geological requirements, such as type of soil and location of subterranean water; the economics involved, and the acceptability of the plant to the area populace.

Stratton said that he was not present at the meeting to sell the plant idea, but to explain the proposal.

'We do not want to force this on any area,' he added.

Mayor Shutz said that a geological survey of the area is now being conducted and the California firm will base its decision on whether to seek the site on the basis of the findings.

Stratton explained that this site also is being considered for atomic waste because of its acceptability to Interstate 80 from both Chicago and Cordova.

Argonne National Laboratory in Chicago has atomic waste materials to dispose of now, and Cordova is the proposed location of an atomic-powered electric generating station.

In a question-answer session, Stratton said that if the area tract is considered acceptable for atomic wastes by both the Atomic Energy Commission and the state Depart-

ment of Public Health, a hearing will be conducted on the county level about the proposal.

When asked whether the plant and site would be unsightly or would be a detriment to the area, Stratton said that the plant and its operation would in no way affect the surrounding area.

'In fact, you could establish a public park on adjoining property,' he said.

After discussion, Association members decided that if the geologist approves the area site as suitable for the proposed plant, the organization would have a representative of the California Nuclear Co., Grandt, representing Peabody Coal Co., and someone from Illinois Geological Survey Commission meet with the Association.

The next session June 16 will include a dinner in Tom's Lane's Restaurant at Annawan, followed by a business session in Annawan Community Center, set for 7:30 p.m."

The Star-Courier, I believe, on 27 May carried the following items with a picture of the Richland operations:

"THE BURIAL OF NUCLEAR WASTE at Richland, Wash., (above) is similar to the kind of operation proposed near Sheffield, Ill., in southwestern Bureau County. The barrels are put in trenches 300 feet long, 20 feet deep and 40 feet wide and covered by at least four feet of soil. Waste to be buried at Sheffield is called 'low-level' because of its small contamination. It consists of items like test tubes, floor sweepings, rags, clothing and bodies of animals from such places as the Argonne National Laboratory near Chicago, private testing laboratories and hospitals. Some of it has less radioactivity than a radium-dial wristwatch, say officials of the California Nuclear Corp., which is planning the Sheffield operations.

In a letter dated May 27 and addressed to the Bureau County Board of Supervisors, McLain stated: 'We expect as time goes on, this area will become the center of a nuclear industrial complex. This may include a nuclear fuels reprocessing plant and a nuclear fuels manufacturing plant. These in turn would attract other industries allied to the nuclear field.'

In an interview last week, Beierle said a reprocessing plant's purpose is to take extremely high level radioactive material and reprocess them until they are harmless enough to bury. He said the high level wastes at installations such as Argonne Laboratory are safe for burial. Such materials include the cores from the reactors.

Since the operation of a burial site directly concerns public safety, personnel of CNC come under the scrutiny of the AEC before a license can be issued.

On Feb. 3, 1965, Secretary of State Paul Powell issued CNC a certificate to transact business in the state.

Although AEC does not stipulate that CNC must carry liability insurance, records revealed that the company holds a $1 million policy with Nuclear Energy Liability Insurance Assn., of New York City, N.Y.

At the Aug. 9 session of the supervisors, representatives from CNC will be there to answer any questions. If the supervisors reject the recommendation of the county zoning board, 'then we will pack up and leave Bureau County,' Beierle said. 'We are not going to fight the county.'

If the Bureau Board of Supervisors gives final approval to the rezoning, CNC immediately will begin construction of two 40 by 60 foot buildings, costing about $30,000 each. One will house heavy equipment, the other a laundry and radiation checking instruments.

The firm will have about $250,000 invested in site, buildings and equipment near Sheffield before one barrel of waste is put underground, Beierle said.

In the laundry, special washing machines and driers will make sure workers' clothes contain no radioactive material. The laundry can also be used by nuclear power industries if it is needed.

Also in this building will be a machine called a 'Whole Body Counter,' which can instantly check a person for radioactivity. All persons in nuclear industry must be tested every six months for contamination.

Beierle said six men will be hired in August and six more shortly after. When the laundry begins operation, 20 persons will be employed. About 15 will be hired locally."

I tried three times to talk to Mr. Moriarity, Editor of the Star-Courier in Kewanee, but he was always "out". The Assistant Editor talked to me freely. She stated she believed the Star-Courier should not have published the editorial against the waste disposal site. So I wrote Mr. Moriarity a letter as follows. He never acknowledged the letter.

"CALIFORNIA NUCLEAR, INC.
2323 South Ninth Street
Lafayette, Indiana 47905

27 May 1966

Mr. G. G. Moriarity
Editor-Manager, Star Courier
Kewanee, Illinois 61443

Our File: 5276.5

Dear Mr. Moriarity:

Reference is made to the application of California Nuclear, Inc. to open a radioactive waste burial site in Illinois. As you know, we are seriously considering an area on the 5800 acre strip mined land owned by Peabody Coal Company in the area surrounded by the cities of Mineral, Sheffield, Buda and Kewanee. Also, I would like to refer to the article titled 'Our Page of Opinion - Will We Get Nuclear Garbage?' published in the Star-Courier on May 23 and the second publication in the Star-Courier with Mr. Frederick P. Beierle's picture a few days later. We do not have a copy of the second article but we understand that it presents Mr. Beierle's statements very satisfactorily. The purpose of this letter is to send you copies of some official letters and give you a more detailed history of our application. You may use this information as you see fit.

23 October 1963, California Nuclear, Inc. presented an unsolicited proposal to the Illinois Department of Public Health to request authority to open a radioactive waste burial site in Illinois. This proposal was not acted upon.

In March 1965, the Illinois Department of Public Health issued a federal request for proposals to open low level radioactive waste burial site in Illinois, in accordance with the enabling legislature which had been passed by the Illinois legislature. On 14 June 1965, California Nuclear, Inc. submitted a proposal to the Department of Illinois Public Health to 'Build and Operate the Illinois Waste Burial Facility'. It is our understanding that a minimum of other proposals was submitted by other companies. It is our understanding that the proposals were evaluated by the Department of Public Health of the State of Illinois and California Nuclear, Inc. was selected as the operator. A letter to this effect was sent to us on October 29, 1965 by the department. See the attached copy.

Immediately after receipt of the letter of intent to open the waste burial site, California Nuclear, Inc. retained Mr. M. William Pullen, Professor of Civil Engineering, Purdue University, as consultant to assist us in locating a suitable site in respect to geology and hydrology. Professor Pullen had worked fourteen years for the Illinois State Geological Survey and is thoroughly knowledgeable in the geology of your state. Several sites were considered and preliminary reports submitted and discussed with the Illinois State Geological Survey and State Department of Public Health personnel. The site near Sheffield and the Peabody Coal land has many advantageous features. The data from the known wells in the surrounding area indicated that the geology and the hydrology are favorable. Additional in-

formation must be collected from the core drillings and shallow wells before we can be certain that the area meets all the requirements set by the Illinois State Geological Survey, the State Department of Public Health, and the Atomic Energy Commission. A copy of the letter received from the Department of Public Health stating that the area is worthy of further exploration is attached.

Enclosed is a copy of some material I prepared (in respect to the Illinois site) which discussed the life of low level radioactive wastes. This is a fairly technical writeup but is about as simple as we can present. Before we can obtain final approval from the Illinois Department of Public Health to open a site for burial of low level radioactive wastes, we must obtain detailed geology, hydrology, and meteorology data. The geology and hydrology data will require drilling of several wells and one deep well, including retention of cores. In addition data on ion exchange of surface soils will be obtained.

Not only must we have approval of the Illinois Department of Public Health but also the Atomic Energy Commission. This latter approval is given in the form of a license. The license will be based on the geology, hydrology and meteorology data and other information which we will furnish to them. As a part of the licensing procedure, the Atomic Energy Commission will hold a meeting with the local authorities and the license will be published in the Federal register fifteen days before the license is issued.

In addition to the above, the land which we will use for the actual burial site must be purchased and deeded to the State of Illinois. In looking for a suitable site we examined the geology maps of Illinois and ruled out all areas close to large populated centers, all areas which have large water supplies which are used by nearby industries or cities, and all areas which were underlain by coal or oil deposits. In addition we had to obtain land which had at least fifty feet to water level and which could be used as burial sites at reasonable cost.

The areas in Illinois which meet all the above criteria are strictly limited and the area near Sheffield does meet the requirements.

If California Nuclear, Inc. obtains approval of the Illinois Department of Public Health and is licensed by the Atomic Energy Commission to open a waste burial site, we will do so, and not only bury low level wastes, but contract to decontaminate equipment and build a laundry for clothing used in the industries. We expect as time goes on, this area will become the center of a nuclear industrial complex. This may include a nuclear fuels reprocessing plant and a nuclear fuels manufacturing plant. These in turn would attract other industries allied to the nuclear field.

MAP 1

HW-76526

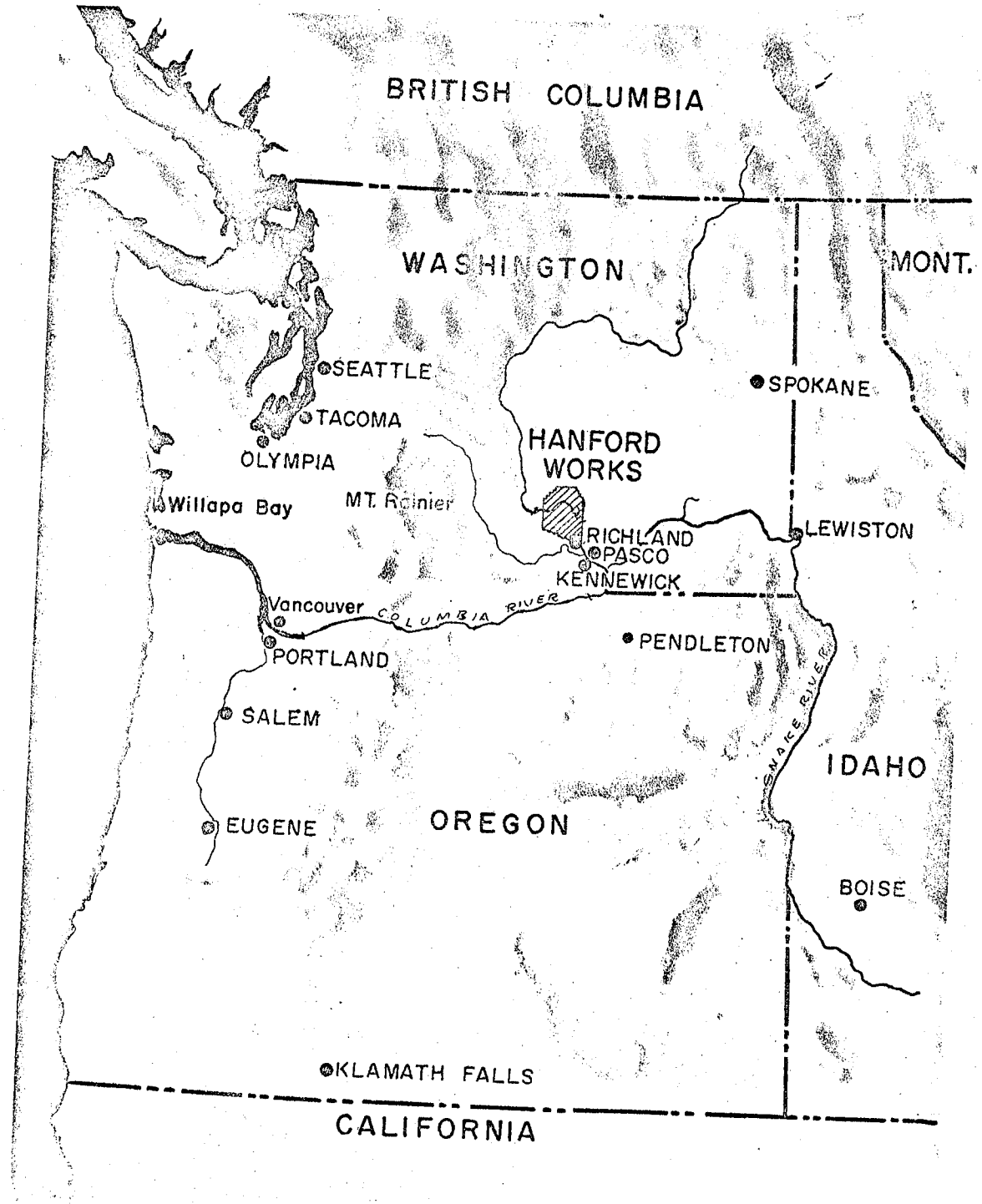
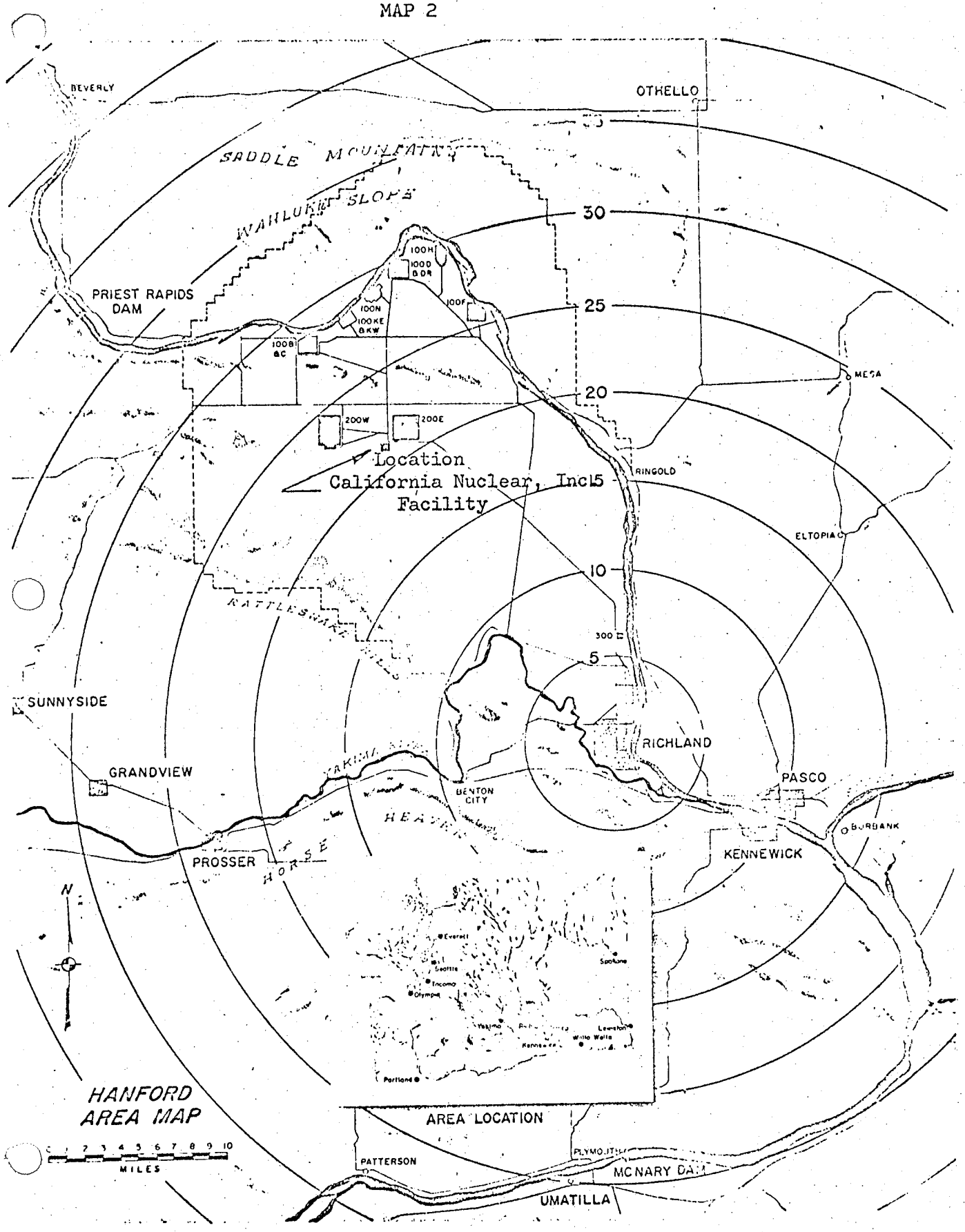


FIGURE 1

Geographical Relationship
of Hanford Works to Pacific Northwest

MAP 2



AEC-GE RICHLAND, WASH.

We thank you very kindly for permitting our Vice President Mr. Fredrick P. Beierle to discuss the proposed facility in Bureau County with you. As you can readily understand from the above, we have already spent considerable time and effort in locating and developing the site and we expect to spend well over $200,000 in the next few years in actual construction of buildings and purchase of equipment for the site. Only two of these, including Mr. Beierle, will be brought in from the outside. All others will be employed locally.

Mr. Beierle will send you some pictures of our building and equipment and of our operations in Richland, Washington.

Mr. Beierle suggested that I include names of a few people whom you might contact relative to California Nuclear, Inc. personnel and operations. These are:

Mr. Richard Cunningham, Division of Licensing and Regulation, Atomic Energy Commission, Washington 25, D.C.

Mr. Jack Frowe, President, Richland Chamber of Commerce, Richland, Washington

Mr. Glenn Lee, Editor, Tri-City Herald, Richland, Washington

Mr. Donald F. Koch, Executive Director, Office of Nuclear Energy Devel. Department of Commerce & Economic Devel. General Administration Bldg., Olympia, Washington

Mr. Eugene Bailey, Commonwealth Edison Company, 72 West Adams, Chicago 90, Illinois

Professor Philip N. Powers, Nuclear Engineering, Purdue University, West Lafayette, Indiana

Mr. James I. Toy, President, Central States Small Bus. Corp., Suite 1, Indiana Bank Bldg., Fort Wayne, Indiana

Biographical data sheets on Mr. Beierle, Mr. Wm. Johnson and myself are included. If you would like additional information about us, we will be glad to furnish it.

We appreciate your interest in California Nuclear, Inc. and we can assure you that the operation which we will conduct will be safe. In respect to safety, the Illinois State Department of Public Health and the Atomic Energy Commission not only require detailed data on the geology, hydrology and meteorology of the area, but also require that samples of the soil, water from the wells, and vegetation be obtained and tested prior to start of operations and periodically thereafter.

We are required to carry nuclear liability insurance for outsiders in addition to the usual liability insurance policies. In addition we are required to abide by complex rules set up by the Atomic Energy Commission and the Illinois State Department of Public Health and both organizations carry out periodic inspections at the site. A radioactive waste burial site is as important to the nuclear industry as a sewer or some means of disposal of sewage is to a home. A

radioactive waste burial site attracts other industries since many of these produce radioactive wastes and their disposal is an appreciable cost.

You will have noted from the dates listed above that California Nuclear, Inc. applied to the Illinois Department of Public Health for a permit to open a waste burial site in Illinois long before the accelerator program was initiated. The fact that we chose a portion of the same land that had been suggested for the accelerator was a pure coincidence. We are a private company and chose the Sheffield area primarily on the basis of the geology and secondarily because of its nearness to Route 80 and finally because of its reasonable cost.

We will be glad to furnish any additional information or work with you in any way you request. I know this is a very highly technical field but we will try to answer specific questions as best we can.

Sincerely,

CALIFORNIA NUCLEAR, INC.

SML:me
cc: Mr. Stuart Ruwe
Mayor D. W. Schutz
Chairman, Board of County Supervisors"

On 28 May the Community Action Committee of Sheffield sent Mr. and Mrs. Beierle a letter as follows:

"We are pleased that you have chosen this area as a site for industrial development. We hope that you will be able to follow through with your plans.

We in this area extend a very hearty welcome to you and your family, and hope you will find a suitable place to live in Sheffield in case this project becomes a reality. The keys to the Village are yours.

We in the Village of Sheffield wish you success in your enterprise.

Sincerely yours,"

The letter was signed by 17 of the business people in the town.

Fred stated that the house he bought was practically a gift.

On May 31 the Star-Courier carried the following editorial:

"OUR PAGE ON OPINION
Educated Decision May Result
On Nuclear Waste Plant

Mr. Fred P. Beierle, manager of California Nuclear Inc. with home offices in Lafayette, Ind., will make two appearances in this area in June to explain the proposed radioactive waste storage facility considered for Mineral Township in Bureau County.

His first appearance has been arranged by The Star-Courier so that Mr. Beierle may address the Kewanee Kiwanis Club on Wednesday, June 15. He will appear the next day before the Tri-County Mayors Committee, which is headed by Dr. D. W. Schutz of Sheffield.

Because of these scheduled talks, we believe it wise to withhold formal judgment on whether the benefits of the nuclear waste project would offset the known disadvantages.

We have received information from Stuart McLain, president of California Nuclear, Inc., who also is president of Indiana Research and Development Inc., president of Nuclear Operations Inc. and also is professor of nuclear engineering at Purdue University.

He states, 'We can assure you that the operation which we will conduct will be safe.'

'In respect to safety, the Illinois State Department of Public Health and the Atomic Energy Commission not only require detailed data on the geology, hydrology and meteorology of the area, but also require that samples of the soil, water from the wells and vegetation be obtained and tested prior to start of operations and periodically thereafter.'

'We are required to carry nuclear liability insurance for outsiders in addition to the usual liability insurance policies. In addition we are required to abide by complex rules set up by the Atomic Energy Commission and the Illinois State Department of Public Health and both organizations carry out periodic inspections at the site.'

In the days ahead we are planning a series of articles to explore the topic more thoroughly, using information from California Nuclear, Inc., the Atomic Energy Commission and from other communities where such waste plants have been established.

This will pave the way for the discussions in mid-June.

Meanwhile, we have been given assurances by state officials and others that public hearings will be scheduled.

This is all that is asked. Then whatever the result, an educated decision on facts may be made.

'A radioactive waste burial site is as important to the nuclear industry as a sewer or some means of disposal of sewage is to a home. A radioactive waste burial site attracts other industries since many of these produce radioactive wastes

and their disposal is an appreciable cost.'

He also points out, 'If California Nuclear Inc. obtains approval of the Illinois Department of Public Health, and is licensed by the AEC to open a waste burial site, we will do so, and not only bury LOW LEVEL wastes, but contract to decontaminate equipment and build a laundry for clothing used in the industries.'

'We expect as time goes on, this area will become the center of a nuclear industrial complex. This may include a nuclear fuels reprocessing plant and a nuclear fuels manufacturing plant. This in turn would attract other industries allied to the nuclear field.'

During the past week we have published a variety of 'Letters to the Editor' from residents of this region. The response indicates intense interest and this is good, because it may lead to greater understanding of the expanding nuclear industry."

And the same issue on May 31 printed these letters:

"Dear Sir:

No! I could say it with more color, but then you couldn't print it. No, for all the reasons others before me have mentioned and more.

Seems to me we are missing a good bet.

The state and federal governments are spending millions of dollars creating artificial lakes, parks and wildlife preserves. The area in question is a natural for either or all of these.

There is a lot of talk about promoting tourism in the area. I would put the strip mines in question on top of the list of things to see.

To the crop farmer, the area represents many acres of good farm land gone down the drain. But the area is no longer an eyesore as it once was. Every year it is covered with more foliage. There are many breathless sights and beautiful lakes in the area. Many of them are better than Johnson Sauk Trail...all of them, for my money.

Let's not chance contaminating the water in the many lakes for something so small and unimportant.

If the waste is as safe as Mr. Beierle claims, then let him and others like him bury it in their backyards and not ours.

I urge all sportsmen in the area to express their views on the matter while they have the chance.

I'm against extending government control (state or federal), but if the people are going to use taxation on

this land then let them do it to something worthwhile than radioactive nuclear waste area.

Elmer L. Eilts
337 Whitney Ave.

Dear Sir:

Everytime anything wants to come to Kewanee there is a big squawk. It's time we let something settle here, even if it is a garbage dump. At least it would be a start.

Agnes Skutnick
1128 Madison Ave.

Dear Sir:

No. There are plenty of deserts and gullies in California and those places. And also look what it would do to our water supply if it should penetrate the veins. Also why should we want something no one else wants?

Mrs. Edward Schultz
1115 Railroad Ave.

Dear Sir:

Emphatically No, when there are thousands of acres of uninhabited waste land in the West. Why transport that waste this far east for burial in an inhabited area. Furthermore I fear eventual contamination of our underground water, which could make our area unfit for habitation.

R. C. Lippens
535 Pine

Dear Sir:

Using our beautiful land of the Central Midwest for a California dumping ground for their garbage of nuclear waste is surely something that should be fought with the idea of winning. If this will do us no harm as they say WHY then haul it this far? Why not dump it out there somewhere or in the ocean? This also could lead to much more dumping here as time goes and more waste is made.

NO! No! No! Let's stop it now before it gets too large that we can't stop it. This coal ground should be leveled and it will produce crops as has been proved and it also then goes back for taxation and will help the people of this section. Those having power should get busy and check this destruction at once.

J. A. Wilson
213 S. Church St.
Princeton

P.S. A paper for signatures passed around might show how the people feel. And I think they will not want it. Keep up the fight.

Dear Sir:

I am against a dumping ground or a nuclear waste plant to be established in the strip mine area near Mineral. Our

farms are near there. If it is not dangerous, why don't they keep it close to Chicago where the smasher will be located? We do not need their garbage.

Mrs. Grace Hodgett
Mineral

Dear Sir:

A nuclear waste dumping ground should NOT be established in this area. The reasons are too well known. It could destroy more than it would build and also create an atmosphere of fear.

Mrs. George Ford
347 E. Division"

On 1 June the following letters to the editor were printed:

"Dear Sir:

Because of my interest in the best for Kewanee and the surrounding area, I have studied the problem of waste disposal as presented by the local residents. Because I know so little about nuclear waste, I can't give a true picture or opinion. Because of these things, I have contacted Robert Clack, who is a radiation safety supervisor for the Department of Nuclear Engineering here at Kansas State University. The following is based on his comments:

'We Americans accept the automobile with all its disadvantages, because the advantages far outweigh the disadvantages. If you ask what disadvantages, right away I can name 50,000 deaths a year and the lungs-smog problem of Los Angeles.

'Nuclear waste is comparable, but the disadvantages are not well defined.

'Most industries that have radioactive waste will want to locate near a waste disposal site to save money transporting their waste elsewhere.' (We, of Kewanee, are always crying for industry but are afraid to take such a big step toward our goal.) This industry may be small but would definitely result in an economical boost to the area.

Maybe the people of the area think that we are speaking of high level waste. This would be about as dangerous as a 'gasoline truck going down a street in town' or a 'chlorine barge going down the Mississippi River.' But we are talking of low level waste.

Low level waste is certainly not as dangerous as 'living downwind from a coal-fired power plant' or 'living at the high altitude' where there is not much of our protective atmosphere to shield a person from outer space type radiation.

I asked Mr. Clark about the dangers of a park or recreation area near this disposal area. He said that we 'could have a park right on top of it' and that a person 'would have to eat the stuff to get hurt.'

One person asked why they could not put the stuff in Chicago. The answer to this is obvious. This waste could be put in Chicago but the cost of land up there is prohibitive.

When asked about the danger of a broken container, Mr. Clack said, 'Let it break.' It wouldn't amount to much. You could let it go in a river and detect it downstream, but the 'affect would be negligible.'

In closing, Mr. Clack said that we cannot possibly say that there is no danger, but compared to some other inventions the hazard is definitely less.

'If people don't want to risk drowning in bathtubs, they shouldn't take baths.'

This last statement applies to everything that we do. We always take risks to obtain something better, sometimes big risks, sometimes small. In the face of the statements of Robert Clack, we can't remain against a waste disposal area near Kewanee. The advantages far outweigh the disadvantages.

Friend, if you think, you will realize that a low level nuclear waste disposal area will help our community. Please listen to the authority.

Sincerely,
Tom Boley
Kansas State University
359 Goodnow
Manhattan, Kan.

Dear Sir:

I'd like to know why Dr. D. W. Shutz and the other area mayors don't mind their own business. Why does (Mineral Township) land concern them any way?

Quail, pheasant and deer are all over in there now and fish in all the lakes. It was beautiful over in there this spring when all the pink and white trees were in bloom.

They'll sell this for a nuclear burying ground now and in a few years the state will spend thousands to create the same effect for a recreation area and park somewhere else. Why they don't buy this ready made one beats me.

For years everyone has cussed the strip mine for what it was doing to the land. Those same ones are too bull-headed now to admit anything good could become of it.

If they could get petitions and fight that atom plant up by Chicago, I'd like to know why we couldn't do the same thing here.

You make the petitions up and I'll donate my time to

getting them signed.

Sincerely,
Dorothy Dickerson
Box 118
Neponset"

And on 1 June the following letters were published under "What's Your Opinion?"

"QUESTION: Do you believe a nuclear waste plant or dumping ground should be established in the area?

Dear Sir:

We have been assured by EXPERTS in this field that there is no danger to life, property or underground water supplies from the proposed nuclear waste plant. Therefore the question of establishment should be between Peabody Coal Co. and California Nuclear Inc.

This question is certainly no business of all Tri-County residents in general. I certainly see no reason why California Nuclear Inc. should have to defend itself to the Kewanee Kiwanis Club.

The establishment of this plant and other industries to follow is important to residents of Mineral and Sheffield in terms of employment etc. Where were all the dissenters when proposal was for a multi-million dollar smasher site?

No one, especially The Star-Courier, was against the atom smasher being located here, but when another site was chosen the cry was heard 'if we are not good enough for the atom smasher, let them keep their waste.' This is the view of a small child and view of very small adults. An industry employing 50 people is a large industry for communities of this size.

The letters to the editor so far published have been for the most part pretty groundless as far as reasons for not establishing this industry here. One writer thought this area in Bureau County will be needed for a recreation area for all the industry to be attracted 'here' in the next few years. Where is 'here'? Kewanee? Whether The Star-Courier and Kewanee residents realize it or not, the Tri-Counties do not revolve around Kewanee.

I would think that with their slums, dumps, junk yards, abandoned factories, etc., that cleaning up and protecting their own would be enough of a problem for Kewanee without trying to run (or ruin?) Bureau County, too.

Local area people who see all kinds of uses for strip mined areas have sat on their fannies and done nothing--even now, they only talk of future uses. This industry is ready

now and will help develop this area and pave the way for other industries to enter Bureau County.

Let's leave the decision to the people involved.

Dean Smith
Sheffield

Dear Sir:

I do not think that Illinois should be a dumping ground for the nuclear waste from the California plants. (Editor's Note--Headquarters of California Nuclear Inc. is LaFayette, Inc.). There is plenty of wasteland much nearer those plants than Illinois.

It will not bring new industries to our area, but will be a deterrent to any expansion and maybe a health hazard.

If our state government had demanded that those strip mine companies live up to the demand, as it was in the beginning, to level off the land, it could be used again as farming or grazing land.

None of them has lived up to that law, but it could still be done and I hope that it will.

Sincerely
Mrs. Bessie Gleich
731 S. Main St.

Dear Sir:

No.

Art Carrington
605 Williams

Dear Sir:

The safety and well-being of mankind should be of primary importance rather than attracting industry to an area.

Nuclear waste is already polluting our streams, rivers and seas and now man would contaminate the underground streams with the resulting dangers to all life which uses them for drinking purposes.

If there was not real danger, why are not nuclear waste plants established near the sites of nuclear plants?

Gladys Davies
Sheffield

Dear Sir:

I wish to register a strong protest against the establishment of a nuclear waste plant in the strip mined area in Mineral Township because farm wells are dependent upon shallow underground streams which flow north from this area. Surface waters would carry radioactive materials into these streams, contaminating waters used for man and beast.

Mrs. Dale E. Moon
Sheffield

Dear Sir:

No.

M. Carrington
605 Williams

Dear Sir:

No. We do not believe a nuclear waste plant would be the best use for the strip mined area. A drive through this area reveals good grazing land in use at this time and surely there are more uses compatible to this area, which is, incidentally, surrounded by homes. It is not a desolate spot.

Mr. and Mrs. Harold Stetson
Neponset

Dear Sir:

Maybe it is the cold weather, but an awful lot of Tri-Countians seem to have recovered from the Spring fever and are getting their exercise in their usual way, jumping to conclusions.

It might just be a good idea for these people who are so against the establishment of a Nuclear Waste Plant in this area to wait a while. I realize that just the mention of nuclear material of any kind any place in the area is apt to set off a near panic.

It doesn't seem reasonable to me that the AEC would allow such a plant to be put in operation in any populated area unless there was little or no danger to those living in that area.

It is possible that it would attract other plants using nuclear material to this area. True, at the present time we have about as many jobs as there are people. This has not always been the case and may not be in the future.

So please Tri-Countians can't you wait till we can get all of the facts on this particular situation? It's only human nature to fear what we don't understand, but let us not be driven by that, perhaps ungrounded fear, to throw away something that might be good for the whole area.

Maynard L. Smith
Buda, Illinois"

On 31 May or 1 June, Fred Beierle called on the Editor of the Star-Courier and talked to him. During May Fred had met with the Kewanee Chamber of Commerce, the Mayor of Sheffield and the members of the Bureau County Board of Supervisors. Except for the Star-Courier, everyone was very pleased that some "industry" was considering the area.

On 2 June the following letters were published in the Star-Courier:

"Dear Sir:

No, A Thousand times No. We don't want the nuclear waste plant. They may say it is not dangerous. I think

no one can tell how dangerous it is or may become in years to come. We do not want this material in our area. They may tell you anything in order to get it here and we may suffer the consequences.

B. M. Hanse
Kewanee

Dear Sir:

It seems a shame to see all the mountains of earth left by the strip mines.

Now that isn't enough. They want to use our ground for (nuclear) garbage.

God made this good earth with all its rich top soil for the good of man. And what do the big shots do for God--they ruin it, so it can't even be used. They don't even level it off so it can be used for grazing.

That's what's wrong with the world today. I shouldn't say the world; it's some of the people in it.

If everyone would keep the Word of Wisdom there wouldn't be the destroying of the rich top soil with all the minerals that God put there for the use of man.

I hope everyone will work to stop the garbage. Let them keep it where they want the atom smasher. This part of Illinois didn't suit them so why should we have to be stuck with the garbage.

Mrs. Mary Huffman
1631 N. Main"

On 3 June the Star-Courier published the following editorial and the Atkinson-Annawan News published a similar editorial but the latter did not refer to the use of any of the land for a nuclear waste site. Actually, we used non-mined land just south of the mined area.

"WANTS AREA FOR RECREATION

Efforts to interest the State of Illinois in establishing a recreational center in the strip mined land of Mineral Township have been reviewed by Clifford (Tip) Nelson of Galva.

Because of interest centering on that region in Bureau County, Nelson, who is first vice president of the Northern Zone for the Illinois Federation of Sportsmen and a member of the Little John Conservation Club of Victoria, has stressed the need for such a project.

Nelson stated in a communication to The Star-Courier he hopes the state will acquire the land for recreational development rather than have it used as a nuclear waste dumping ground.

'I became interested in this 5,500 acre tract of land about three years ago and thought that it would fit perfectly into our need for recreational land and water in this general area,' he states.

'It is located within easy driving distance from the cities of East Moline, Moline and Rock Island as well as Galesburg, Peoria, LaSalle and is not far from Rockford. Its location just off Interstate 80 would make it easily accessible from Chicago, not much more than a 2½ hour drive.

'This area, located just south of Route 6 in Mineral Township and southwest of Sheffield, has been investigated by the University of Southern Illinois and to the best of my knowledge was recommended as a desirable recreational area to the Conservation Department.

'I spent a good deal of time with Alten Grandt, who was the land restoration director at that time for Midland Electric Coal Co. and at the present time is serving in a similar capacity for the Peabody Coal Co. I received large topographical maps which he had drawn up of this area, showing water, timber, farm land, rehabilitated farm land and land that to the best of our knowledge would be excellent for game food and cover.'

Nelson stated he passed the information to the Northern Zone of the State Federation at its quarterly meeting when he was serving as chairman of the zone land and water resources committee.

The recommendation was made that the State Conservation Department investigate and either purchase the area or attempt to reach an agreement for purchase in the future.

The directors of the state federation also approved the plan and a committee was authorized to meet with state officials. Price of the land at the time was $175 an acre. This was about two years ago, Nelson added. The committee urged William T. Lodge, state conservation director, to take action.

'Up until this time Mr. Lodge had used the argument of $400 and $500 an acre land price as being too high and that was the reason most recreational areas were placed in the southern part of the state where the price was in the $100 an acre range in comparison with our higher priced land in northern Illinois.

'Here we felt was an opportunity for the Peabody Coal Co. to back up its statewide Green Earth billboard publicity campaign with some proof of their desire to cooperate with the Department of Conservation.'

The issue since has been kept alive in the Northern Zone and at State Federation meetings 'and we only backed away for the period that this area was being considered by the Atomic Energy Commission for its reactor building program.'

He reported, 'Now that this group is not interested in the area for that project we have again placed that proposition before the department. On March 26 and 27 of this year I met with Director Lodge, Sam Parr and Mr. Helfrich of the department and asked them to reconsider this project as our governor (Otto Kerner) had said the state would purchase this land and turn it over to the Atomic Energy Commission.

'We felt this same thing could be done for recreational needs of the people of this area.

'In closing, I would like the Kewanee Star-Courier and the citizens of this area to encourage their elected representatives to secure this much needed recreational area.'

On 4 June the Star-Courier reported that Representative Schlisler had entered the picture as follows:

"SCHISLER IS OPPOSED TO
ATOMIC WASTE PROPOSAL

U.S. Rep. Gale Schisler of London Mills, has contacted the president of the Peabody Coal Co., suggesting there must be better uses for the strip mined land in Mineral Township than as a dumping ground for atomic waste.

Schisler, whose district includes Henry County, which is immediately adjacent to Mineral Township in Bureau County, told also of receiving numerous complaints about the proposed project.

He addressed his letter to W. G. Blewett, president, Peabody Coal Co., 301 N. Memorial Drive, St. Louis, Mo., as follows:

'It has been brought to my attention that Peabody Coal Company is considering the sale of land in Mineral Township to be used as a dumping ground for atomic waste.

'I have been approached during recent visits to my district by a number of citizens in the Mineral Township area objecting to such a sale. I have also received letters on the same subject. This is something about which many in the area feel very strongly and I share the concern which has been expressed to me by the people whom I represent here in Congress.

'For this reason I am taking the liberty of expressing my feelings to you. I have had an opportunity to visit your very fine company in St. Louis and discuss my plans regarding strip mine land located in the 19th District of Illinois. There are many profitable ways in which this land could be utilized--and I hope you will not find it necessary to dispose of any land for use as a dumping ground for atomic waste.'"

On 4 June I wrote a letter to Dr. Schutz, Mayor of Sheffield:

"CALIFORNIA NUCLEAR, INC.
2323 South Ninth Street
Lafayette Indiana 47905
742-6737

June 4, 1966

Dr. D. W. Schutz
President, Tricity Municipal Association
Sheffield, Illinois

Dear Dr. Schutz:

In reference to the editorials and letters to the Editor of the Star-Courier of Kewaunee and your telephone conversation of this date California Nuclear, Inc., would like to make the following statements:

1. The Atomic Energy Commission regulations call for a hearing or discussion to be held with local authorities before a license to store or bury radioactive wastes is granted. Our present schedule is to contract for the land which we require on June 13, 1966. Immediately following signing of a contract - provided Peabody Coal does sign per our present verbal contract - we will apply to the Commission for a 'facility license'. The AEC will hold a meeting with the local officials which we understand will be the Bureau County Board of Supervisors. If the regular procedure is followed, this meeting will be attended by the Director of the Licensing and Regulation Branch of the Commission. He will explain the regulations and the procedures used by the Commission to make certain no person in the surrounding area is ever subjected to hazardous amounts of radioactivity. The actual limits on discharge outside of the State's area are very small indeed.

It is also expected that representatives of the Illinois State Department of Public Health and Illinois State Geological Survey will attend the meeting as will representatives from California Nuclear. If the results of this meeting are favorable, the AEC will proceed with issuance of the license which will be in the form of an amendment to our present license. The first step in issuance of the amendment will be publication in the Federal Register. If there are objections, a public hearing will be held. Only after 15 days after publication in the Federal Register will the amendment be issued.

This amendment will permit us to store low level radioactive wastes at the site and probably will permit

us to reduce liquids to solids, decontaminate equipment, and operate a laundry for radioactive clothing. As soon as the license is issued we will proceed with construction of a steel warehouse about 36 by 60 feet and installation of equipment to conduct the above types of work.

2. In respect to the land purchase we have made an offer to the Peabody Coal Company for certain lands. This has had the tentative approval of the Illinois State Department of Public Health and the Illinois State Geological Survey. We are proceeding with a single test boring and later, if all proceeds according to our plan, will make at least four more test borings. The land to be used for burial of radioactive wastes will be deeded to the state since this is a requirement of the Federal Atomic Energy Commission.

3. After we have completed the five test borings, we plan to apply for an amendment to our license to bury radioactive wastes. The procedures will be similar to those for the facility license.

4. The Letters to the Editor have raised two points that should be clarified. These are:

a. Local Water Supplies

It has been stated that farmers obtain water from local gravel aquifers. From what the Illinois State geologists have stated we believe these aquifers are local in nature and they are not connected. The Peabody Coal Company in strip mining the area found, according to Mr. Grant, that these aquifers were local gravel deposits. In the mined over area these local gravel deposits have all been mixed with the overlying shales and clays. We do not see how any local contamination can occur.

The City of Sheffield is understood to obtain its water supply from a local gravel aquifer. We chose an area three miles from Sheffield to make certain that we do not contaminate this aquifer.

The surface drainage is to the north. We will drain the waste burial site so that drainage will be around the site and the burial areas will be backfilled to reduce the percolation of local rain water through the buried wastes to a minimum.

b. Source of Wastes

The radioactive wastes which California Nuclear will ship to the site will be collected in Illinois and the surrounding states. We operate a waste burial site in the State of Washington so that wastes which we collect in the Western States are shipped to that site. The waste burial site in Illinois will be a part of the facilities planned in Illinois to service the present and future nuclear industries in the State. Low level radioactive wastes are generated in Illinois by many institutions. These include:

Commonwealth Edison Company
Dresden Nuclear Power Station
Argonne National Laboratory
Hospitals
Universities
Private Physicians

Expansion planned by Commonwealth Edison include two nuclear power plants at Dresden and one with an Iowa Electric Company at the Quad Cities site near Moline. Each of these plants will generate 800,000 kwe and each will produce radioactive wastes which it is expected will be shipped to the Sheffield site for burial. This does not include the radioactive fuel.

California Nuclear will act as a service company to the above institutions. We will operate the waste burial site as a public utility in that we will accept all wastes shipped to the site provided they are packaged in ICC approved containers and meet all regulations. We will charge the rates included in our original proposal to the State of Illinois.

Shipment of all the wastes to other waste burial sites will cost Illinois firms and institutions many tens of thousands of dollars extra per year and this must be borne by the people in the State.

While we do not know the details of the contracts between Commonwealth Edison and General Electric for the new nuclear power plants, it is believed that the price is near $100 per kwe. If so the cost of the reactors will be near $240,000,000 with an annual nuclear fuel cost of $20,000,000 or more per year. So the nuclear incustry in Illinois is large and will grow tremendously in the next twenty years. The State should become prepared to handle the wastes and cash in on the products.

California Nuclear plans an investment in the Sheffield site and area of about $200,000 in the next two years. All this except the cost of the land to be deeded to the State will be taxable and it is assumed that taxes will be assessed on us. In addition we must pay a fee to the State for all wastes buried at the site. It is assumed that this fee will be $0.05 per cubic foot.

We have made plans so that the area not used for a waste burial site may be used for recreation. We do not plan to interfere with local uses of the land but to become good neighbors.

We appreciate your help and cooperation.

Sincerely,
California Nuclear, Inc."

Then on 6 June only the following letter concerning the waste site was published:

"Dear Sir:

In an era when city dwellers are striving mightily to achieve some degree of closeness to grass, trees, lakes and other agreeable facets of nature, why should Bureau County jump to become a highly industrialized urban area? And especially by agreeing to furnish, as a drawing card, an atomic dump?

Most residents of the Neponset area live here because they genuinely prefer country living to urban living. Are we to leave no pleasant space in the State of Illinois for them?

I grew up on the edge of the strip mining project and I know that land to be useful for grazing even without benefit of leveling. If Peabody Coal Co. wants to do something constructive with its land, let them sell it to the surrounding farmers who put up with the road and screech of digging machinery and the foundation-cracking blasts of dynamite for years while the mine was in operation. Also they might sell to local industries who want private recreation areas for their employes. One Neponset firm has already established such an area.

In either case, the land would remain taxable, useful and beneficial for all its surrounding population.

Sincerely yours,
Mrs. Wayne Gerrond
Neponset"

But the Star-Courier also carried the following news item:

"HEAD OF MAYORS DESCRIBES
PROJECT FOR NUCLEAR BURIAL

Officals of California Nuclear, Inc. of LaFayette, Ind., and Peabody Coal Co. will meet in St. Louis, Mo. June 13 to contract for the use of land in Mineral Township as a nuclear waste burial site.

This was pointed out Tuesday noon by Dr. D. W. Shutz, Sheffield mayor, who is president of the Tri-County Municipal Association, in an address to the Rotary Club at Hotel Kewanee.

Dr. Shutz stated that he and Kaye Lyons, mayor of Mineral, will travel to St. Louis as representatives of

the association.

He did not state that the association had directly endorsed the project for the western Bureau County site other than to say a decision to send two delegates had been made at the association board of directors' meeting last Wednesday.

Claiming he was presenting the 'facts' about the controversial project for the western Bureau object of editorials and numerous letters to the editor of The Star-Courier, Dr. Shutz said he had been assured there would be no undue radioactive hazards from burying low-level nuclear waste in the region.

He added that if all conditions are found favorable for use of the site, a license will be issued by the Atomic Energy Commission. A hearing will be scheduled to permit objectors to appear, if there are any, he said.

He also mentioned that Claifornia Nuclear Inc., which has been approved by the Illinois Department of Public Health to choose a burial site, has not been deterred by unfavorable newspaper publicity. He added the company could condemn the land, but it doesn't desire to follow that procedure.

That a $200,000 investment would be made in the next two years by the company also was pointed out by the speaker, who was introduced by Milton Sinn, program chairman.

Dr. Shutz explained conditions at the Mineral site were the best in the state because of sandstone shale, which will bond with radioactive material. He said the Chicago area was ruled out because of a limestone base.

In his early remarks he commented on the announcement that Weston would be selected as the site for the AEC atom smasher--'We knew this quite a while ago.'

He reviewed the growth of the nuclear industry and said establishment of a burial site in the area could result in more nuclear industry here.

He also said California Nuclear would operate a sanitary land fill for area communities.

In other comments he said understanding nuclear problems is a matter of education and he stated that there would be no water contamination possible.

The veterinarian praised Mayor Emerit F. Lindbeck of Kewanee as a 'faithful member' of the association and he described the group's purpose of cooperating for area development."

Then on 9 June the following editorial was published by the Star-Courier:

"OUR PAGE OF OPINION

THIS WILL BE THEIR MONUMENT

Apparently it's all cut and dried.

A written contract for Claifornia Nuclear Inc., Lafayette, Inc., to buy strip mined land owned by Peabody Coal Co. in Mineral Township, Bureau County, is scheduled to be accomplished Monday at a meeting in St. Louis.

Dr. D. W. Shutz of Sheffield, chairman of the Tri-County Municipal Association, an organization of area mayors, confirmed during remarks in Kewanee this week that the nuclear waste burial project is all but signed, sealed and delivered.

This didn't exactly catch us by surprise.

When we first broke the story late in May, Fred P. Beierle of California Nuclear told us the next day that he was in Kewanee to buy a home. You don't come to a community unless you're pretty confident of your deal being completed.

Our concern then--and still is--that adequate safeguards be taken and that only low level waste be buried in the area. We felt it our editorial duty to call the problem to the attention of the general public and the readers reacted much the same as we did. The voluminour Letters to the Editor were overwhelmingly against the project.

The site is only about eight miles northeast of Kewanee and three miles west of Sheffield and we feel we were justified in our protest because of our proximity.

The so-called experts tell us our fears are unfounded.

We have been assured repeatedly that you can take this low-level waste to bed with you. Frankly we don't feel so inclined. (Or should we say, reclined?)

There will be no danger of radioactivity of water being contaminated, they say; that the water pockets are not interconnected.

May we ask, if that were so, why the water level on area farms dropped when the mining operations actually were under way?

We're not standing in the way of progress. We recognize that this is a nuclear age. You may even recall that several years ago we favored continued nuclear testing and our series won the Illinois Associated Press newswriting award that year on our opposition to the nuclear test ban.

There are many reasons why the layman regards radiation with fear and awe.

Even life insurance companies, with respect to property insurance, state their policies do not cover damage to property from radioactive contamination, controlled or uncontrolled.

Some man-made radioactive substances will remain alive for uncountable generations. The life of low-level wastes,

such as proposed for burial near here, is about 30 years. But the state will have to exercise control 'in perpetuity'. Forever is a long time.

In Ritchie Calder's book, 'Living with the Atom,' mention is made that 'the present inventory of stored wastes is only an indication of what is still to come...If present predictions come true concerning the number of industrial power reactors which will be in operation throughout the world 40 years from now, the weight of radioisotopes in the wastes of the year 2000 will amount to a ton a day. This should be compared with the total of five pounds of radium which existed in the entire world before World War II.'

The first nuclear chain reaction was achieved in 1942, almost a quarter of a century ago. And in that period no adequate means of disposing of the radioactive wastes--other than burial--has been developed.

Wouldn't it be wiser for the U.S. to forget about the race to the moon and spend its billions solving this waste problem, which involves us all?

We don't wish to prolong the argument unnecessarily, but one other matter is obvious. Much of our once rich land in this Breadbasket of America has been ruined by stripmining. Apparently now it's suitable only for burial of nuclear wastes.

If the Peabody Coal Co. signs the contract with California Nuclear Inc., it will have its monument in the slag heaps of Mineral Township, a reminder of a callous rape of the land."

On 11 June I sent Representative Schisler the following letter:

"California Nuclear, Inc.
2323 South Ninth Street
Lafayette, Indiana 47905
June 11, 1966

Honorable Gale Schisler
House of Representatives
Congress of the United States
Washington, D. C.

Subject: Illinois Radioactive Waste Burial Facility

Dear Representative Schisler:

We noted with interest the short article in the June 4, 1966 of the Kewaunee, Illinois Star-Courier in which you suggested to the president of the Peabody Coal Company that you 'hope you will not find it necessary to dispose of any land for use as a dumping ground for atomic waste.' In this letter we would like to explain the position of California Nuclear, Inc. in respect to the Illinois site.

The Illinois Legislature in 1963 passed enabling legislation for operation of a low level radioactive waste burial site in the state, see Appendix A. We believe that the Legislature and Governor in passing this act did so in the belief that such a facility would be needed in the state and that Illinois industries, schools, hospitals, and others would find that the facility would be of value to them. In order to implement the enabling act the Illinois Department of Public Health developed contractor selection criteria and requested various interested firms to submit proposals by June 15, 1965. Accordingly, on June 14, 1965 California Nuclear, Inc., submitted a proposal to the State Department of Public Health 'to Build and Operate the Illinois Waste Burial Facility.' On October 29, 1965 the Department of Public Health sent us a letter stating that it was the Department's intention to award a contract to California Nuclear Inc. for this purpose, see Appendix B.

Following receipt of this letter of intent we began looking for a suitable area in Illinois for a waste burial facility which at the same time could be utilized later by related industries such as nuclear fuels reprocessing plants. In this search we have been assisted by Professor M. William Pullen of Purdue University. Professor Pullen spent fourteen years with the Illinois State Geological Survey as a geologist.

Only very limited areas of the state meet the criteria which the Department of Public Health and California Nuclear adopted for suitable waste burial sites. We first rejected all areas with limestone near the surface as the Illinois limestones, particularly in the northeast part of the state are important aquifers or sources of public water supplies. Next we rejected all areas with water table near the surface. Finally we rejected all areas with coal or oil reserves. This left only very limited areas.

One of the areas that met the criteria was the land south of Route 80 east from Annawan. This area consists of loess, glacial sill, sand, gravel, and peat to varying depths followed by shales, sandstones, coal, clay, more sandstones, limestones, etc. Nearby well logs are available and were studied. A physical survey of the area indicated that well drained land near a divide between surface drainage systems was located near Sheffield on land which had been stripped mined for coal. Accordingly, the area was examined by California Nuclear personnel, Dr. D. W. Schutz, Mayor of Sheffield and President of the Tri-County Industrial Council, Mr. Alton Grant of the Peabody Coal Company and Mr. Leroy Stratton of the State Department of Public Health. Mr. Stratton is the person responsible in the Department of Public Health for selection of the low level radioactive waste burial site.

An area which is serviced by all weather roads, near a major railroad, and has suitable surface drainage was selected. The geology of the area was studied as much as possible from the Peabody records, well logs, and Geological Survey reports and maps. A preliminary report was prepared and discussed with representatives of the Illinois Geological Survey and Department of Public Health. All persons agreed that this area appeared to be suitable for use but that further core drillings and detailed geological studies as well as hydrological and meteorological studies must be made before final approval can be given. These studies are proceeding.

Meanwhile we discussed an option with the Peabody Coal Company for the purchase of 100 to 200 acres of the 5900 acre stripped area. A meeting is scheduled for June 13, 1966 with the Peabody Coal Company. If the Peabody Company declines to sell the land to us in accordance with their verbal agreement, we will immediately start condemnation proceedings.

The Star-Courier published an editorial objecting to the use of the land as a low level radioactive waste burial site as soon as the announcement that the land was being considered for that purpose was made by the State Department of Public Health. The Editor Mr. G. G. Morairaty has published considerable information that we have furnished him and the public in the area in becoming informed in respect to the type of business we intend to conduct. Let me explain our position:

1. The persons directing California Nuclear are experienced in the nuclear field. Mr. Fredrick P. Beierle, who will be in charge of the Sheffield site has had many years experience as a reactor operator with duties at Richland, Vallicitos, Hallam, and Elk River. Mr. William D. Johnson has had an equally long experience including waste burial experience with another firm. Mr. J. Stewart Corbett was Vice President of another waste burial firm before joining us. I have held several responsible positions at Oak Ridge National Laboratory, Argonne National Laboratory, and the Atomic Energy Commission. Presently I am half time at Purdue University as Professor of Nuclear Engineering.

2. We are now operating a waste collection and storage depot at Cowell, California and a waste burial site at Richland, Washington.

3. The area chosen for the waste burial facility in Illinois is near Route 80 and the main line of the Rock Island Railroad. It is well located to serve the nuclear industry in Illinois. Sources of radioactive wastes that we expect will be shipped to the Illinois site include the hospitals in the area, University of Illinois, University of Wisconsin, University of Iowa, etc., Argonne National

Laboratory, Dresden Nuclear Power Station, Quad-Cities Nuclear Power Station, etc. The cost of disposal of nuclear wastes is an important part of the nuclear industry and transportation of the wastes to the burial site is an important part of this expense. This cost must be reflected back into the expense of medical treatments and nuclear power production costs.

4. We believe opening a low level radioactive waste burial site in Illinois will attract additional industries to the area. As soon as possible we intend to offer the following services:

Radioactive laundry
Equipment decontamination
Health physics consulting
Rental of survey instruments
Calibration of survey instruments
In vivo whole body counting

It is expected that a nuclear fuels reprocessing plant will be built in the next few years in the Midwest. It would be logical for this plant to be built next to the waste burial facility. It was for this reason that we chose the area near a major railroad.

5. Once a reprocessing plant is built, nuclear fuel manufacturing plants, tube mills, isotope separation plants, etc would locate in the area. We expect that within 20 years there will be several hundred nuclear industry employees in the area with tens of millions of dollars in investment in plants.

6. The people near Kewaunee and Sheffield have raised two questions that need explanation:

a. Taxes. It has been stated that land will be removed from the tax rolls. This is true as the 100 acres will be deeded to the State in accordance with Atomic Energy Commission regulations. At the same time the Sportsmen group has stated that all the land that has been strip mined should be purchased by the state. We intend to invest about $200,000 in the area in the next two years and presumably most of this will be taxable.

We will pay the State $0.05 per cubic foot for all wastes buried at the site for a perpetual maintenance fee. This is not negligible. A shipment which we are making for Argonne National Laboratory this month will cost us about $3000 in burial fees. These will be paid to the State of Washington.

b. Water. Local water is taken from local gravel aquifers which occur occasionally in the glacial sill. Sheffield obtains its water from such a source. In strip mining these local aquifers are destroyed and the

gravels mixed with the other overburden and shales. In any case the aquifers are not connected and the burial area drainage cannot enter any aquifers in use.

7. All steps in our operations must be approved by the Illinois State Department of Public Health and the Atomic Energy Commission. As you know, these requirements are rigid. They need not be reviewed here.

8. We intend to employ 10 to 12 employees at once. This number will grow to about 50 in ten years.

9. We are a service company to the nuclear industry. We intend to offer whatever services are needed in Illinois.

You can assure your constituents in the Bureau County area that opening a radioactive waste burial facility will be completely safe and it will contribute to the industrial growth of the area. It will also offer a needed service to Illinois industries, hospitals, and nuclear power firms.

We will be glad to discuss this letter or to answer any questions that you may have about the radioactive waste burial site.

Sincerely yours,
CALIFORNIA NUCLEAR, INC.
/s/ STUART McLAIN
Stuart McLain, President

cc to
Representative Chet Holifield, U. S. Congress
Senator George Drach, Illinois
Dr. Clarence Klassen, Department of Public Health
Clerk, County Board of Supervisors, Bureau County
Mr. Richard Cunningham, Division Materials Licensing, AEC
Dr. D. W. Schutz, President Tri-County Municipal Council
Mr. D. G. Moriarity, Star-Courier
Mr. Donald F. Koch, Executive Director, Office of Nuclear Energy Devel.
Honorable John B. Anderson, Joint Comm. on Atomic Energy
Honorable Melvin Price, Joint Committee on Atomic Energy"

Then nothing was published until 13 June when the following news item and Letter to the Editor were published:

"OFFICIAL FROM NUCLEAR FIRM
WILL ADDRESS KIWANIS CLUB

Frederick P. Beierle, vice president of California Nuclear Inc. will address members of the Kiwanis Club at Hotel Kewanee Wednesday noon.

He will be back in the area for a meeting of the Tri-

County Municipal Association, an organization of area mayors, at Annawan Thursday.

Beierle will be introduced by John Howard Renfro, member of the program committee.

The speaker is expected to discuss the operations of his company, which specializes in burying nuclear waste. If strip mined land in Mineral Township is to be used for burying such waste, he will be manager of the project.

He has been manager of West Coast operations for California Nuclear at Richland, Wash. Prior to that he was reactor shift supervisor for the Allis-Chalmers on the Elk River reactor."

"Dear Sir:

Many thanks to you and your paper for giving us the privilege of expressing our opinions regarding the nuclear waste.

One of our most cherished privileges written into our Constitution by our predecessors was this right to speak our thoughts openly without fear of Gestapo taxtics to muffle us. The news media has been an undoubtedly will always be an outlet for our likes and dislikes to be aired in public.

You are to be commended for the fairness shown to all who wished to express their opinions and your opinions.

You gave the public information which reflected an enormous amount of research on your part regarding the issue.

May you continue to champion events and things that are beneficial to the welfare and betterment of the people of this area.

Respectfully yours,
Dean Blake
Neponset"

Then on 15 June a Letter to the Editor was published in the Star-Courier as follows:

"Letters to the Editor
Star-Courier
Kewanee, Illinois

Dear Sir:

I have been reading with great interest the news articles, editorials, and, especially, the letters-to-the-editor about the controversial use of the land in Bureau County for the burial of radio-active waste by California Nuclear, Inc. The letters seem to reflect only the emotional reactions; fear, selfish interests, and pique. It seems to me that there are

several major concerns which haven't even been mentioned; namely, price of land, effect on the tax income in Bureau County, and the loss of thousands of acres of potentially productive farm land in the heart of the agricultural Mid-west.

This is the third year that the Kewanee League of Women voters has studied the strip mining problem in North-western Illinois. We have covered the problem from the angles of coal production, effect on taxes, reclamation of land, and legislation on strip-mining throughout the United States. We have visited various areas where strip-mining has been in operation; everything from a mine in actual operation to lands mined thirty years ago. We have seen lands being reclaimed under the Peabody Coal Company's 'Green Earth Operation' which demonstrates that strip-mined land with proper care can, after a number of years, become profitably productive land. We have seen what happens when the coal companies went in, stripped the coal, and moved on before there was any state legislation con-trolling even minimal reclamation.

The land in question near Mineral in Bureau County is largely unreclaimed land. Until a state law was passed in 1961 which set up some regulations for open-cut mining, some coal companies twenty or thirty years ago seemingly had the policy of moving in, tearing out the coal, and moving on. Some of the mined land in Henry County near Atkinson was sold for as little as $1.00 per acre and even now has an assessed valuation of $17.40 per acre and is taxed 52 cents per acre as compared to $6.10 per acre tax on farm land in Henry County undisturbed by strip-mining.

In the Star-Courier news items there has been some con-flict in fact; one article stated the State of Illinois would buy the Bureau County land from Peabody Coal Company and lease it to California Nuclear Inc., keeping the supervisory control of the burying of the waste. A more recent article stated that Peabody Coal Company would sell directly to California Nuclear, Inc. There are several questions I should like to see answered: 1) What is the present assessed value of the approximately 5,500 acres now owned by Peabody Coal Company and what are the taxes per acre received by Bureau County? 2) If the State of Illinois buys the land for burying nuclear waste and develops the rest for recrea-tional purposes, can Bureau County afford to lose the tax money from the land? 3) If California Nuclear, Inc. buys the land will it be taxed; if so, on what basis and who will pay the taxes? I should think these things would be of great concern to the people of Bureau County. I under-stand that Peabody Coal Company has quoted a price of $175.00 per acre; isn't this an awfully high price for wholly unreclaimed disturbed land?

The second matter which concerns me is whether we can afford to take 5,500 acres of potentially productive land out of agricultural production. A short time ago several federal legislators expressed concern that under the Federal Aid program, the United States had sold or given away so much of our stockpile of grain--particularly, wheat. They pointed out that if our grain-producing lands were hit by drought or poor crop yields for a couple of years our own supply of grain would be so short that the American people would have to be rationed in their use of food products made from grains. Already thousands of acres of high productivity in Northern Illinois have been lost to farming--for super-highways, recreational areas, both public and private, and unreclaimed mined land. Can we afford to lose an additional 5,500 acres or should there be a concerted effort by the state and federal governments to reclaim this land for agricultural use? It will take years to bring it into profitable production, but the Peabody Coal Company has shown that it can be done under good management.

It seems to me these things should be of major concern to all of us, rather than the reasons which are often expressed. Let's keep the 'bread-basket' of the United States filled.

Yours truly,
Mrs. Paul D. Binder
President
League of Women
Votors of Kewanee
Mrs. Lenna Schwabe,
Chairman
Strip-mining Committee"

By this time Beierle's family was settled in Sheffield and Beierle was busy giving talks to various organizations in the surrounding communities. He was an excellent speaker and his talks rapidly changed public opinion. On 16 June the Star-Courier published a picture of our burial operations at Richland with the following note under the picture. They followed the picture with the following article:

(Picture)

"A NUCLEAR WASTE OPERATION--Operation of California Nuclear Inc. in Richland, Wash., similar to that proposed in this area, shows a large crane putting steel drums into a trench. This is then filled in, back filled and seeded. A chain-link fence surrounds the entire facility. F. P. Beierle, vice-president of the company, described the

operation for Kiwanis Club Wednesday noon.

BEIERLE ADDRESSES KIWANIS CLUB
NUCLEAR WASTE LOCATION
IS NEEDED FOR ILLINOIS
By L. K. Heaps
(Star-Courier Staff Writer)

Frederick P. Beierle, vice-president of California Nuclear, Inc. was the speaker at the meeting of the Kiwanis Club Wednesday noon at Hotel Kewanee, stating that many people in this area think his company wants the location near Mineral to bury waste material from California.

The opposite is true, he said. The company wants a location in Illinois to service Illinois industries, universities, and laboratories.

The company has just signed a contract with Argonne National Laboratories to dispose of their waste materials. The cost of transporting materials to their facilities in Washington and New York and Kentucky is prohibitive so a closer location is desired. Most of the stockholders in this company are residents of the midwest.

The company is asking to lease 100 acres with a 99-year lease and Beierle explained that about half the acreage would be used.

Concerning the safety factor, Beierle said both the Atomic Energy Commission and the Illinois State Health Department have strict requirements which have to be met. Many people have questioned the danger of buried nuclear materials damaging a water supply and he said the disposal of materials has been going on for 25 years, and there is no record of it ever seriously contaminating a water supply.

Beierle said that in his travels he had talked to many people in this state who felt that too much of the land had been turned over by strip mines so that in locating a facility for their purpose it pointed to the Peabody Coal Co. as that land was already out of production.

Beierle is of the opinion that other industries will come into the area north of Kewanee because of the geological factors, railroads, highways and a virtually untapped water supply.

In regard to the operation itself it was explained that the nuclear material is placed in plastic bags, then put into 55 gallon steel drums, which are then checked to see that no nuclear material escapes. Fiber board and wooden boxes with a lead shield can also be used.

No liquid is buried but is put through a boiling off process and reduced to a solid form that can be placed in a container, Beierle said. The drums are then taken to the area and buried in a trench 40 feet wide. The area is covered, back filled and seeded. The entire area is sur-

rounded by a chain-link fence. Over the years the waste material and the containers decay and the uranium activity is gone, he related.

An office building of steel construction, 40 by 80 feet would be a part of the facility and would house the office, laundries and maintenance and would have 12 employees to start. Beierle mentioned the office has its own well at the site and the water is never contaminated.

Consulting work for industries and laboratories is also a part of their work and the company has perfected and patented an instrument to determine types and quantities of radioactive material. Visitors are welcome at the site but must be checked in through the office. He stated that the initial expense in setting up this operation is around $250,000.

The state recreational, conservation and health departments say there is no harm to fishing in the surrounding areas. The fact that the area is sealed and fenced off makes excellent cover for quail and pheasants to reproduce, the speaker said.

Beierle pointed out that the public is probably unaware of the many ways isotopes are used in industry for testing and analyzing. In medicine many diagnosis and analysis are performed by using atomic tracers, he said.

Reactors are used in the preservation of food and experiments are being made to eradiate potatoes to preserve them at their prime for the market and for keeping wheat and corn, Beierle related. Also in the experimental stage is the making of hard wood from soft wood as the nation's supply of hard wood is dwindling due to its many needs and uses.

The company has received preliminary approval in the area but has not entered into any contracts, Beierle said.

John Renfro was program chairman for the meeting, and guests were Axel Hadsen, Charles Moore, Tom Boley, Arthur White, county superintendent of schools, Stuart Ruwe, Mrs. Dan Newhaller and Mrs. Lenna Schwabe of the League of Women Voters."

And also on 16 June the Star-Courier published the following article:

"MAYORS REVIEW NUCLEAR WASTE
PLANT PROPOSAL

Annawan--The proposed Bureau County nuclear waste disposal plant is the topic of discussion here Thursday night at the monthly meeting of the Tri-County Mayors' Association.

Representatives of the State Geographic Department, the State Department of Public Health and California Nuclear, Inc. will be on hand to discuss matters pertaining to development of the plant.

The mayors and their guests will meet in the Annawan shelter house at 6:30 p.m. for supper and a business meeting will follow at 7:30.

LeRoy Stranton, sanitary engineer for the State Department of Public Health, and Fred P. Beierle, manager of California Nuclear Inc. will be among the guest speakers present, according to Dr. D. W. Schutz, mayor of Sheffield and president of the mayors' association."

On 16 June I again tried to talk to the Editor of the Star-Courier but I was told he was on vacation which I doubted. I did talk to the Assistant Editor. She indicated practically all the people in Kewanee favored our proposal. I then talked to one of the secretaries at the power company. She stated that very few people in the area were opposed to the waste site. She indicated that Moriarty's opinion did not carry much weight.

I then called on Mrs. Schwabe whose letter to the Editor was noted earlier. I left her a copy of our proposal to the State.

In the evening Beierle and I met with the mayors of the Tri-County Municipal League. We reviewed the history of California Nuclear. The question period went on for two hours. Most of their questions had to do with fear and misunderstandings. Later the Council passed a resolution unanimously favoring our moving into the area.

On 17 June the Star-Courier reported a talk as follows, given at Atkinson:

"NUCLEAR WASTE NOT DANGEROUS

Professor Stuart McLain of the nuclear engineering department of Purdue University and president of the California Nuclear Co. of Lafayette, Ind., said that the low level nuclear waste his company disposes of is 'no more dangerous than the radium dials on a clock' during a talk at the Tri-County Municipal Association meeting in the Annawan Community Center last week.

His company has asked to purchase 200 acres of strip mine land from the Peabody Coal Co. with 100 acres to be used for

a burial site for nuclear waste materials and 100 acres to be used for a $250,000 building and laundry facilities for the nuclear dump.

The site being considered in Mineral Twp. is three miles west of Sheffield, four miles north of Neponset and three miles east of the Henry-Bureau County line.

Fred Beierle, vice president, said that the company conducts a waste disposal service for nuclear industries. The company is classified as a service utility and is licensed by the State of Illinois Department of Health and the federal Atomic Energy Commission (AEC).

Any disposal plant the company operates is inspected thoroughly five times each year by the federal commission, Beierle said.

He added that the words 'atomic energy' arouse fear because persons immediately think of the atomic bomb used over Japan. However, if the company's plan to purchase land from Peabody for the nuclear waste disposal plant is approved, the waste would be very 'low level,' Beierle said, 'such as that from university laboratories, hospitals and clinics, and from the Westclox factory in LaSalle.

The company has signed a contract with the Argonne National Laboratory near Chicago to dispose of their waste materials, also, and the waste is presently being transported to the company site in Washington state.

Professor McLain said that he would make a 'wild guess' and predict that by 1975 there will be a reprocessing plant for spent fuel used to operate reactors in nuclear power plants in this area.

He said that Illinois has to be in a position to take care of this waste problem before long.

Beierle said that the $250,000 building proposed would be taxed locally, and the fees paid to the state for operation of the plant would be about $10,000 per year.

In explaining the operation of the plant, he said that nuclear material is placed in plastic bags, then put in steel drums and buried. No liquid is buried, but is put through a 'boiling off' process and reduced to a solid form which is then placed in the containers.

The burial area is covered with dirt and seeded. Over the years, the waste material and the containers decay and the uranium activity is dissapated. He said that in case some tiny part remains, it adheres to the soil and does not move into water streams.

A geologist for the state said that the state's geology and health departments worked together to determine a suitable site, one with a necessary water supply. He pointed out that pertinent wastes are buried at shallow depths, and there is no danger to the deep water supply.

Robert French, a state official, said that the state is responsible for supervising and making sure the site continues to be safe, and the AEC has the power to revoke or refuse to re-issue a license to the California Nuclear Co. if regulations are violated.

French also said that a plant of this type can make a 'tremendous contribution' to an area, attracting other facilities in the nuclear operation field.

L. E. Stratton, state sanitary engineer, reported that the firm has worked with the department and has spent considerable money investigating suitable sites for the plant. He said they will now have a complete geology survey made of the proposed site and the survey must be accepted by the state and AEC.

The group was told that the water in surrounding strip mine lakes would not be affected by any nuclear waste buried at the site. Water in strip mine lakes does not move; it is surface water and does not go through the soil it was explained.

About 30 state and village officials attended the open meeting in the Community Center, including State Representative John Morris of Chadwick, Walter Pobanz and Wilson DeReu of Atkinson, Chairman of the Henry County Board of Supervisors."

Also the Moline Dispatch published an article on 17 June:

"TRI-COUNTY OFFICIALS ASSURED
NUCLEAR WASTE NOT DANGEROUS

ANNAWAN--Professor Stuart McLain of the nuclear engineering department of Purdue University and president of the California Nuclear Co. of Lafayette, Inc. said that the low level nuclear waste his company disposes of is 'no more dangerous than the radium dials on a clock' during a talk at the Tri-County Municipal Association meeting in the Community Center here last night.

McLain displayed a clock with radium-dial hands and a lamp wick which he purchased in Sheffield yesterday, both of which, he said, contained radioactive substances.

His company has asked to purchase 200 acres of strip mine land from the Peabody Coal Co. with 100 acres to be used for a burial site for nuclear waste materials and 100 acres to be used for a $250,000 building and laundry facilities for the nuclear dump.

The site being considered in Mineral Twp. is 3 miles west of Sheffield, 4 miles north of Neponset and 3 miles east of the Henry-Bureau County line.

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He said that Illinois has to be in a position to take care of this waste problem before long.

Beierle said that the $250,000 building proposed would be taxed locally, and the fees paid to the state for operation of the plant would be about $10,000 per year.

In explaining the operation of the plant, he said that nuclear material is placed in plastic bags, then put in steel drums and buried. No liquid is buried, but is put through a 'boiling off' process and reduced to a solid form which is then placed in the containers. The burial area is covered with dirt and seeded. Over the years, the waste material and the containers decay and the uranium activity is dissapated. He said that in case some tiny part remains, it adheres to the soil and does not move into water streams.

A geologist for the state said that the state's geology and health departments worked together to determine a suitable site, one with a necessary water supply. He pointed out that pertinent wastes are buried at shallow depths, and there is no danger to the deep water supply.

Robert French, a state official, said that the state is responsible for supervising and making sure the site continues to be safe, and the AEC has the power to revoke or refuse to re-issue a license to the California Nuclear Co. if regulations are violated.

French also said that a plant of this type can make a 'tremendous contribution' to an area, attracting other

facilities in the nuclear operation field. He also noted that in regard to supposed danger from nuclear energy, at Dresden on the Illinois River homes are located with 1/4 mile of a nuclear power plant and there has been no danger.

'One good thing about a nuclear power operation is that it does not contaminate the air,' he added.

L. E. Stratton, state sanitary engineer, reported that the firm has worked with his department and has spent considerable money investigating suitable sites for the plant. He said they will now have a complete geology survey made of the proposed site and the survey must be accepted by the state and AEC.

In answer to a question by Walter Pobanz, chairman of the Henry County Zoning Board, the group was told that the water in surrounding strip mine lakes would not be affected by any nuclear waste buried at the site. Water in strip mine lakes does not move; it is surface water and does not go through the soil it was explained.

Pobanz said that he was interested in the program because it is hoped that eventually some of the strip mine land in Henry County might be used for recreation.

About 30 state and village officials attended the open meeting in the community center including William Callahan of Ottawa, Democratic candidate for the state senate from the 36th district; State Rep. John Morris of Chadwick, Pobanz and Wilson DeReu of Atkinson, chairman of the Henry County Board of Supervisors.

President of the Association Dr. D. W. Shutz of Sheffield said that he had asked representatives from the state and California Nuclear to attend this meeting so that residents interested in the project might get 'first-hand' knowledge.

No action was taken on the proposal of seven villages to lease Peabody land for a common dump, pending the settlement of the nuclear proposal."

The Atkinson-Annawan News carried the following news item on 17 June:

"DELAY DECISION ON SALE OF SITE

A proposal to sell a tract of land owned by Peabody Coal Co. in Mineral Township for use as a low-level radioactive material burial ground, has been postponed for the time being, Alten Grandt, coal company official said today.

The land is sought by California Nuclear, Inc., Lafayette, Ind.

Grandt met in St. Louis on Monday with Fred P. Beierle, manager of the Indiana firm. He said Peabody wishes to discuss the proposal further before making a decision.

According to plans of California Nuclear, a $200,000 storage facility would be built on the site. The facility would be capable of accommodating radioactive waste from industrial plants and laboratories throughout Illinois.

The plant would be subject to state control and officials have assured residents that no danger of radioactivity or other pollution hazards would result from operation of the proposed plant.

The low-level radioactive material is far less penetrating than X-rays, an official of the company pointed out.

Local officials first learned about the proposal when they inquired if Peabody would be interested in selling some property to be used as a dumping ground for several villages in the area. They have since been assured property could be made available for this purpose."

The Star-Courier on 18 June published a picture of Beierle with the following caption:

"RADIOACTIVE LAMP WICKS--Fred P. Beierle demonstrates the high radioactive level of a common kerosene lamp wick with a geiger counter at the Tri-County Municipal Association meeting Thursday night in Annawan. Beierle claims that much fear concerning radioactivity is due to the 'bomb scare,' and not factual information."

And the following article:

"At Mayors' Meeting
OFFICERS DEBUNK MISCONCEPTIONS
By Tom Mattausch
(Star-Courier Staff Writer)

Many popular misconceptions concerning the recently proposed nuclear waste disposal plant in Mineral Township of Bureau County were dispelled Thursday night at the monthly meeting of the Tri-County Municipal Association in Annawan.

The Municipal Association (more commonly known as the 'Tri-County Mayors' Association) was addressed by various speakers who were cited by the organization's president, Mayor D. W. Shutz of Sheffield, as experts.

Among the guest speakers present were Dr. Stuart McLain, president of California Nuclear Inc., Fred P. Beierle, vice president of that firm, Dr. Robert E. Bergstrom of the State Geological Survey, and Leroy Stratton of the State Department of Public Health.

Beierle told the mayors' committee that a few misconceptions needed to be cleared up before any further explanations could be made.

'First of all,' he said, 'it is not only untrue that California Nuclear Inc. is planning to transport atomic waste from California to Illinois but such an operation would be economically impossible.'

Beierle continued an economic discussion as he explained that a nuclear disposal site located in the desert also would be impractical.

'Most important,' he said, 'the present and future sites of nuclear waste sources are here, in the Midwest, not in the desert. Any additional costs for transportation of waste products, which would be extensive, would be borne by the public that uses the atomic facilities.'

California Nuclear President McLain added that an increasing amount of public utility power companies have converted or are considering conversion to atomic energy. 'Nuclear power plants can be built and operated for 10 per cent less than the conventional method,' McLain stated.

Dangers of contamination to the surrounding area also were mentioned in reference to using the Mineral Township site as a recreation facility.

Dr. Bergstrom explained that the structural porosity of this area is low enough, due to extensive shale and clay deposits, that any local contamination due to water percolation is highly unlikely.

Bergstrom added, 'the radioactive waste's affinity to the surrounding soil should insure that contamination will not occur. 'Also,' he continued, 'the burial trenches for the radioactive waste are shallow enough (20 feet) that surrounding wells never would be effected.'

Although all those affiliated with the disposal plant investigation agreed that no danger was present, the mayors' committee was told that every emergency procedure has been previously investigated and could be inspected by the public.

Beierle explained that the dump site is not necessarily permanent and that any section or all of the buried deposits could be removed if it were necessary.

Beierle also stated that California Nuclear, Inc. must fill and seed all trenches excavated by that company.

This would eventually remove the remnants of strip mining operations which are presently plaguing the area, it was pointed out.

Stratton of the State Public Health Department emphasized one point which he and the other speakers present deemed grossly distorted.

'This area, presently owned by the Peabody Coal Co. has not been chosen as the location of the California Nuclear Inc. disposal plant,' Stratton said.

McLain added that California Nuclear Inc. is licensed by both the Atomic Energy Commission and the State of Illinois to transport atomic waste in this state. But a disposal plant site definitely cannot be chosen until an extensive report by the State Geological Survey is approved by the State Department of Public Health and the Federal Atomic Energy Commission (AEC).

Stratton stated that approval of such a report is not expected in the near future.

Beierle then purported that the fear aroused by atomic waste is due to its destructive introduction--the atomic bomb.

'Much of the atomic waste handled by out firm contains less radioactivity than a common lamp wick,' Beierle said. 'Anyone could throw such items in a common trash can, but because of strict A.E.C. and State Department of Public Health regulations we must dispose of them in 55-gallon steel barrels.'

Beierle then demonstrated his point by placing a kerosene lamp wick on a Geiger counter. The instrument's needle leaped completely off the scale.

Following the reports of the various guests, Mayor Shutz addressed himself to the committee and members of the audience.

'I believe tonight's meeting has successfully achieved the goal of the Tri-County Municipal Association,' he said, 'to become a source of knowledgeable information.'

'If that's what you want,' he continued, 'this is the place to get it.'"

The Moline Dispatch on 18 June also published the following article:

"TRI-COUNTY ASSOCIATION
RE-ELECTS DR. SHUTZ

ANNAWAN--Dr. D. W. Shutz, Sheffield mayor, was reelected president of the Tri-County Municipal Association during an executive session Thursday night in the Community Center here.

Elected to other offices in the association were Henry Nowers of Annawan, vice president, and Dr. Sidney Marlin of Bradford, secretary.

Elected to the board of directors were Edwin Peterson of Neponset; Emerit Lindbeck of Kewanee, Ronald Edkdahl of Princeton; Calvin Lower of Manlius; Lawrence Coffey of Wyanet, and John Kehler of Walnut.

In other business, the association recommended to officials of California Nuclear, Inc., that a program of public information concerning the operations of the firm be instituted. Fred Beierle, vice president, said he could be contacted through Box 158, Sheffield, for information concerning the firm or for scheduling for public appearances.

California Nuclear, Inc., is considering the purchase of 200 acres of former strip mine land from Peabody Coal Co. here for use partially as a burial site for nuclear waste materials. The site under consideration is in an area west of Sheffield, north of Neponset and east of the Henry-Bureau County line.

Association members also voted Thursday night to schedule the organization's next meeting for Thursday night, July 21, in the Community Center here."

The Star-Courier also carried the following news item on 15 June:

"MAYORS' UNIT RECOMMENDS PROGRAM

The Tri-County Municipal Association recommended in an executive session Thursday night that California Nuclear, Inc., Lafayette, Ind., initiate a public information program for all interested area residents.

Fred P. Beierle, vice president of that corporation, stated that such a service easily could be offered, and that any interested parties may reach him by writing to Box 158, Sheffield.

Following their recommendation, the executive officials elected new officers and directors.

Newly elected officers are: Mayor D. W. Schutz of Sheffield, president; Mayor Nowers of Annawan, vice President; and Mayor Sydney Merlin of Bradford, secretary-treasurer.

Association directors are: Mayor E. F. Lindbeck, Kewanee; Mayor Eckdahl, Princeton; Mayor Petersen, Neponset; Mayor Coffey, Wyanet; Mayor Lyons, Mineral; and Mayor Keleher, Walnut."

The Atkinson-Annawan News, on 24 June, carried the following news item:

"SHEFFIELD MAYOR RE-ELECTED
HEAD TRI-COUNTY GROUP

Dr. D. W. Shutz, Sheffield mayor, was re-elected president of the Tri-County Municipal Association during an executive session last week in the Community Center at Annawan.

Elected to other offices in the association were Henry Nowers of Annawan, vice president, and Dr. Sidney Marlin of Bradford, secretary.

Named to the board of directors were Edwin Peterson of Neponset; Emerit Lindbeck of Kewanee, Ronald Edkdahl of Princeton; Calvin Lower of Manlius; Lawrence Coffey of Wyanet, and John Kehler of Walnut.

In other business, the association recommended to officials of California Nuclear, Inc., that a program of public information concerning the operations of the firm be instituted. Fred Beierle, vice president, said he could be contacted through Box 158, Sheffield, for information concerning the firm or scheduling for public appearances.

California Nuclear, Inc., is considering the purchase of 200 acres of former strip mine land from Peabody Coal Co. for use partially as a burial site for nuclear waste materials. The site under consideration is in an area west of Sheffield, north of Neponset and east of the Henry County-Bureau County line.

Association members also voted to schedule the organization's next meeting for Thursday night, July 21, in the Community Center."

On 1 July 1966 the Atkinson-Annawan News, I believe, published the following article:

"FOR ATOMIC WASTE
DELAY DECISION ON SALE OF SITE

A proposal to sell a tract of land owned by Peabody Coal Co. in Mineral Township for use as a low-level radioactive material burial ground, has been postponed for the time being, Alten Grandt, coal company official, said today.

The land is sought by California Nuclear, Inc., LaFayette, Ind.

Grandt met in St. Louis on Monday with Fred P. Beierle, manager of the Indiana firm. He said Peabody wishes to discuss the proposal further before making a decision.

According to plans of California Nuclear, a $200,000 storage facility would be built on the site. The facility

would be capable of accommodating radio-active waste from industrial plants and laboratories throughout Illinois.

The plant would be subject to state control and officials have assured residents that no danger of radioactivity or other pollution hazards would result from operation of the proposed plant.

The low-level radioactive material is far less penetrating than X-rays, an official of the company pointed out.

Local officials first learned about the proposal when they inquired if Peabody would be interested in selling some property to be used as a dumping ground for several villages in the area. They have since been assured property could be made available for this purpose."

The Star-Courier of Kewanee on 5 July carried an editorial relative to strip mining. This did not refer to California Nuclear in any way but is is included because strip mining was of great interest in the area.

"OUR PAGE OF OPINION

INTEREST IN STRIP MINE STUDY

Henry County residents are following with interest the report of a study of strip mining being undertaken in Knox County.

The chairman of the Knox County Regional Planning and Zoning Commission has labeled regulation of strip mining in that county as the commission's most challenging problem.

Thomas F. Doyle, briefing the Knox County Board of Supervisors on the progress the commission is making, said that the planners are taking every step possible to search avenues of regulation.

'We want to preserve the tax base, property owners' rights and the county's resources,' he told the Board.

In an interview published in The Galesburg Register-Mail, Doyle told a reporter that 80 per cent of Knox County land contains coal, according to a geological survey by the State of Illinois.

Mining companies own a fair portion of land in the county and residents have seen the results of extensive strip mining, according to Doyle.

'None of us want to see deterioration of land similar to that which has occurred in Fulton County,' he reported. 'Most farmland has been handed down in each family like a piece of fine china.'

Regulation of mining operations is no easy problem.

About a decade ago, the Knox supervisors made that discovery when the Supreme Court ruled the county could not outlaw strip mining.

Henry County has found a way to slow down the in-roads, chiefly through the placement of covenants on the land, prohibiting sale for mining purposes.

We hear that Knox County now is checking the possibility of joining with other counties facing the problem in an attempt to secure effective legislation on state or federal levels.

Another possibility is to demand reasonable reclamation from the mining companies after they have stripped the land.

The Star-Courier has long fought irresponsible strip mining and we have said repeatedly in editorials that we would lift our objections if the companies would return some of the rich topsoil after completing work instead of leaving mountainous slag heaps.

We believe Henry County officials will cooperate with Knox County in this study. And from the reports coming out of Fulton County, we understand there is growing concern about mining there, too.

We hope all of these counties can get together for a united approach to this serious problem."

Then on 6 July 1966 a notice in the Star-Courier of the option taken by California Nuclear was published. This land was adjacent to a part of the stripped area but it was not directly adjacent to the dump previously proposed by California Nuclear for the site.

"CALIFORNIA NUCLEAR INC.
TAKES OPTION ON LAND

Sheffield--California Nuclear Inc., which failed in its efforts to obtain part of the strip-mine land in Mineral Township as a place to store 'low level radioactive waste,' has taken an option on 66.67 acres near Sheffield and has filed a building permit to construct two metal buildings on the property.

The land has been optioned from George Ellis of Sheffield and lies near Sheffield in Mineral Township. The application was filed with the Bureau County zoning enforcing office. The buildings would be 40 by 60 feet and cost was estimated at $60,000.

The Peabody Coal Company indicated it was not interested in selling some 200 acres of its 5,800 acre site in Mineral Township, forcing California Nuclear to look elsewhere.

July 29 has been set for a public meeting in the Sheffield-Mineral area on the request for a building permit.

In the meantime, California Nuclear has established an office on Main Street in Sheffield with Fred P. Beierle as manager."

On 8 July the Republican-Times of Ottawa published the following news item:

"PLAN RADIOACTIVE WASTE
SITE IN BUREAU COUNTY
By Ray Serati
Copley News Service

SPRINGFIELD--The final approval of a radioactive waste materials dump site in Bureau County is pending by Dr. Franklin Yoder, head of Illinois' Public Health Department.

The proposed site is in the Sheffield area in western Bureau County. California Nuclear Corp. has signed an agreement with the Illinois Public Health Department to manage the site.

Earlier the company had proposed a site near Dresden. However, the proposed site was turned down. State officials said it was scrubbed because there was too great of a possibility of groundwater contamination.

So the company started on another search. This meant getting more geological surveys and other reports on proposed areas.

Dr. Yoder told Copley News Service, 'This new proposed site must still be approved by me, as director of the department,' Yoder and his staff are checking all reports on the proposed site.

Health officials have said there has been a considerable amount of interest by industries involved in nuclear or radioactive work for the site. Such a site in Illinois could be used by all of the states in the midwest.

Kentucky and New York have such sites. Both states report a heavy usage in the storage sites.

Presently Illinois firms and institutions now dispose of their radioactive wastes by either hiring common carriers to haul it out of the state or they wait for the materials to decay and then flush them down a sewer or bury them.

The proposed site would be operated under regulations of the Atomic Energy Commission. The site will also come under regulations of Illinois' radioactive waste disposal laws.

The area would be some 100 acres. It will also be accessible by industries.

The Atomic Energy Commission is considering the issuance of an amendment to the waste handling license held by California Nuclear Inc. to permit storage of low level radioactive waste material at its facility near Lockport in Will County."

Then on 12 July the Star-Courier published a letter signed by two members of the League of Women Voters. Soon after the publication of the letter written by Mrs. Schwabe, I had driven to Kewanee and called on her. We talked about an hour and I left her a copy of our proposal to the State of Illinois, as noted above. Later when I picked up the proposal I talked to Mrs. Schwabe again for perhaps an hour.

"LETTERS TO THE EDITOR

Dear Sir:

On June 15, 1966, you published a letter sent in by the Kewanee League of Women Voters raising some questions concerning the proposed plant California Nuclear, Inc. was planning to establish in the area, with particular concern about taxes and land use. Since then, we have conducted much research on this operation. Two of our representatives were guests of the Kiwanis Club when Mr. Beierle, Vice-president of California Nuclear, Inc., spoke and we were able to talk with him personally to clear up some points about which we were unsure. We interviewed Mr. Stuart McLain, President of the company, during which we were privileged to examine the brief which the company submitted to the Atomic Energy Commission and the State of Illinois when they won the contract for radioactive waste disposal in Illinois. We have read widely on the operations and the problems of disposal of radio-active waste.

From our investigations we have ascertained these facts:

1. Under the strict control exercised by the Atomic Energy Commission, the State of Illinois, and the company, itself, there is a minimum amount of danger of contamination to persons, to land, and to water.

2. California Nuclear, Inc. is an organization able and willing to assume their full responsibility. The company is owned and operated by reputable, educated men of integrity, highly trained for the service they give.

3. The whole operation is a small one which at the start will probably employ only three persons; Mr. Beierle, who will conduct and supervise the service, a secretary, and

a truck driver who will transport the sealed containers from the firm which has accumulated the waste to the tract of land where they will be buried. California Nuclear, Inc. proposes to purchase 200 acres of the 5900 acres of strip-mined land in Bureau County owned by the Peabody Coal Company. If Peabody Coal Company agrees to sell this land to them, 100 acres of this tract will be given to the State of Illinois; 100 acres will be reserved by California Nuclear, Inc. for their plant operations. The state land will be tax-free but California Nuclear, Inc. will pay to the state five cents per cubic foot of waste buried in the 100 acres and when the plant is in full operation this could amount to as much as $10,000 per year; this is paid into the state perpetual fund. California Nuclear, Inc. will pay both real and personal property taxes to Bureau County on the 100 acres they retain in the company's name.

The 100 acres which will be given to the State of Illinois will be used for the burial of the waste and will be supervised by the state. This land will be completely fenced with a high chain-link fence topped with barbed wire and it will be closed to trespassers by locked gates. Approximately one acre per year will be used for waste burial; this land is then leveled and seeded. Since it is inaccessible to trespassers, it can serve as cover for the breeding of pheasant and other game birds.

4. The type of radio-active waste to be buried in the proposed area is low-level waste collected from hospitals, universities, and industries. California Nuclear, Inc. chose the Bureau County location because the strip-mined earth (it can hardly be called soil in its present state) is largely shale, which absorbs and retains radio-activity until it dissipates and because this area is in the center of the company's activities. At the latest report, Peabody Coal Company was delaying their decision to sell to California Nuclear, Inc. because of the unfavorable reaction of area residents. We feel we should be more concerned about what happens to the other 5700 acres of strip-mined land which has not been reclaimed; at least, California Nuclear, Inc. would be making their 200 acres less of an eye-sore on our local landscape. Perhaps, other industrial firms could be interested in establishing operations in the area; then the land would at least be levelled and put to a worthwhile use which will bring profit to Bureau and surrounding counties. We hope to see this whole area improved and made useful again either as reclaimed agricultural land or as an industrial center which will bring profit to the counties affected.

Yours truly,
Mrs. Lenna W. Schwabe
Chairman
Strip-mining Committee
Mrs. Paul Binder
President LWV"

The Atkinson-Annawan News published a short article on 15 July relative to the land:

"BY CALIFORNIA NUCLEAR
PLAN SHEFFIELD SITE FOR 'WASTE'

California Nuclear, Inc., has taken an option on 66.67 acres near Sheffield as an area to store 'low level radioactive waste,' it was learned this week. The company apparently failed in efforts to obtain part of a strip-mined area in Mineral Township from Peabody Coal Co.

California Nuclear optioned the land from George Ellis, Sheffield, and the acreage is near Sheffield in Mineral Township. The company has filed a building permit to construct two metal buildings on the property, both 40x60 feet, with an estimated cost of $60,000.

A public meeting will be held July 29 on the request for a building permit. California Nuclear has presently established an office in Sheffield. Fred P. Beierle is manager."

And the Moline Dispatch published an article on 15 July, also on zoning:

"SET HEARING ON PROPOSAL
TO ZONE ATOMIC WASTE SITE

ANNAWAN--A public hearing will be held at 7:30 Friday night, July 29, in the Mineral Fire Hall regarding the proposal to rezone 66.67 acres of land in Mineral Twp. for use as a low-level radioactive waste burial ground.

The request for the hearing was made by the California Nuclear Co., which has filed a building permit request to construct two metal buildings valued at $60,000 on the property. They asked to have the site rezoned from agricultural to light industrial.

Fred P. Beierle, manager of the office for the company in Sheffield, who has set an informational meeting for 8 p.m., July 22, in the Mineral Fire Hall, reports that the firm has options on the land from George Ellis of Sheffield. The site is 3 miles southwest of the village. A portion of the site is former strip mine land.

Beierle said that tests have been completed on the land and the state has verbally approved the location for the nuclear waste site. He said that it is an 'excellent' location because there are no problems with the water supply.

He said that the portion to be used as a burial site will be leased to the state and the rest will be used for other company work.

If the rezoning is successful, the firm hopes to have construction of the two buildings started within 30 days.

The buildings will house an office, a maintenance area, laundry facilities, a place for instrument calibration and a storage area.

The firm also plans to allocate space for a permanent office site to do radio analysis on humans, Beierle said.

The firm had considered leasing property from the Peabody Coal Co. which owns more than 5,000 acres in the area."

And on 22 July the Atkinson-Annawan News also published an article relative to the hearing.

"FOR RADIOACTIVE WASTE
REZONING HEARING SLATED JULY 29

A public hearing will be held at 7:30 Friday night, July 29, in the Mineral Fire Hall regarding the proposal to rezone 66.67 acres of land in Mineral Twp. for use as a low-level radioactive waste burial ground.

Request for the hearing was made by California Nuclear Co., which has filed a building permit request to construct two metal buildings valued at $60,000 on the property. They asked to have the site rezoned from agricultural to light industrial.

Fred P. Beierle, manager of the office for the company in Sheffield, who has set an informational meeting for 8 p.m. tonight in the Mineral Fire Hall, reports the firm has options on the land from George Ellis of Sheffield. The site is three miles southwest of the village. A portion of the site is former strip mine land.

Beierle said tests have been completed on the land and the state has verbally approved the location for the nuclear waste site. He said that it is an 'excellent' location because there are no problems with the water supply.

He said the portion to be used as a burial site will be leased to the state and the rest will be used for other company work.

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The buildings will house an office, a maintenance area, instrument calibration and a storage area.

The firm also plans to allocate space for a permanent office site to do radio analysis on humans, Beierle said.

The firm had considered leasing property from the Peabody Coal Co., which owns more than 5,000 acres in the area."

On 23 July the Star-Courier printed the following news item:

"SPEAKS ON WASTE PROPOSAL
By Tom Mattausch
(Star-Courier Staff Writer)

'This area has all the potential to attract industry and grow--that is, if it wants to grow.

These were the words of Fred Beierle, vice president of California Nuclear Inc. and resident manager of that company in Mineral Township.

Beierle, who now maintains an office in Sheffield to distribute information concerning the proposed nuclear disposal plant south of Mineral, spoke before interested residents of Mineral Friday night at a public meeting in the town fire station.

Restating much information that he has presented in other area meetings, Beierle said that there is no other location in Illinois so well suited for the disposal of nuclear waste as the proposed site.

Beierle's appearance was part of an attempt by Mineral town officials and California Nuclear to further explain the significance and implications of the plant prior to a public rezoning hearing next Friday night. The hearing will decide whether the land designated for the plant should be reclassified to permit disposal and storage of nuclear waste.

Beierle emphasized two major points which have been the basis of all information released by California Nuclear thus far: (1) the radioactive waste which will be disposed at the site will be of very low grade and (2) contamination of the surrounding area is so unlikely because of the nature of the project and strict federal, state, and local regulations that it ceases to be a problem.

Beierle conpleted his informal discussion within an hour using such visual aids as a radium dialed alarm clock and a lamp mantle to illustrate the high level of radioactivity in common objects.

He also quoted liberally from the Atomic Energy Commission (AEC) news release in an attempt to reveal the expanding and beneficial uses of atomic energy.

The resident manager consistently returned to his major point, explaining that Mineral Township and the surrounding area offer the benefits of schools, excellent roads, rail transportation, room for expansion, and most important--well suited geological conditions.

'No effort would be needed to bring nuclear industry to this area if the people show an interest,' Beierle said. 'Even if you do nothing, it will come.'

Leroy Stratton, sanitary engineer for the Illinois Department of Public Health, presented a more detailed picture of California Nuclear's safety and financial obligations to the state during a question period following Beierle's presentation.

Stratton added that organizations such as the Tri-County Municipal Association were vivid indications of the area intellectual and community spirit. 'This is another favorable point considered in the proposition of Mineral Township for the disposal plant location,' he said."

And on 25 and 26 July the Star-Courier published the following news items:

"SEEK LAND FOR GARBAGE

Annawan--John Morris, candidate for state representative from Morris was the principal speaker at a meeting of the Mayors' Association held in Annawan Thursday night. Morris spoke on Housing for the Elderly and also discussed the importance of an Industrial Brochure to aid the industrial growth of small towns.

It was also brought out that seven towns in the area are negotiating with Midland Electric Coal Company for land for a sanitary land-fill for garbage. The seven towns that would be using the area are Buda, Wyanet, Manlius, Neponset, Annawan, Mineral and Sheffield.

The mayors decided not to meet in August because of the Sheffield Homecoming and the Bureau County Fair. The next meeting will be Sept. 15 and will be held in Princeton."

"NUCLEAR FIRM OFFICIAL
IS SPEAKER AT MEETING

Annawan--Fred Beierly, officer of California Nuclear Co., was introduced by Ed Parks as speaker of the evening for the Annawan Kiwanis Club Monday evening in the Community Center.

Beierly spoke on the establishment of a nuclear waste disposal operation to be located near Sheffield.

He indicated that because the Atomic era was introduced by means of the Atomic bomb, the general public has been fearful where ever nuclear products or waste are involved and that information and education are vitally important before the establishment of such an operation as they plan.

Beierly indicated that California Nuclear Co. is in Illinois at the specific request of the Illinois State officials. The purpose is to establish a service facility for disposals that are used within the state.

In the year 1960, the Atomic Energy Commission formulated very strict policies for disposal of nuclear waste and that the California Nuclear operated in accordance with that policy.

In order to insure proper disposal, all private agencies such as the California Nuclear are policed by the Atomic Energy Commission.

Beierly further said that most waste handled by the California firm is of very low yield and often, he admits, contain no more radioactive materials than the illuminous dial of an alarm clock or ordinary wrist watches. All such material is carefully stored in steel containers and buried at least 20 feet under.

With increasing use of atomic energy in such things as medicines, certain forms of electricity and various industries, there is an increasing need for facilities such as the California Nuclear.

Those in charge of the meal were Mrs. Dean Larson, chairman, Mrs. William Coe, Mrs. Wayne Sampson and Lizzie Williams.

Next week Lt. Governor Arthur Quaife will give the highlights of the International convention of Kiwanis International he recently attended.

Those in charge of the meal will be Mrs. Leslie Nelson, chairman, Mrs. Harry Seger, Mrs. Glenn Shaw and Mrs. Bud Brown."

The Moline Dispatch on 30 July 1966 carried the following news item:

"BOARD FAVORS REZONING FOR
ATOMIC WASTE DISPOSAL SITE

Mineral--A request by California Nuclear Co. to have 66.67 acres of land southwest of here rezoned from an agricultural classification to light industry received a

favorable recommendation from the Bureau County Zoning Board of Appeals after a hearing conducted here last night.

The rezoning is asked to permit California Nuclear to establish a low-yield nuclear waste disposal operation. The firm's rezoning request was accompanied by a request for a permit for construction of two buildings at the site, and the board also recommended that this permit be granted.

Both recommendations of the board of appeals will be forwarded to the Bureau County Board of Supervisors for action at its Aug. 8 meeting.

Fred Beierle, area manager for California Nuclear who has established an office at Sheffield, last night explained the proposed operation in response to questions posed by the firm's local attorney, Roger Pearson of Princeton and several of the 50 persons in attendance.

The manager brought out that the land optioned by the firm, located 3 miles southwest of Mineral and owned by George Ellis, was selected because the geology of the soil in the area, with its heavy layers of clay and shale, 'is ideal' in that, as the radioactive waste containers decay, the waste adheres to the clay. The site is one of the best found in the country, and the best in Illinois, Beierle said.

The low-yield radioactive waste to be buried at the site, Beierle said, will be collected from nuclear reactors, hospitals, universities, the Argonne National Laboratory at Chicago, and the Westclox plant at LaSalle. The waste materials will be placed in containers and buried in trenches on that part of the site that will be deeded to the state.

The manager said an acre of land will be used per year to handle the waste collected .

Beierle told his audience that after the containers are buried, the top soil is replaced, the soil is seeded and a chain-link fence is constructed around the area, primarily to keep animals out. He added that in the years to come the state can do what it wants with the burial site, 'even to grazing cattle on it.'

Asked where the company would obtain water needed for its operation, Beierle said from an existing well located 300 feet from the burial trench and from four shallow wells to be drilled in each corner of the site. Water taken from these wells for drinking purposes would be checked weekly, both by the state, which would monitor and check also the soil, vegetation and air in the area, and by the Atomic Energy Commission. The state and AEC checks could be made independent of one another, he said.

He noted also that the entire operation is subject to rules and regulations of both the AEC and the state Board of Health.

Beierle said he would be in charge of the local operation, under a license issued by the AEC. He noted also that the operation would employ 12 persons initially, and about 30 when fully operational. The jobs available would be those of mechanics, machine operators, janitors, etc. Highly-trained personnel, he said, would not be required.

Beierle said the company carries insurance policies of $500,000 and $1 million to cover any actions of a nuclear nature.

The manager was asked if he believed the atomic waste disposal operation would attract other industries to the area, and he answered in the affirmative. He said a disposal facility would be a main consideration for any nuclear industry. Some types of industries that might be attracted to this location, he said, would be isotope packaging firms, nuclear fuel processing stations and tube manufacturing plants.

Beierle was questioned from the floor last night by Joseph Brennan of Washington, D. C., a representative of the United Mine Workers, who was accompanied to the hearing by John Howerton, representing the National Coal Mine Operator's Association.

Brennan said he was representing several UAW members residing in the area involved, and was acting on information that the site was not wanted here. He said the UAW has a vested interest in nuclear power, because nuclear reactors put coal miners out of work.

His line of questioning, and right to question, were challenged by Atty. Pearson, and in response Brennan said he 'just wanted to get some facts before the people in the county and the board.'

Howerton said he was interested in these proceedings because a member of his association owns land in the area.

Atty. Pearson noted that the requests under consideration by the zoning board involved only change in classification for the tract and a request for the special use permit, not the site itself. He said as far as locating an atomic waste burial site here was concerned, the state has the power to condemn the property and take it.

The hearing was conducted by board of appeals chairman, Tom Seidel of Princeton. Others on the board include Mrs. Peggy Gossett, Princeton, secretary; and members Leonard Hansen, Tampico; Dale Doran, Ohio, Ill., John Bartoli, Arlington, and Harold Johnson of Buda."

On 31 July the Peoria Journal published a long article with pictures of the whole body counter and unloading the Argonne wastes at Hanford and a map of the site area.

"CARE ASSURED IN BURYING
ATOM WASTE AT SHEFFIELD
By Mike Hayes
Staff Writer

SHEFFIELD--If you run an atomic laboratory you don't just wrap up your waste in a newspaper and toss it in the garbage can.

Because of the threat of contamination, you dump your old test tubes, work clothes, rags, dead lab animals and such in plastic bags, put the bags in steel barrels, weld the barrels shut and look for a place to bury them.

The California Nuclear Co. of LaFayette, Ind., which is in the nuclear garbage business, thinks it has found such a burial site near Sheffield in southwest Bureau County, about 15 miles northeast of Kewanee.

California Nuclear was granted a zoning change Friday night by the Bureau County Zoning Board on 67 acres of land owned by George Ellis. On Aug. 9 the Bureau County Board of Supervisors, will vote on the recommendations of the zoning board and if it passes, California Nuclear will begin work immediately.

The 67-acre site lies about two miles southwest of here, surrounded by several hundred acres of Midland Electric Co. strip mines.

California Nuclear, a three-year-old firm, is licensed by the Atomic Energy Commission to store and dispose of nuclear wastes. Its president is Dr. Stuart McLain, professor of nuclear engineering at Purdue University.

In charge of the Sheffield operation is CNC Vice President Frederich B. Beierle, a mechanical engineer who helped start a sodium reactor at Hallam, Neb., has instructed workers at the Elk River reactor of the Rural Cooperative Power Assn., and served as a reactor technician for the General Electric Co.

CNC already has a contract to dispose of low-level waste from the Argonne National Laboratory of Chicago at a CNC burial site at Richland.

Two miles southwest of Sheffield, among hundreds of acres of strip mine land, is the proposed site of California Nuclear Corp.'s nuclear waste burial grounds.

Only low-level wastes can be buried at Sheffield. Though such wastes are not dangerous, Beierle said, the law says they must be buried.

Low-level materials include such items as test tubes, sweeping compound, dead animals used in laboratory tests, dried blood, clothing, rags, brooms and laboratory instruments.

Such wastes also come from hospitals, universities, medical clinics and testing laboratories.

Beierle said some of the materials which would be buried here are less radioactive than the radium dial of a wristwatch.

Low level wastes differ from high level radioactive wastes in that they are not subjected to nuclear reaction, such as uranium 235 and plutonium up until burial is feasible.

A usual shipment would be packaged in 55-gallon drums with the actual wastes packaged in plastic bags inside the drums. Some very low level waste--such as floor sweepings--are packaged in bags, and then placed in cardboard containers, Beierle said these items lose their radioactivity within eight days.

The materials are packaged by special employes at the place they become contaminated. CNC representatives help if needed.

The wastes are hauled by truck to the burial site, under close scrutiny of the Interstate Commerce Commission, which must be convinced there is no danger of radiation before it will approve their being transported.

Under law, California Nuclear has a year to dispose of the containers, and at Sheffield the firm will build storage buildings to house the accumulation of containers which pile up until burial is feasible.

Actual burial will be done in trenches 300 feet long, 20 feet deep and 40 feet wide. Then AEC regulations say the containers must be covered over by at least four feet of soil to prevent any danger at the surface.

Nuclear burial grounds can never be retrieved for residential use, but they can be used for recreation. Rehabilitation begins before the soil dries over the waste beneath, as the soil is seeded in grass as soon as the waste is buried.

California Nuclear turned to Illinois for a burial site because of its Argonne laboratory contract, the existence of the Dresden atomic power plant near Joliet and the likelihood other atomic installations will be located in the state, Beierle said.

Transportation also was a factor, Beierle said the Argonne Laboratory can have its materials hauled and buried near Sheffield for what it cost to haul them to Washington. CNC charges 80 cents a cubic foot to bury atomic waste.

The Ellis farm was chosen after the Peabody Coal Co. turned CNC down on a bid to purchase 200 acres of strip mine property near Mineral.

Although covering only 67 acres, the Ellis land is large enough, Beierle said. CNC will use about an acre a year for burial operations, and plans to give the state 20 acres of the land for use as a landfill garbage dump for surrounding communities.

If final approval of the rezoning comes, CNC will exercise its option to buy the Ellis land, but will never actually gain title to it.

The firm must turn its deed over to the state which in turn leases the land back to CNC at no charge. This provides for the possibility the firm could lose its license or decide to relocate. The state must assume perpetual care of the land.

The process of finding the right place to bury atomic wastes is long and difficult. It involves an exhaustive study of all the open area in the state. CNC works with the State Geological Survey in conducting tests of the soil and subsurface.

The Geological Survey, only an assisting agency, has no regulatory powers. In this instance, it works directly with the Department of Public Health, which actually supervises the entire study and tests by CNC.

Sample drillings taken by CNC and examined by the Geological Survey, tell whether the area is acceptable for such an operation.

Dr. R. E. Bergstrom, geological survey geologist who is working closely with CNC, said: 'The Sheffield area seems very promising.'

He said test borings proved that the Sheffield site is composed of: 50 feet of glacial materials; 20 feet of ice-laid materials (bedrock); several feet of sand; Pennsylvania rocks (called coal-bearing rocks); and many feet of shale and limestone.

Shale and limestone are best for burial grounds because they are tightly composed and prevent rapid seepage. If radioactive wastes escape their containers such rocks trap them and prevent them from entering underground water.

Dr. Bergstrom said CNC made several core drillings two weeks ago and more extensive ones last week. He said CNC drilled 500 feet deep to determine the character of rocks.

He reported there are no underground streams in the area, so nearby towns have nothing to fear in case of radioactive leakage.

Beierle said the Sheffield land is exactly like the land on a burial site at Morehead, Ky. He said tests have proven that water travels only one half inch per year because the subsurface is so tightly packed at Morehead.

Dr. Bergstrom said the burial site would not affect the wells and streams of the county, Kewanee, Buda and Neponset have deep wells, so their water would not be affected.

The water situation is one of the primary concerns of the Department of Health, the AEC and the company itself. Extreme safeguards are taken by these agencies to see that

no wastes can possibly contaminate the wells and they prove no hazard to the public.

Before construction begins CNC will dig a well at each corner of the site from which water will be drawn for periodic tests against contamination.

Besides CNC, the State Dept. of Health and the AEC also conduct such tests regularly and no license for the operation is ever issued until the regulatory agencies are satisfied with the conditions at the site and the firm's safety precautions.

CNC got the nuclear burial job in 1964 when it was chosen by the state over 31 other firms which had been asked to bid on setting up a dump in Illinois. The legislature in 1963 had passed a law authorizing the state to lease land for such a purpose and assume perpetual control of it.

There are 14 other nuclear disposal companies in the United States, but only three have their own burial sites. The remaining dozen simply deliver the packaged materials to the three sites and pay a fee to have it buried.

At the June 16 meeting of the Tri-County Municipal Assn., composed of mayors from Bureau, Stark and Henry counties, Beierle and CNC President McLain discussed the proposed Sheffield operation.

McLain said: 'Our operations are safe and regulated quite strenuously.'

Dr. D. W. Schutz, mayor of Sheffield and chairman of the municipal association, said a permanent resolution concerning CNC will be released by the association as soon as it is prepared by its attorney, State Rep. Tobias Barry, Ladd Democrat.

He also added: 'The majority of the people in Sheffield are favorable to California Nuclear.'

Beierle commented: 'This is the most desirable location in the state of Illinois. There are others, however.'"

On 5 August the Atkinson-Annawan News published the following news item:

"BOARD OF APPEALS OK'S NUCLEAR WASTE PLANT

A request by California Nuclear Co. to have 66.67 acres of land rezoned from an agricultural classification to light industrial received a favorable recommendation from the Bureau County Board of Appeals after a hearing in Mineral Fire Hall Friday night.

The rezoning was requested to allow the firm to establish a low-yield nuclear waste disposal operation. The firm's

rezoning request was accompanied by a request for a construction permit of two buildings at the site, and the board also recommended that this permit be granted.

Both recommendations will be forwarded to the Bureau County Board of Supervisors for action at the Aug. 8 meeting.

Fred Beierle, area manager for California Nuclear, explained the proposed operation in response to questions posed by the firm's lawyer, Roger Pearson, of Princeton. Beierle said that the land optioned from George Ellis of Sheffield, was chosen because it is the best geologically and location wise in the state.

The heavy layers of clay and shale, he said, are perfect filters for the nuclear waste to adhere to after the containers have decayed. An acre of land a year is planned to be used for the burial trench and the operation will be supervised by him as he has a license from the federal atomic energy commission to handle an operation of this sort.

Asked where the company would obtain water for its use he replied from the 300 foot well which now exists on the site. This well and four other shallow wells which the company will drill, one on each corner, will be tested periodically by the company, the state, and the federal atomic energy commission as a safeguard to determine if any of the isotopes are filtering into the water. They do adhere to the type of soil found here, however, he said.

He noted that the entire operation is subject to rules and regulations of both the AEC and the State Board of Health.

At the conclusion of Pearson's questions, Tom Seidel, board chairman, asked if there were any persons present who wished to question Beierle and Joseph Brennen, a representative of the United Mine Workers of America and John Howerton, representative of the National Coal Operators Association, both of Washington, D.C., were introduced.

Brennen and Attorney Pearson exchanged some sharp words as the attorney objected to his line of questioning and to the fact that he did not live in the area.

Brennen said he was representing several miners in the area and wanted to point out some pertinent facts to the board and the residents of the area and that if he lived in Mineral Township he would not want a nuclear dump there.

He said the UAW has a vested interest in nuclear reactors because they replace coal fired reactors and 'put miners out of work.'

The sharp exchange of words between Pearson and Brennen followed the latter's question to Beierle on what type of industry might be attracted to the area because of the nuclear dump.

He asked if a fuel reprocessing plant might be established and then if the company would ever handle high active radio active waste. Beierle said 'absolutely not.'

At this point board chairman Siedel approved the attorney's objection and after deliberation with the board, allowed Brennen a brief period to present his views.

Howerton asked a few questions of Beierle and said he was interested because one of the members of his association owned land in the area.

Seidel asked if there were any objectors present and since none appeared the meeting was adjourned for a short deliberation period after which the decision was announced."

The Star-Courier, I think, carried this news item about this same time:

"O.K. PERMIT FOR NUCLEAR
WASTE DISPOSAL PLANT

ANNAWAN--The Bureau County Board of Supervisors voted in favor of issuing a special use permit for the 66.67 acres of land in the county owned by California Nuclear Inc. at the board meeting yesterday afternoon in Princeton.

The recommendation of the zoning board of appeals that the request be granted was presented by Hesbert Moretz, chairman. No objectors were present at the board meeting, and the vote was unanimous to grant the request.

The firm hopes to have a low waste nuclear disposal plant in operation at the site by Sept. 1, according to Fred Beierle, manager.

The site is located 3 miles southwest of Mineral."

About the same time the following news item was published, I believe, in the Star-Courier:

"SPRINGFIELD--A proposed site for a radioactive waste materials dump in western Bureau County is still in the running.

However, no definite action has been taken by the Illinois Public Health Department since the department is currently checking with federal agencies. A department spokesman said relationships with federal officials are to be discussed and checked.

California Nuclear Corp. has signed an agreement with the department to manage the site.

Some tests for the proposed Bureau County site are also being made."

On 9 August the Star-Courier published the following news item:

"SHEFFIELD N-WASTE PROJECT APPROVED

ZONING PROBLEMS PLAGUE BUREAU
BOARD OF SUPERVISORS

NO SOLUTION REACHED AT MONDAY'S MEETING

Princeton--Zoning problems continue to plague the Bureau County Board of Supervisors. About three-quarters of the Monday meeting was devoted to discussion and rehashing a problem which presented itself during the morning session, without any solution being reached.

John Olivero, Peru, attorney for the Village of Dalzell, appeared before the Board with a petition requesting the Board permit the village to retain the title and a half area outside the corporate limits. Dalzell last Oct. 22 zoned the area and immediately posted the ordinance in three local establishments, as required by law, Olivero said.

Spring Valley's ordinance was adopted that same date, but was published in the local newspaper and did not go into effect until Nov. 6, 1965.

The county zoning ordinance was adopted Nov. 8, 1965. The problem was which has precedence. Ladd also has a zoning ordinance and is also seeking the right to zone the one and a half mile area. In certain areas, these overlap.

Olivero pointed out that the statutes can be interpreted in two different ways: That the first to zone, either city, village or county, has precedence over other zoning ordinances; or that as soon as a county adopts a zoning ordinance, it automatically acquires all lands up to all corporate limits.

It was noted that a large trucking service concern had applied to the county for a special use permit to construct a garage on land about one mile from Ladd, but also in the one and one-half mile area surrounding Dalzell. The county zoning committee sent the firm's representative to the Ladd zoning commission, which issued a permit. The Ladd zoning map was on file at the courthouse, it was pointed out, but when Dalzell submitted its zoning map, it was discovered the two mile and a half areas overlapped.

Assistant State's Attorney John Hedrich upheld the decision that the county has precedence over all zoning outside corporate limits. Oren Pomeroy, Jr., supervisor of assessments, said cities and villages must learn to corporate and officials should realize that cities gain revenue from this mile and a half area.

A motion was passed authorizing the county zoning

commission and the county planning commission to meet with representatives from Seatonville, Spring Valley, Dalzell and Ladd in an effort to reach an amicable agreement.

On recommendation of the zoning board of appeals the supervisors approved several amendments to the county interim zoning ordinance. These pertained to certain areas which are classified other than agriculatural. Under the Commercial Retail district, motels were added as approved construction and under Light and Heavy Industrial, under grain elevators, drier and storage facilities were added.

Following passage of the amendments the board passed an ordinance to rezone from agricultural to large scale development an area north of Princeton, owned by Claude Bailey. Bailey plans to construct a large shopping center and residential area. The property was reclassified as residential and light commercial.

The Board also passed a resolution authorizing a special use permit to be issued to California Nuclear, Inc. for construction of two metal buildings, 60 by 40 feet to dispose of nuclear waste on property formerly owned by George Ellis in Mineral Township near Neponset."

About 8 August the Star-Courier published the following news item:

"MINERAL FAVORS REZONING

'SPIRITED WORDS' MARK DEBATE
FOR WASTE DISPOSAL NEAR MINERAL

By Tom Mattausch
(Star-Courier Staff Writer)

Mineral--Residents of Mineral Township witnessed a spirited exchange of words Friday night during a discussion concerning the proposed atomic waste disposal plant near Mineral.

The verbal battle preceded a unanimous recommendation by the Mineral Township Zoning Board which approved the reclassification of 66 acres of the old Ellis farm land to permit construction of California Nuclear Inc. office and plant facilities.

The recommendation will be presented to the Bureau County Zoning Board of Supervisors on Aug. 8.

Fred Beierle, vice president of California Nuclear, Inc., testified at the public hearing in regard to the plant's operation, maintenance and regulation.

'This area is better suited for our purpose than any other we have investigated,' said Beierle, who also is the

Bureau County resident manager for the nuclear waste corporation.

'Safety is a large factor in our operation,' he continued, 'although I can work with the material for a year and only receive the equivalent of two chest X-rays.'

The hearing maintained a routine atmosphere until the board recognized a representative of the United Mine Workers of America--Joseph P. Brennan of Washington, D.C. Brennan, who reportedly appeared on behalf of a local union member, stated various objections to the Bureau County 'garbage pits' and charged that the 'waste dump' was not in the best interest of Bureau or adjacent counties.

The assistant director of the UMWA marketing and research department conceded, 'The United Mine Workers have a vested interest in atomic power. Everytime a plant goes in, our people lose jobs.'

'But this does not lessen the danger involved with such a project,' Brennan continued. 'The only authoritative view presented to the people of this area so far has been that of California Nuclear Inc. I want to present another view of the situation and urge the board to vote 'no' on this rezoning issue.'

California Nuclear attorney Roger Pierson immediately objected to Brennan's accusations stating, 'Mr. Brennan is not a resident of this area, and as an outsider, has no right to interfere in a matter concerning the people of Bureau County.'

Board chairman Tom Seidel approved the attorney's objection, but after deliberation with the board, allowed Brennan a brief period to present his views.

Although the labor representative formally declined the opportunity, he and Beierle entered into a discussion which verged upon bitter debate.

Brennan admitted that the low waste disposal plant presented little danger, but stated that its existence could promote the development of high grade and 'deadly' nuclear industry in the immediate area.

Beierle cautiously answered questions posed by Brennan, other UMWA representatives, and John Howerton of Washington, D.C., who was present in the interest of the National Coal Association.

The resident manager relied heavily upon the strict local, state and federal regulations in phrasing his answers.

'Any industrial process is dangerous if handled improperly,' Beierle said, adding that the benefits of nuclear power should not be confused with the destructive effects of an atomic bomb.

The California Nuclear attorney again objected to the discussion.

'We are not here to argue something which is not yet a fact,' Pierson interjected. 'The board's purpose tonight is to decide whether or not my client will be allowed to construct buildings on the property in question. This cross examination is out of order,' Pierson concluded.

Chairman Seidel again approved Pierson's objection and called for statements concerning the immediate question.

After a short deliberation, the zoning officials announced that they recommended the reclassification of the California Nuclear Property.

Seidel stated that the definite absence of local objection was a primary factor in the board's decision."

On 11 August the Republican Times of Ottawa published the following article:

"RADIOACTIVE DUMP
SITE STILL PENDING
Copley News Service

Earlier in the year the company had proposed a site near Dresden. But that site was scratched because there was too much of a possibility of groundwater contamination. So another search for a site was started.

There has been a great deal of interest by industries involved in nuclear or radioactive waste for the establishment of a dump site. There are indications that such a site in Illinois could also be used by other midwestern states.

Currently Illinois firms and institutions now dispose of their radioactive wastes by either hiring common carriers to haul it out of the state or they wait for the materials to decay.

The Atomic Energy Commission is considering the issuance of an amendment to the waste handling license held by the company to permit storage of low level radioactive waste material at its facility near Lockport in Will County."

And on 12 August the Atkinson-Annawan News published the following news item:

"DISPOSAL PLANT FOR NUCLEAR
WASTE OKAYED

The Bureau County Board of Supervisors voted in favor of issuing a special permit for 66.67 acres of land in the

county owned by California Nuclear, Inc. at a board meeting Tuesday afternoon in Princeton.

The recommendation of the zoning board of appeals that the request be granted was presented by Hesbert Moretz, chairman.

No objectors were present at the board meeting, and the vote was unanimous to grant the request.

The firm hopes to have a low waste nuclear disposal plant in operation at the site by Sept. 1, according to Fred Beierle, manager.

The site is located three miles southwest of Mineral."

Nuclear Industry published the following notice in September, 1966:

"MIDWEST BURIAL SITE: California Nuclear, Inc. of Lafayette, Ind. applied to the AEC last month for a license to open a burial service for low level radioactive waste at Sheffield in northwestern Illinois. The venture would be the first of its kind in the midwest.

The site is not far from Commonwealth Edison's Dresden nuclear power complex and is only about 40 miles southeast of Cordova, Ill., where Commonwealth will build its big Quad Cities station.

California Nuclear's plan has the backing of the state. For the state-owned land it will lease--30 acres at the outset--the company will pay five cents of the 80 cents it plans to charge per cubic foot of solidified wastes buried.

At its Richland, Wash. burial site, near Hanford, California Nuclear charges 70 cents per cubic foot. Recently, charges at the three other U.S. sites were: Nuclear Fuel Services, at West Valley, N.Y.--80 cents per cubic foot, Nuclear Engineering Co. at Morehead, Ky.--80 cents, Nuclear Engineering at Beatty, Nev.--$1.00."

On 9 November the Star-Courier carried the following news item:

"WOMAN'S CLUB MEMBERS
HEAR OF NUCLEAR PLANT

SHEFFIELD--The Sheffield Woman's Club met at the United Church of Christ (Congregational) parish hall with 30 members and several men as guests. During the business meeting, the club voted a donation of $5 to help defray expenses for the

new brochure on Sheffield which the Sheffield Action Committee now has in circulation.

The club president, Mrs. William Hoenschied, introduced the speaker, Fred Beierle, manager of the Sheffield Nuclear Facility of California Nuclear, Inc. A film shown on the nuclear industry followed the uranium as a raw ore through various processes such as the mining, reactor operation, isotope production and demonstrated various uses of nuclear energy throughout the industry elaborating on the many medical uses.

Beierle discussed the nuclear industry in general and brought out points of interest such as: A demonstration of nuclear radiation detection instruments; How these instruments are used in the nuclear business; A brief explanation of the operation which California Nuclear, Inc., will conduct at the Sheffield site and during a question and answer period, went into more detail, on the geological ages, geology of the site and medical uses for radioisotopes.

A particular point of interest which was brought out was that in the world today, there are approximately 6.6 pounds of radium valued at $300 million dollars.

The social committee chairman, Mrs. Loe Folk and her committee members, Mrs. Charles Geiger, Mrs. William Long, Mrs. Ben Kane, and Mrs. John Sullivan, Sr., served refreshments from a table decorated in a Fall motif."

And the Atkinson-Annawan News, I think, carried the following news item on 25 November, 1966:

"NUCLEAR WASTE
SITE CONSIDERED

The Atomic Energy Commission is considering the issuance of an amendment to the waste handling license held by California Nuclear, Inc., Lafayette, Ind., to permit storage of radioactive waste material at the company's facility near Sheffield.

California Nuclear now holds a license authorizing storage and burial of radioactive waste at its facility in Benton County near Richland, Wash., and storage of radioactive waste at its facility in Lockport Township, Illinois.

Under the proposed amendment, the company also would be authorized to receive and store radioactive wastes at the new facility located in Bureau County, three miles west of Sheffield and about three miles southeast of Mineral.

Typical wastes collected are those generated by hospitals, laboratories and industrial users of radioactive material. The application for the storage facility included a request for burial of waste at this site.

The AEC is continuing its review of the hydrological and geological aspects of the site and is deferring action on the request to bury wastes.

The company would be authorized to store at its facility the following quantities of radioactive materials: 50,000 curies of radioisotopes, 4,000 pounds of the source materials uranium and thorium, and 5,000 grams of special nuclear (fissionable) material.

Special conditions would be included in the license relating to the quantity of fissionable material in packages and to the storage to such packages.

Processing and repackaging of waste materials also would be authorized at the local facility. During transportation the regulations of Interstate Commerce Commission or other agencies having jurisdiction would apply.

The Commission's Division of Materials Licensing has reviewed the application for the storage facility and has concluded that the licensee's facilities, equipment, procedures and personnel are adequate to carry out the proposed operation safely.

Notice of the proposed issuance of the license amendment was published in the Federal Register on Nov. 15."

In December 1966 the Illinois Health Messenger published the following article:

"CHOOSE RADIOACTIVE WASTE SITE

The Illinois Department of Public Health and California Nuclear Inc., have signed a contract for the operation of a radioactive waste materials site near Sheffield in Bureau County.

The contract was negotiated for and signed under authority granted in the Radioactive Wastes Act (1963). Under provisions of the Act, the Public Health Department is charged with making sure that the facility is operated properly.

It is expected that the area will serve as a collection point for radioactive waste material throughout the midwest, which also might provide inducement for nuclear and allied industries to build plants in the state. Heretofore, disposal of such wastes in Illinois has been a cumbersome process. The search for such a disposal site has been underway for several years. Many environmental factors were carefully considered before the selection was made."

Then on 11 January 1967 the Chicago Tribune published the following article:

"STATE HEALTH BODY APPROVES
ATOM DUMPING

Low Level Wastes Can
Be Disposed

By Ronald Kotulak

Illinois's first dumping ground for low level radioactive wastes has been approved by the state department of public health, it was reported yesterday.

The 20-acre site which is located on farm land about 3 miles west of Sheffield in Bureau county, is expected to begin operation within a month pending final approval by the Atomic Energy commission.

Cites 1963 Law

Dr. Franklin Yoder, director of the state public health department, said that under terms of a 1963 state law, the property has been transferred to Illinois to be operated by California Nuclear Inc., of Lafayette, Ind.

The site, which was selected after extensive geological surveys, is about 110 miles west of Chicago. It is two miles south of Interstate 80.

Dr. Yoder said that the reason the property was deeded to the state was to insure Illinois' control over the dumping site and to guarantee maximum safeguards against any radiation hazard.

'No Radiation Danger'

'There is no danger of radiation to the surrounding area because the maximum safety precautions have been taken,' Dr. Yoder said.

The dumping site is expected to serve as a collection point for radioactive waste material from thruout the midwest, Dr. Yoder said. Other commercial dumping sites in the country are located in Washington, Kentucky, Nevada, and New York.

'I feel that this facility will attract new nuclear-related industries to Illinois in addition to serving the present industries and research agencies.'

Benefits Are Told

Dr. Yoder said that the site has already played an important role in attracting a proposed nuclear fuel recover plant to Illinois. The availability of a dumping site was instrumental in the decision made by the General Electric Company to build a 15 million dollar processing plant near Morris, Grundy County, he explained.

New industries which use radioactive material have been handicapped in the past by the high cost of transporting radioactive wastes to approved dumping grounds.

Dr. Yoder said that all material buried on the site will be covered by at least four feet of earth. In addition, the material will be placed in containers and the working area will be completely fenced off.

Monitor on Radiation

To monitor the radiation level in the dumping area, the California company has drilled five wells, one on each corner and the fifth in the middle of the site. The state will take regular readings of the water to determine its radiation level.

The geological surveys indicate that the ground is relatively nonporous and that the water level is 80 feet below the surface.

The site will not be used for dumping spent nuclear fuel, Dr. Yoder explained. It will be used to dispose of gloves, tissues, aprons, rags, and other materials that have received a low grade of radioactive contamination.

Has AEC License

Stuart McLain, president of California Nuclear, Inc. said that the company now has a license from the AEC to store and repackage radioactive wastes on the 20 acre site. Much of this material will be buried as soon as the commission issues the final license, he said.

He said that his company owns 40 more acres adjacent to the approved site and that this property will be deeded to the state if the dumping site is expanded.

Some of the waste material now stored on the site has come from hospitals which use radioactive chemicals, the Commonwealth Edison Company's Dresden nuclear power station, and Argonne National Laboratory.

McLain said he estimates that the site will be used up at the rate of about one acre a year."

c. Sheffield Site

The news items from the local papers in the Sheffield area quoted in the previous section were included for their historical value as an example of the worries of local populations to anything new. Even today in mid 1973 there are many people worried about and opposed to nuclear power plants even though they are considered much safer than large dams. A recent study indicates that nuclear power plants are expected to result in at least 1000 times fewer deaths than oil fired plants.

The following pages continue the story of California Nuclear from the administrative view.

When we could not obtain the land we wanted from Peabody Coal Company, we threatened to use the "right

of eminent domain" which was in the Illinois law. Then the Peabody people read the law and quickly changed their minds. However, we had found that the adjoining farm land had an excellent loess soil and was suitable for use; so we optioned one of these farms. Also Illinois refused to enforce the right of eminent domain in opposition to the Coal Miners' Union.

The Illinois Department of Public Health and the State Geological Survey approved the detailed study of the site. However, later the Federal Geological Survey did not approve the site until long water drawdown tests were made.

On 15 June Dr. Clarence Klassen called and wanted to know more specific information about the objections raised in the local area to the Sheffield site. I told him about the Star-Courier articles and agreed to send him copies of the letters and articles published in the paper. He said he had written Peabody Coal Company and told Peabody that the state was supporting our application.

On 2 July Fred optioned 66.6 acres of land for $300 per acre. Dr. Klassen had agreed that the area was suitable for a radioactive waste disposal site.

Fred stated they were carrying out core drillings on 5 July. He stated the cores would be submitted to the state geologist as soon as possible.

Actually, California Nuclear became the "goat" for development of ideas for locating commercial low level radioactive waste disposal sites. My argument for this is based on the following facts although no one else has ever recorded or even admitted these facts to the best of my knowledge:

a) The sites in Kentucky and Nevada had been selected, I believe, by Oak Ridge people as suitable as burial areas. It appears to me now that the selection was made on the basis of a superficial study of the areas. Whether or not these two sites would have met the criteria finally placed on us for the Illinois site is unknown, but we believe the Kentucky site at least would have been rejected. The selection of the Richland site, I believe, would not have passed the newer criteria. But Hanford was burying wastes "over the fence" literally across the road, and no objection was raised to our site. Anyway, Hanford had disposed of millions of gallons of "intermediate level" liquid wastes by trenching. These wastes are now classed as high level

and are stored. No harm due to discharge of these wastes has ever been noted.

b) The criteria changed as we proceeded to collect data relative to the Illinois site. After everyone seemed to be happy the AEC asked for and required us to test the water wells for "drawdown". This test should have been superfluous because of the tested and reported extremely low permeability of the soils. These tests held us up for months. Had we known that we had to make them, we would have planned and conducted them as soon as we selected the area.

On 6 July 1966 Nate Bassin of the Washington AEC was told of our land purchase. He stated that as soon as the County Board of Supervisors approved the site and our formal application was received they would arrange for a formal hearing and move ahead for approval of the site.

I promptly wrote a letter to the Peabody Coal Company thanking them for their interest and help locally and stating that we would no longer consider their land. Mr. Grandt of the Peabody Company stated by telephone that they would liked to have worked with us but "due to pressure from the Miners' Union" they decided they could do nothing.

On 14 July William Melhorn, a Geologist Consultant from Purdue, Winnie and I visited Bergstrom, Head of Illinois Geological Survey. It was agreed that a core drill to 500 feet would be required in the middle of the proposed site or to the underlying limestone acquifer. Four holes, one at each corner of the burial site, would be required to "hard shale". Permeabilities, porosities, and ion exchange capacity for Mn^{++}, Cl^{-}, Fe^{+++} and Ca^{++} ions and water samples from the surrounding areas should be obtained.

In comment on the above, we proceeded with all the tests. No statement relative to well drawdown tests was made.

We immediately contracted with the Soil Testing Company of Northbrook, Illinois. They proceeded to do the drillings for us. It turned out that the core drilling equipment had to be brought from Montana as none was available in the Midwest. Drilling actually started on 5 July for a depth of 75 feet.

By 5 July word was around that we had optioned land. A few farmers objected until they were assured that no radioactivity would be released to the aquifers. Actually, most farmers and several communities in the Sheffield area

obtain water from small, local, unconnected gravel aquifers which are probably only a few acres to a few square miles in area. Some communities obtain their water from the Silurian limestone at over 500 feet. Over the Silurian are bands of shale and sandstone and at least five coal bands--one 4 ft of high grade coal. Fred immediately requested rezoning of the farm for use as a waste disposal site. He also requested approval of the core drillings.

On 22 July Fred and Leroy Stratton held an "information meeting" in Mineral. In general everyone seemed pleased with what was told them. Then on 25 July Fred met with the Annawan Kiwanis Club.

On 25 July Fred was instructed to try to get a loan from the Sheffield Bank by a mortgage on the building, fence, and portion of the land which was not deeded to the State. The Sheffield Bank was extremely helpful and we obtained loans there and at Princeton.

Because of the uncertainties as to what we would do, our application for a storage license in Illinois was poorly written. So at the end of July Nathan Bassin of the AEC wrote for more detailed and more precise information. By that time we had optioned the farm near Sheffield and had definitely planned what we would do. Beierle had moved to Sheffield. We had planned a storage area at Romeoville but we finally decided this was useless and we dropped the idea. We then made definite building plans for Sheffield.

On 29 July a Rezoning Meeting was held at Mineral. Representatives of the Rock Island Railroad and the coal industry had indicated previously that they were worried about possible contamination of the coal. I attended as did Fred. Fred testified before the Board. He did an excellent job. The only questions raised were by representatives of the United Mine Workers from Washington. They objected to anything favoring nuclear power.

Afterward we talked to a man who owned the farm next to the one we purchased. He stated he would be willing to discuss sale to us whenever we needed more land.

Actually, we had the right of eminent domain. So far as I know, Nuclear Engineering has not bought the land.

As noted elsewhere, we asked for monthly progress reports from the area managers. One of these is presented below since it very dramatically lists the things that must be done to obtain a waste disposal site.

"California Nuclear, Inc.
MONTHLY OPERATIONAL REPORT
for
July, 1966
Sheffield, Illinois

California Nuclear, Inc. was denied purchase of land owned by Peabody Coal Company for radioactive waste disposal site.

Efforts were then put forth in trying to obtain private land. Dr. David Schutz, Mayor of Sheffield, actually located a piece of property, namely, the George T. Ellis farm, and through his personal persuasion, I was able to get this property.

Drilling commenced immediately on test wells to explore the property. The first core was completed July 9th, 1966 and delivered to Dr. Kempton, Illinois State Geological Survey, on July 10, 1966. This core indicated the area was an excellent area and deserved further study. Further coring commenced July 28, 1966. By August 1, 1966, three shallow wells had been cored for testing and cased for future water sampling. We had obtained a depth of approximately 200 ft. in our deep well and had penetrated approximately 40 ft. of hard shale and four veins of coal varying from 5-1/2 to 1-1/2 ft. thick.

In addition, the site was surveyed for topography, all wells located and an area marked to be deeded to the state (Illinois) for burial operations. Further work on the surveying and test drilling is continuing into August.

A very acute public relations program was conducted which included talks at Kiwanis meetings, special on-the-farm, in the cornfield talks with individual farmers and general open public meetings. A question and answer period followed each meeting. These meetings lasted from two to four hours each time. In addition, personal talks and luncheons were held with all important Bureau County officials. Various Chamber of Commerce groups were contacted to explain our operations and to ask their assistance.

All of the foregoing paid off at the rezoning meeting at Mineral, Illinois when the Ellis farm was recommended for rezoning from agriculture to light industrial. In fact, the only opposition came from the United Mine Workers Union who really were objecting to future development of the nuclear industry as a whole.

Again it should be noted that Mayor Schutz played a vital "behind the scene" role in assisting our program.

Routine pickups were conducted to service our customers in the Midwest.

A storage license application was submitted to the AEC for approval of a Sheffield storage site. The burial application should be ready for submission by August 15, 1966.

The County and State officials are ready and willing to assist CNI in required hearings etc. to move the Sheffield site into operation.

Correspondence and phone conversations were carried on with Mr. Carleton, Rock Flats, Colorado re: a contract to dispose of their nuclear waste materials at Hanford, Washington. During my last phone conversation, Mr. Carleton said he was taking my proposal up with his Safety Committee and he also wanted to discuss the matter with the Argonne National Lab. He said he would get back to me the first of August.

I think California Nuclear, Inc. should set as its motto "Production today - - Profits tomorrow".

Fredrick P. Beierle, Manager
Midwest Operations
Vice-President

August 10, 1966"

By the end of July the attitude of the local people had changed to a generally favorable attitude.

Meanwhile, exploratory work proceeded at the proposed burial site. By 1 August the core drillers had reached the fourth bed of coal at 170 ft.

Also in August we talked with Bill Muller re the possibility of a reprocessing plant in the Midwest. Muller had talked to Federman and to Dr. Hammer, as noted above. President of Occidental Petroleum, Dr. Hammer, indicated Occidental was interested in making such an investment. I kept in contact with Eugene Bailey of Commonwealth Edison.

Actually, it was on 9 August that I met Muller. I called on Schumar and Muller was in Schumar's office. Muller was interested in the prospects of fuel manufacture for the nuclear field. I suggested they were bucking their heads against a wall and it would be best to enter through a service company. Both agreed.

As a result Muller offered to help us write the proposal to unite with Nuclear Engineering. This started a long series of contacts that finally led to a suit and out-of-court settlement. The details of this suit are described in a separate section of this report.

On 10 August I picked up soil and core drill samples which I brought to Lafayette for analysis by members of the Purdue staff.

Under date of 16 August I submitted an "Application for Byproduct Material License" to the AEC covering the Sheffield site. This actually requested an amendment to our previous license, 13-10042-1 and -2 and amendments thereto. The complete well logs were included with a letter to the AEC on 31 August 1966. The well was drilled to 300 feet.

During September progress was made on the building and site improvements.

On 19 September I sent Mr. Leroy Stratton of the Illinois Department of Public Health a letter explaining the well test results at the Sheffield site. The static water levels in the test wells were 702, 690, 672, and 692 feet above mean sea level which indicated very low permeability and essentially no interconnections in the aquifers.

On 3 October I signed the agreement with the State of Illinois even though the AEC was still requesting some hydrological data on drawdown tests. We purchased

66.7 acres of land but held it in escrow pending licensing of the site. Twenty acres were deeded to the state in escrow. We proceeded to obtain a storage license even though the burial license had not been approved.

We obtained the Argonne and Dresden contracts. The Argonne contract was for about $120,000 per year.

On the 14th of October we made a serious attempt to straighten out the question of the geology of the Illinois site. The AEC geologist had discussed the subject with Dr. Bergstrom of the Illinois Geologic Survey and he had discussed the subject with Dr. Melhorn of Purdue. It was stated that we had insufficient data on the hydrology. One difficulty appeared to be that the general surface water flow was to the North while the local wells indicated either perched water tables or slope to the South. This was probably caused by the local draw to the Southeast. They requested a more detailed study, including the level in the wells in a mile's radius.

Later we agreed not only to check the water levels in the wells within one mile but to run well drawdown tests locally. This required a lot of work as discussed further below.

On 24 October the following people met at Sheffield to look over the proposed site and determine further action:

Richard Cunningham, AEC Washington
Nathan Basin, AEC Washington
Robert Allen, AEC Oakbrook
Dr. Schutz, Mayor of Sheffield
Ray Breezer, County Board of Supervisors
Eldon Thorp, County Board of Supervisors
Mority Finoli, County Board of Supervisors
--- Palmeroy, County Board of Supervisors
Howard Hoffman, Chairman County Board of Supervisors
Winifred R. McLain
Fredrick P. Beierle, and me.

After an inspection of the site it was agreed that the AEC will issue the storage permit at once but will hold the burial license until the geological report is completed. I had prepared a "History of the Site" and this was distributed to those present.

We drilled another test well to check drawdown (the lowering of the water table by pumping from an adjacent

well). It turned out that this new well as well as the previous ones produced so little water that drawdown tests were meaningless.

On 19 November I received a letter from a labor union complaining about our work at Sheffield. I contacted a Mr. George Herbolsheimer who agreed to act as out lawyer in Sheffield. He agreed to talk to the labor union. I heard nothing further. Fred and Bill and I think one or two others at Sheffield belonged to the truck drivers union. I think this fact ended further discussions.

One thing we did in Illinois was to operate a regular landfill operation near our waste disposal site. This was done at the request of the area towns. We had a man at the site and we covered the wastes daily. Consequently we had to charge reasonable rates. Some of the towns objected and soon withdrew. We always assumed they went back to open dumping.

Early in December we received a license to store wastes at Sheffield pending completion of the geology studies. So we started accepting wastes, including the Dresden resins and large volumes of magnesium thorium alloys. Also we received three small decontamination jobs at hospitals and the University of Illinois.

In December we got the deed for the land to be turned over to the State of Illinois and various mortgages etc on the buildings straightened out. In addition our income in the East equaled our expenses.

d. Dresden Resins

As noted previously, we had measured the activity of the Dresden I Reactor resins as 5 to 8 r at contact. This measurement was lower than Commonwealth Edison's but on the request for bid they apparently used our measurement with the estimated decay as they requested a bid on 5,000 cubic feet of resins at 4 r per hour at contact. The computed concrete shielding thickness was originally 22 inches.

On this contract we got into the initial argument relative to solidification. Here again we led the way for others. It was and is my contention that resins and sludges which are transported in reinforced concrete casks need not be solidified within the concrete casks. I believe that the danger of breaking open the concrete cask and

spillage of the wastes is low and solidification negligibly decreases the hazard. My argument runs that the cask will withstand any normal type transportation accident such as a collision or truck tip over. Further, solidification increases the volumes that must be shipped and the increased numbers of shipments increase the relative hazard as much as this hazard is decreased by solidification. Also the solidification itself results in extra human exposure so that I believe the total insult to the integrated human gene load is increased. An outer steel recoverable shell would be more to the point in my opinion.

But Eugene Bailey, Administrative Engineer of Commonwealth Edison, and one of my closest friends, believed the resins should be solidified. So we bid on solidification. We bid far too low as we should have had a greater profit.

There were some 5,000 cubic feet of resins and 2,000 cubic feet of sludge to be solidified and transported in concrete casks from Dresden to the Sheffield site.

On 6 July I sent a formal bid to Commonwealth Edison to remove the resins and sludge at Dresden for $99,900. Then on 10 August 1966 Wandke asked for new bids on the basis of shipping the solidified resins to West Valley, New York. In my Journal I noted this followed by: "They are crazy. I suppose LaGrua will get the job."

On 25 August I talked to Hoyt and Zitek relative to the proper method to handle the Dresden resins. They had not heard that we had been awarded the contract.

Later I drove to Chicago and talked to Bailey. He wanted us to have Craig Cain try different resin—Portland cement mixes in order to obtain an ultimate compressive strength of 500 to 1,000 psi. It should be noted that this was the first nuclear power plant that used resins that were ever disposed of; so we were developing ideas. It has become standard practice to add a solidification agent and solidify the resins as rapidly as they are rejected in the power plants.

Bailey and I agreed to a 28 day holdup for cement setting before shipment to Sheffield.

By the end of August Fred Beierle had designed the equipment to solidify the Dresden wastes and was supervising the construction at his brother's shop in Sunnyside, Washington. Chicago Flyash was making up samples of cement-lime-resins to obtain the optimum formula.

It turned out that the strength of the cement-lime-resin mix was very low as the mix did not bind to the resins. Our proposal did not state that we would guarantee any strength but rather the proposal simply met Commonwealth's request that the mix be used. We later agreed to continue the work on different mixes but this required Commonwealth to extend the contract which they did. Craig Cain helped by carrying out repeated experiments. However, we never could guarantee high strength.

On 25 September we applied to the AEC for a permit to package the Dresden resins at 35 curies per cask. This measurement was based on our measurements of the radioactivity of the bulk resins. Actually we packaged the resins in concrete containers with about 63 cuft per container. As noted, Chicago Flyash made the containers, we lined most of them with thin plastic, filled them as discussed later, shipped them to Sheffield, and buried them.

The Interstate Commerce Commission's Section of Explosives and Other Dangerous Articles requested specific information concerning the radioisotopes in the resins. I had only some data obtained on the Experimental Boiling Water Reactor at Argonne. These data indicated that the corrosion rate of the stainless steel is the order of 0.0001 in. per year but at this rate Dresden I produces 100 to 200 lbs of corrosion products per year. Ni^{63} has an 80 year half life but no gamma. Co^{60} is the most significant radioisotope and calculations of the shielding were based on the assumption of 100% Co^{60}. We estimated the activity would be about 25 curies per cask.

In October Norman Wandke raised the question of title to the wastes. We had stated that we took title at the loading dock and turned the title over to the State of Illinois on burial. I believe the State of Illinois wrote to Wandke about this as I never heard more of it.

On 20 October I talked at length to Eugene Bailey re the resins and the Illinois site. He also reemphasized his interest in a reprocessing plant and suggested we work with National Lead, as noted earlier. Actually National Lead never showed interest at the corporate level. When I stated we were working with Ashland and Humble, Gene indicated interest. I believe both refused to do more than talk due to Muller.

Returning to the Dresden resins, we ran drop tests on one of the concrete casks. No difficulties were encountered. I'm not sure that the cask which was tested

was properly loaded. Anyway we sent a copy of the report to Mr. William K. Byrd, Chief Section of Explosives and Other Dangerous Materials of the Interstate Commerce Commission on 25 October 1966. We requested approval on the basis of 35 curies per cask. Also on 25 October we applied to the AEC for a permit to process the Dresden resins. By mid November we were packaging wastes, but they were 10 times as active as called for in our contract with Commonwealth but we were never able to get Commonwealth to open the contract. The increased radioactivity was apparently due to a discharge to the waste tank just before we started the packaging job. We know that a large amount of resins and other materials were dumped into the tank within a few days prior to our starting to load the resins. While this caused us to lose all our expected profit, we did not complain to Commonwealth other than to try to get them to raise the contract price. We should have walked out and let them sue us.

On 20 November one of the men crushed the ends of his fingers on one hand. Luckily I don't think it was necessary to amputate and he recovered. The men worked from 7 A.M. until 9 P.M. seven days per week.

On 21 November I reported to the Atomic Energy Commission that the Dresden wastes were running about 10 times our earlier determination. Nathan Bassin reported we could not exceed 35 curies per container.

At this time we were having trouble with leaking containers. These were made by Continental Concrete Pipe which was owned by the same people as Chicago Flyash. The leakage consisted of a pint or so of water from the concrete before the concrete had time to set. Actually we stopped work for a time. Craig Cain tried to add a 1.5 in. liner.

In mid December the group was working at Dresden when we had a sudden change in temperature. In a few hours the temperature dropped from 45 to -18 F and this was accompanied by a high wind. It was essential to shut down and this was done. The Commonwealth Edison people agreed as there was enough space by then in their tanks to keep Dresden I going for a year or more.

Meanwhile we had applied for a storage license at Sheffield and this was obtained in December. However, we left the casks in an open fenced area at Dresden. A couple of these froze apparently fast enough in the below zero weather that some ice was formed and these casks leaked when warm weather occurred, as discussed below. Some two quarts of water each leaked on the ground. We believed

this carried near zero radioactivity. But in the final cleanup this storage area was found to have high background. After we hauled out a couple of truckloads of dirt, we called a halt. Examination of the records of the background when Dresden I was built indicated this area had a high background and we had added no measurable radioactivity. This happened in May 1968.

Actual counts were up to 40,000 to 60,000 per minute. This is not excessive for the North Central Illinois area in which drinking water at one place is above AEC's maximum tolerance level.

At the end of this campaign Fred and his brother rebuilt the packaging equipment, we obtained plastic liners and Continental made improved casks in 1967. Early in December we received the storage license for Illinois and soon trucked the casks already filled to the Illinois site.

In February I tried to get Commonwealth to open the contract and raise the price to us. Bailey helped but we did not succeed. Actually Bailey told us to up our bid a lot and that Wandke would faint. However, Bailey did not push our bid through. Had he succeeded we could have remained independent as California Nuclear. Anyway, we proceeded with the job in the Spring of 1967 under the old contract.

It may be of interest to note that at this time I was trying to hire Mr. Clifford Zitek, Assistant Superintendent at Dresden, to go to India to assist in startup of the Tarapur Power Plant. Actually, Commonwealth loaned Cliff to McLain Associates for a couple of weeks and he did go to Bombay and the Tarapur Plant with Dr. Joseph Thie as consultants to McLain Associates. They did an excellent job of starting the Tarapur Reactors. We still (1973) have an agreement with Commonwealth to borrow Cliff as a consultant to Nuclear Management.

On 11 April I wrote Norman Wandke of Commonwealth, stating we would repackage the cracked casks in larger containers and ship these to West Valley and that we would begin packaging operations of the remaining resins about mid April. However, at the suggestion of Leroy Stratton no wastes were shipped to West Valley but Commonwealth agreed to the continued delays until the Illinois site was finally approved.

On 29 June I called on Harlan Hoyt, Superintendent, and G. Redmond at Dresden and discussed the Illinois

license. We agreed to continue the packaging and storage of the resins at Dresden pending receipt of the license. Later in the day I confirmed this with Gene Bailey.

About the end of August Commonwealth decided title to the resins was unclear and requested a letter from the Illinois Department of Public Health. We also checked the activity of the resins which were not yet packaged.

On 7 August I met with Hoyt, Kiedaisch, Beitel, and Beierle at Dresden to discuss what should be done. We had measured the resins which were still in the underground tank and found them to be 150 r at contact. At this level we could not handle them with our proposed equipment. Dresden agreed to remeasure the resins and they were found to be lower and we could handle them. Actually it turned out that Dresden had just dumped in some higher level low half life material and we were able to proceed since the resins were under 20 r after a thorough mixing.

During August Beierle and his crew were busy packaging the resins at Dresden. Several of the casks as poured by Continental Pipe leaked when used even though Craig Cain claimed they had been leak tested. Apparently on further setting and sitting at Dresden, they dried enough to form leaks between the bottoms and sides. We corrected this by having a Terra Haute firm make up plastic liners.

Beierle and his brother had designed and built the mixing equipment. During use a bearing burned out. So I took one of the graduate students at Purdue, Ivan Green, and we went to Dresden and replaced the bearing. This was done to limit the exposure of the men regularly working in the field. This was necessary as they received close to their allowable doses for one quarter. In fact, one man ran over on his "pencil" or pocket meter but was under on his "film badge". Since we were using the pencils for record, we were cited by the AEC for an overexposure.

Early in September Frank Dement who was working for Beierle at Sheffield, quit in an argument with Beierle. So we transferred Frank to the West coast and Bill Johnson came to Illinois to assist Fred.

On 8 September the question of solidification of the resins in Portland cement or other materials prior to shipment came up again. I discussed the subject with Bailey of Commonwealth Edison. As noted above, it was my opinion that mixing with cement caused more exposures in the long run than shipping in shielded steel containers.

Actually, we submitted a design for a steel lined reinforced concrete container to Commonwealth. This was not accepted. Meanwhile, during September, Bill Johnson and Beierle with their people pushed the Dresden packaging job to completion. Both worked hard and long hours as did their men.

Commonwealth was not happy with the solidification job that we did. Nor were we. With Dresden II and III General Electric Company installed equipment along with storage areas. On a visit later it was suggested that I go through this plant. This I refused to do on the basis that it was so poorly designed that I did not want to even see what General Electric installed. I did see part of it and I was scared.

The General Electric installation at Tarapur was terrible and I wrote strong memos objecting to the design. It is being used but it never has worked as specified. I have heard Commonwealth has had trouble with the Dresden system but I have never asked about it.

e. South Carolina

I went to Atlanta on 30 September 1966 and talked to Mr. Robert H. Gifford and Mr. James Woodall of the Southern Interstate Conference Board. Gifford suggested that we try to get land on the Savannah River site. Then I went to Augusta and met with Mr. G. O. Robinson, Assistant to the Manager, Savannah River Operations Office. He had no idea about what could be done since the question of a sublease had not been raised before. I also talked with Mr. Robert C. Blair, Coordinator for Nuclear Affairs of the State of South Carolina. He offered to help.

So on 4 October 1966 I sent Mr. Blair a letter outlining the services that we could perform in South Carolina. Then on 11 October I visited Mr. Robert C. Blair, Consultant to the State Development Board, who took me to visit Dr. Henry C. Schultze, Director Research Center, State Development Board. Bob Blair had been Assistant Director of the Savannah River Operations Office. Dr. Schultze indicated considerable interest. We then reviewed possible areas for a disposal site and agreed on a look at Barnwell County. Also I contacted Professor Donald Colquhoun of the Department of Geology at the University of South Carolina.

Since enabling legislation would have been required, I sent Blair copies of the Illinois law when I got home.

On 22 October 1966 I sent a formal proposal to South Carolina to open a waste burial site in that state. This was addressed to Mr. Walter Harper, Director of the State Development Board.

We studied the geology of the area and picked a suitable site near the Savannah River Plant near Barnwell. The state was reviewing our proposal at the end of 1966.

On 5 July 1967 Robert Blair of the South Carolina Atomic Energy Commission, called and stated that the Legislation had passed and the Governor had signed the enabling legislation law. Blair stated they were very interested in our proposal but that they had received other proposals. Since we expected the merger with Nuclear Engineering to proceed, we did nothing at the time.

Later Eugene was made an offer by another company to open a South Carolina site.

f. Maryland

On 29 September 1966 I went to Baltimore to determine if a waste disposal site could be opened in Maryland. I talked to several people there and at Anapolis, including a Mr. Fred F. Chirigotis, Department of Economic Development. Mr. Chirigotis was most helpful as was everyone. Mr. Carl W. A. Supp was retained as geologist. We subsequently studied several areas but did not find any fully satisfactory burial site near the coast.

On 21 October I sent a letter to Mr. Chirigotis requesting information concerning the submittal of a proposal to open a waste disposal site in Maryland. Then on 27 October we sent a proposal to the State of Maryland.

On 1 December 1966 I sent a letter to Dr. Supp, our geologist, relative to the requirements for a site. On 9 December I met with the Maryland Advisory Committee on Atomic Energy. These included:

Henry T. Douglas, Chairman
--- MacWilliams
--- Dellas
--- Geyar, Johns Hopkins
Dick Duffie, University of Maryland
Robert E. Corcoran, Department of Health
--- Wideman
Carl W. A. Supp also attended.

I made a presentation and they asked questions for an hour. I believe if we could have gotten finance we could have opened a site in Maryland and had most of the east coast business.

On 12 May 1967 I sent Mr. Supp a letter relative to the possible merger etc with Nuclear Engineering. Since we were negotiating with Nuclear Engineering, nothing was done. Then on 19 January 1968 after we had signed a preliminary agreement with Nuclear Engineering, we visited Mr. Henry T. Douglas and Mr. Chirigotis of the Baltimore Port Authority and state offices. Both men stated their interest in such a site had increased in Maryland. But Nuclear Engineering showed no interest.

By the time Nuclear Management was free to act in 1973 Maryland had lost all interest in such a site.

13. 1967 in the West

We entered 1967 in a more optimistic mood. We believed that we would soon have the Illinois site in operation, that somehow we would obtain sufficient capital to go ahead, and both Searle and Nuclear Engineering were trying to buy us. Further, our business was such that we thought we could become profitable as soon as the Illinois site was opened.

Business in California was good and we believed losses at Richland would be low while Illinois would more than make up for the losses in the West. With this optimistic outlook we continued to push for additional waste disposal sites.

On 26 January Beierle called and stated that we had been given the Bremerton Navy contract for $67,000. It is of interest that the Bremerton and Mare Island Navy contracts were substantial. We continued these until after our merger with Nuclear Engineering. One time the Navy people at Bremerton stated that we had removed the resins with the least trouble ever and essentially zero loss of radioactivity. This was mostly due to Bill Johnson's efforts.

On 17 April Bill Johnson called and stated that they had a fire at the Richland burial site. This was caused by a box containing some zircaloy scraps from the Bureau of Mines which exploded when moved during unloading. Nothing serious occurred. Zircaloy and uranium scraps have exploded many times when moved after they have become wet

and various unstable compounds have formed.

Bill Johnson called on 26 June and gave us an ultimatum that he was leaving unless we put him on commission. I agreed to talk it over with the Board. Actually he was persuaded to continue on salary.

In respect to reprocessing it was suggested by a major oil company that they open a reprocessing plant in California and subcontract with California Nuclear relative to handling the wastes. Another related oil company planned on a similar reprocessing plant in the East. Both of these contacts were proposed through Eugene Hungerford who had been doing consulting work. However, due primarily to AEC objections etc, neither company has yet (1973) proceeded with any large nuclear plants.

On 3 July I asked Bennett to write a contract for Bill Johnson in which Bill would receive $12,000 plus 5% of the West Coast gross sales per year. I contacted Harvey of Nuclear Engineering re this contract, as we believed the merger of the two companies was imminent. He agreed to Bill's contract. I really did not agree. While Bill certainly did know the business and was a hard worker, I believed this pay scale put him out of line with Beierle. I would have readily agreed to a portion of it in stock.

On 10 August Bill Johnson called and stated there had been a breakin at Cowell. The city and county police as well as the state and federal Health Departments got into the act. What had happened was some boys broke in on a lark apparently and stole a 2 R container containing 6.5 curies of tritium and carbon 14. A planchette holder for radium with 20,000 counts was also taken. Apparently they could not get the 2 R container open; so this was recovered. But we had to run bioassays on 13 children. All were negative. We never heard what the various parents thought.

In September we had trouble in California as we were undermanned. The complaints were about Bill Johnson. Then in October Paul Ziemer went to California to review the whole situation from the Health Physics viewpoint. Paul recommended that we add a trained technician to work at Cowell under Shadwick. This was done. No further trouble occurred. Paul stated his overall impression was that Johnson and Shadwick had done an excellent job. Only a few minor and easily corrected deficiencies were found. For the record, these were all corrected almost immediately.

In December we received a letter from the Washington

State Officer, Donald Koch, stating we had not made a third quarter report. Apparently Bill was too busy talking to Nuclear Engineering to write the report.

14. 1967 in the East

We expected rapid approval of our license to bury radioactive wastes in Illinois. Financing was a problem but we expected one of the companies that were trying to buy us would do so. Actually we should have pushed for outside financing.

On 14 January 1967 Fred Beierle and Bill Johnson came in for a Board meeting. Jim Toy and Harry Curtis also came from Ft. Wayne. Bill and Fred insisted we join Nuclear Engineering at once. However, we agreed to continue discussions with Ranchers and American Nuclear until something could be worked out.

On 19 January 1967 we visited the Baltimore Electric Power Company and discussed the Calvert Cliffs Plant with Mr. George McGowan. They were interested in our ideas relative to the handling of the wastes but they did not send us a contract.

By February we should have had the burial license for Illinois. For some reason the AEC held it up. It developed much later that the Geologic Survey would not approve the license without well drawdown tests. We believed and still believe that the geologist who had to approve was paid off. We never had any proof but we believe that Nuclear Engineering was continuing their harassment indirectly. This feedback is what kept Federman from moving ahead.

On 10 February we sent a letter to Nathan Bassin of the AEC, giving additional permeability and drawdown tests. Permeability in the soils were:

Loess	1.2×10^{-5} cm/meter/second
Silt	4.3×10^{-4}
Clay	4.2×10^{-7} to 5.3×10^{-8}

and not enough water in a well to fill a 1 in. pipe 45 ft long in 1.5 hr with a 3 ft water depth before pumping in a 6 in. well. Then on 14 February we reiterated our belief that no further wells were needed. But the AEC still insisted on new wells and long drawdown tests.

By early February it was obvious that some action

would be required at Sheffield to improve the entrance roads. Later we hauled broken bricks from the brickyard in Sheffield and paved the work area to a depth of one foot of broken bricks.

One thing that worried us was the attitude of the California Commissioner of Corporations. He accused us of having an auditor that was not independent. Actually he had given us some advice on setting up the books but that was all. So Huth Associates threatened to sue the Commissioner. Of course, we should have gotten out of California but due to what we believed was imminent was our contract with Nuclear Engineering.

On 23 February 1967 we had lunch in Chicago with Gene Bailey. Commonwealth was still interested in helping us. Gene told us Atcor was doing a decontamination for them. He was surprised to learn that we had also done a number of decontaminations and were in that business.

In January and February 1967 we were told that the Atomic Energy Commission would not approve the Illinois site as we had not completed well drawdown tests. We considered such a request as completely silly and an abuse of governmental authority and responsibility. I still believe so. Little people or paid off people trying to make decisions. I was told that the federal geologist consultant, as a geologist in the Joliot area developed a questionable reputation.

Anyway, we were told we must conduct a well drawdown test using adjacent wells. Laboratory permeability had shown that we should expect no water movement at rates greater than a few inches per year and well tests had proven very little water movement. Nevertheless, the AEC told us we must drill additional wells and make water drawdown tests.

On 2 March 1967 I wrote a letter to Commissioner James Ramey as a result of a speech in which he stated the licensing procedures had been improved and the time needed was cut down. I used California Nuclear as a case study. I also pointed out the wastes from the nuclear power plant at Richland were being sent to a government burial site even though the power was being sold to the public. Jim failed to answer. I believe that he knew I always had a very low opinion of him and he probably does have of me. At least we don't think alike. He is a typical government bureaucrat while I am not even though I have spent years in government work.

About this same time there was a flourish of new companies in the nuclear field. Nuclear Utility Services, who have been extremely successful, had asked me to join as a partner. I refused since Winnie did not like to live in Washington. But about this time Roger Coe set up New England Services Corporation to do nuclear fuels management and soon after Milton Edlund, who was a professor at the University of Michigan and assisting on the fuels management course which I was giving at Commonwealth and a man from Consumers Power Company, set up Nuclear Assurance. Milt later said he and the other man sold 90% of the company for $3,000,000.

On 25 March 1967 the Star-Courier of Kewanee carried the following article along with three pictures, one of Frank Dement and Clifford Powers, one of the main building and one showing use of instruments.

"NUCLEAR WASTE STORAGE AREA
DEVELOPED NEAR SHEFFIELD

Industry is Newest for Region
By G. G. Moriarity
(Star-Courier Publisher)

Sheffield--Being constructed southwest of Sheffield and north of Neponset is the area's newest industry, a nuclear waste storage facility owned by California Nuclear, Inc.

Incorporated in 1963 to supply a wide variety of services to the nuclear industry in the United States, the business is being established in Bureau County to meet an ever-increasing need in the Midwest.

Work on two steel fabricated buildings is being completed four miles southwest of Sheffield, west of R. 34, and a short distance south of the old haulage road. The site is approximately three miles north of Neponset in Mineral Township.

The land is on a 67-acre plot of the former George Ellis farm with California Nuclear owning 47 acres and 20 acres being deeded to the state to keep it in perpetuity.

Packaged radioactive, chemical or hazardous chemical wastes are being stored in a cyclone-fenced in area at present, but once approval is obtained from the Atomic Energy Commission the containers will be buried under four feet of soil.

We visited the temporary office of California Nuclear in the former Genster dry goods building, 105 Main St., in downtown Sheffield, to learn progress of the operation.

The office in Sheffield has been in operation since last July, but eventually it will be transferred to the new office building at the site.

Host for our visit was Frank Dement, assistant manager, who makes his home in Kewanee. He became associated with California Nuclear last July.

For four years he was in California with General Electric as a radiation safety technician at an atomic laboratory near Vallecitos.

'I feel personally we have one of the safer operations you'll encounter,' he stated.

'I have been in the business since 1952 and have seen both government and private industry and personally see no danger from this type of operation,'

He also pointed out, 'There are many others that are every bit as hazardous, but they are not regulated as carefully as we are...Compared with other chemicals, such as hazardous gases, we're much more strongly regulated.'

California Nuclear has its home office in Lafayette, Ind., and other offices in Cowell, Calif. (Box 59), Richland, Wash. (Box 638) and now Sheffield (Box 158).

Services offered by the company include:

1. Collecting of radioactive and hazardous wastes periodically or upon request;

2. Supplying of shipping containers for liquid and radioactive wastes;

3. Supplying whole body counters (installation, calibration and proper instruction included with each unit);

4. Providing health physics consultation and surveys; and

5. Providing decontamination services upon request.

The company, by the way, carries $1 million liability insurance in the Nuclear Energy Liability Insurance Assn.

What also could be of increasing importance to the entire area is the service available to 13 communities covered under the Tri-County Municipal Assn. These communities, including Kewanee and many others in Bureau, Henry and Stark counties, can use the sanitary land fill facilities being offered. A charge per cubic yard of rubbish and garbage is made.

Seven communities now are participating in the sanitary land fill project. They are Annawan, Buda, Manlius, Mineral, Neponset, Sheffield and Wyanet. Others in the Tri-County area are eligible, but haven's availed themselves of the opportunity as yet. In addition several commercial operations are tied in with the land fill plan.

Fred Beierle is Midwest manager of California Nuclear and in charge of the Sheffield operation. Dr. Stuart McLain is president.

Mrs. William (Margaret) Hoenchied of Sheffield is office secretary. Her family owned the Genster store where

the office is located.

Clifford Power is operations superintendent, principally in charge of handling waste. Andre Driessens is maintenance superintendent. Mac Billington and Raymond De Marlie are technicians in training. The latter three are from the Sheffield area.

Forrest Hall of Kewanee is in charge of sanitary land fill.

Work on two buildings is being completed. The larger one is 40 by 60 and will house the offices, laboratory and maintenance. A second building temporarily is being used for storage.

The laboratory has and will have more equipment to detect three types of radiation, beta, gamma, and alpha rays.

En route--when we were at the location--was a $15,000 multichannel analyzer, called a gamma spectrometer.

Samples of soil, water, vegetation, and air will be taken constantly.

'Constant surveillance is standard operating procedure to see that no radiation material ever is released,' Dement explained.

Bulk of material now being stored at the site is radioactive items from the Argonne laboratories. Other material comes from hospitals, universities, special industrial laboratories, and other such places. No package contains more than 2.7 curies of radioactive material.

State officials and consultants have approved the site for burial of waste, but approval is still being awaited from the AEC. Once approved, the drums or containers of waste will be buried under four feet of earth.

'With four feet of overburden, you won't be able to detect any radiation at all,' Dement claims.

Once covered, the ground will be seeded and backers of the project contend that the area will contribute much to conservation efforts.

Currently operations center around storage of material and the land fill project. Eventually it is hoped to bury the waste. Later the company expects to decontaminate or 'dry clean' radioactive articles, such as clothing, gloves, equipment and the like, so as to return them to practical uses.

The Sheffield-Neponset project hopes to bear ever-increasing responsibility in this new nuclear age."

In comment, it will be noted that Moriarity apparently had changed from "We're against it."

We finally contracted in March with Mr. John B. Willis of Rockford to act as a consultant and to supervise

drilling the additional wells and to supervise water drawdown tests. This cost us about $10,000 and held us up several months. And of course the tests were negative as anyone who know anything about water permeability would have known. Wells a few feet apart were completely independent after weeks of pumping. Of course there are occasional local sand and gravel lenses and we might have struck one of these and found some drawdown.

We had also discussed the water drawdown tests with Mr. Paratore of Dames and Moore, water specialists of Chicago, and Dr. Robert Bergstrom of the Illinois Geological Survey. Mr. Paratore stated we would need wells and tests and suggested Dames and Moore could do the work for $10,000 or so. I refused to agree that Dames and Moore should proceed.

Later I talked to Bob and he stated Willis had talked to him and both agreed that only a repeat of Beierle's bulk tests by an outsider should be enough. Bob recognized that there was very low permeability and low gradient. He did suggest compaction of the overburden on covering filled trenches. But as suggested above, Balst of the Federal Geological Survey demanded additional wells and drawdown tests. After he received the final report of Willis' tests, he failed to act for several weeks.

Russell Foote, Argonne's purchasing agent, called and discussed a new contract for some $1,500 on 27 March and we also picked up a decontamination job. Then on 4 April Argonne increased their contract with us to $113,000.

On 4 April I also talked to Millis about the hydrology of the Sheffield site. He recommended three more wells north of the site, to which I finally agreed even though I thought the whole thing was assinine. I so wrote to the Illinois Geological Survey.

At this time we talked to several people relative to setting up companies to do the recording of radiation records and one on nuclear fuel management. Both Schumar and Edlund were willing to work with us. Due to lack of funds I did not push either one immediately. Actually, Edlund talked to John Davidson, who had started a fuel management company and quickly lost $200,000.

On 7 April I met Millis and Berkstrom at Sheffield. We agreed to drill two additional wells in the draw north of the site for the purpose of determining drawdown rates and water. It was stated there might be seepage in the draw

with water carrying radioactive materials from the burial area.

In respect to other work Zeffrey of Nucleonics magazine called and stated that they had heard we were entering the fuels management business and were getting a contract from Consumers Power Company. I stated there was a lot of static on the line and I couldn't understand him. He laughed and said he had the information from an unreliable source. He also stated he had heard we were working with the University of Michigan. I told him this was a garble of what Purdue was doing. I stated I was directing and giving most of the lectures at a course at Commonwealth Edison on Fuels Management, Edlund from the University of Michigan was helping, and several men from Consumers Power were in the course but this had nothing to do with California Nuclear. About this time McDonnell Aircraft proposed to Commonwealth that McDonnell use their excess computers to do the fuel management for Commonwealth. We pointed out to Commonwealth that we had proposed two years previously that Purdue use their computers at nighttime to do Commonwealth's fuel management. Bailey agreed that the proposals were the same but stated he didn't know what we were talking about at the time two years previously. Anyway, as noted above, Commonwealth went into the fuels management business in a big way.

About this time the Sheffield area was inspected by the AEC and six very minor items of noncompliance were noted. These were nearly all the citations we ever received.

Schumar talked to Swearingin, Chairman of the Board of Standard Oil of Indiana and Swearingin was very interested. We met with several of the Standard Oil people later but they showed no interest. We also discussed fuels manufacture but no interest was indicated.

On 12 April I met in Boston with several people from Rowe Atomic Power and EBASCO relative to wastes from several power plants. We simply reviewed their waste disposal drawings and recommended several changes. No fee.

On or about 14 April Leroy Stratton of the Springfield Health Department called in the evening relative to the Sheffield site. He and Bergstrom of the Illinois Geological Survey had talked to Nathan Bassin of the AEC. Bassin stated that he and Bergstrom were in agreement that more hydrology data were needed. Then Stratton read a letter to me dated October 1966 that stated the Illinois Geological Survey people were in full agreement that the

Sheffield site was satisfactory in all respects. The letter was signed by Frey, Bergstrom's boss, I think.

So no wonder we were mixed up. Anyway, about 17 April Bergstrom went to Washington and talked to Balst.

On 17 April Millis reported that the first well drilled produced little water. There were several discussions about additional companies. Paprocki of Battelle Memorial Institute was very interested in setting up a fuels management business as was Sanderson and Porter. Nothing came of this as I was too busy at Purdue, Commonwealth, and California Nuclear.

We continued to work on a fuels management company but unfortunately I was so involved with the proposed California Nuclear--Nuclear Engineering merger and my own work in California Nuclear that I did not push it. Consequently it never got started. However, we did start Nuclear Management, see another section.

On 7 May Millis reported the results of the well tests at Sheffield as follows:

Transmissibility	25.4 gal/ day ft^2
Slope	20-158 ft/mile
Velocity	0.1 ft/day

In a letter dated 5 May Mr. Joe L. Hogg, Chief Engineer, Well Screen Department, UOP--Johnson Division, after analyzing all the data gave the following results:

Permeability	4 gal/da ft^2
Transmissibility	24 gal/da ft^2
Average velocity	0.01 and maximum 0.02 ft/da

On 10 May I sent a letter to the AEC outlining the results of the tests. This presumably was forwarded to Balst. The cost of the new tests was about $12,000.

On 26 May 1967 we were informed the AEC had approved the Illinois site for burial of radioactive wastes. However, it was not issued until 15 days after publication in the Federal Register. There were no objections raised and the license was duly issued. Sometime in May William Bennett loaned California Nuclear $10,000.

One thing that happened that was a mistake on my part was the Commonwealth request for whole body counting. They only had Dresden I at the time. I was aksed in the

hall by one of their men about what our price would be and I said around $25. Then apparently Helgeson came in and said around $22 to $23. So they took his verbal bid and did not go out for formal bids. We would have bid about $24.

Along with Purdue's work at Commonwealth I was still active in review of the construction drawings and operational procedures at Tarapur. It was interesting to review some of the comments in our memos, including those of Joseph Thie in respect to possible failures. The whole subject is now active in 1973.

During 1967 Lafayette National Bank made many loans to us on the basis of our invoices. These loans were very helpful. As a result we have opened our Nuclear Management account with this bank rather than Purdue National Bank, which we used for California Nuclear.

On 30 April 1967 we had a total net deficit of $370,500; assets of $278,088; and total liabilities of $457,858. A part of this was deferred salary which I had charged at $150 per day. Beierle and Johnson objected to this and were quite upset as the McLains' portion of the stock increased rapidly due to accrued salary plus the large cash loans we made to the company.

On 1 July I talked to Bennett and asked him to write a three-year contract for Lugene. This he agreed to do. On 7 July we were told our license for Sheffield was about ready to go to the Federal Register for publication. Lugene's contract was agreed to by her and Bennett retyped the contract.

I also talked to Toy of Central States about Lugene's work with the oil companies. We had not discussed this work with Nuclear Engineering. Actually, due to procrastination on the part of the AEC and Joint Committee, the oil companies have done nothing even yet (1973).

Meanwhile, there were a number of contracts signed with various firms on the basis of shipping to Sheffield. The AEC again inspected the Sheffield storage area in mid July for the third time in as many months. We did have some troubles due to moisture in the magnesium thorium alloys and with some barrells containing cadavers; but nothing serious.

On 13 July 1967 I again talked to Chicago Flyash relative to financial help.

On 13 July I visited the AEC at Oakbrook about the Illinois site and the inspection on receipt of our license. I also talked to Muller about Nuclear Engineering. He claimed that there had been quite a discussion in the AEC claiming that the Illinois site was not satisfactory. He stated it was only approved after Governor Kroener had talked to Seaborg. I always questioned these statements. Of course, there had been some question in the AEC about drainage but there could not have been any serious question if anyone understood the permeability data. Balst in the Geological Survey always opposed the site but we believed he was working for others. So far as I know no troubles have occurred to date.

On 14 July 1967 Lugene Hungerford resigned as Vice President of California Nuclear on the basis of Toy's objection to her. I never accepted her resignation until I was pushed into it by Muller on the basis that if I did not the merger with Nuclear Engineering would not go through. Even then I agreed the McLains would pay her.

Later in the day Toy called me and stated a meeting would be held in New York on 21 July. He stated Bennett and I should go sans Lugene even though she was Assistant Treasurer. Toy said no, not to take Lugene, but to have a board meeting and elect Bennett or Winnie. (He didn't know that Winnie is also very strong willed and would eat him up at such doings. Winnie acts like an angel but wants no part of dirty work.)

Lugene and I agreed that any such board meeting would be illegal. She also stated she would go to the Commissioner of Corporations if we went ahead. On 15 July Bennett told me that I could sign the merger and a Secretary-Treasurer was not required. But we were also discussing a reprocessing plant, and these people stated that:

1. Without the merger they would not go ahead.

2. Quality equal to ours must be maintained--Nuclear Engineering was not acceptable.

3. Any loss of business due to Toy would be subject to triple damage claims.

4. If we go ahead, Lugene stated she would subpoena the minutes.

5. She stated her husband will sue Central States.

Later we checked on Central States. They had a B rating. The lawyers wanted to sue. Harvey then agreed to check with Mills and try to make arrangements for a contract for Eugene. Later I was pushed into a cancellation of her contract but I wrote one for the McLains to pay her. Due to all the shenanigans our negotiation permit ran out and this delayed the merger. They said Toy objected to the terms of the merger but these were minor.

On 14 July the AEC published the following announcement:

"FOR IMMEDIATE RELEASE
(Friday, July 14, 1967)

AEC CONSIDERS LICENSE TO AUTHORIZE
LAND BURIAL OF RADIOACTIVE WASTE IN ILLINOIS

The Atomic Energy Commission is considering the issuance of an amendment to the waste handling license held by California Nuclear, Inc., Lafayette, Indiana, to permit burial of radioactive waste material on state-owned land in Bureau County near Sheffield, Illinois.

California Nuclear now holds a license to receive, process, repackage and store radioactive waste materials at its facility located in Bureau County, three miles west of Sheffield and about three miles southeast of Mineral. Typical wastes collected are those generated by hospitals, laboratories and industrial users of radioactive material.

Under the proposed amendment, the company would bury wastes in packages as received from customers or in packages prepared by the company. The waste would be put into open trenches which would be backfilled and then marked in such a manner as to identify the contents and size of the trenches. The burial area will be fenced to prevent unauthorized entry.

Commission regulations require that radioactive wastes be buried on land owned by a state government or the Federal Government because of the necessity for long-term control over the land. The proposed land burial site is owned by the State of Illinois and leased to California Nuclear.

The AEC Regulatory Staff has reviewed the geology and hydrology of the site and has determined that the site is adequate for burial of radioactive wastes. California Nuclear conducts similar burial operations at AEC's Hanford site near Richland, Washington.

Notice of proposed issuance of the license amendment is being published in the Federal Register on July 14, 1967. Requests for public hearing or petitions to intervene may be filed within 15 days with the Secretary, U.S. Atomic

Energy Commission, Washington, D.C. 20545."

On 21 July 1967 the Atkinson paper published two pictures of the buildings and site at Sheffield along with the following article:

"PERMIT ASKED TO BURY
ATOM WASTE AT SITE

A proposed amendment to the waste handling license of California Nuclear, Inc., of LaFayette, Ill., would permit the burial of radioactive waste material on state-owned land near Sheffield, the Atomic Energy Commission has announced.

The license now held by California Nuclear allows the company to receive, process, repackage and store radioactive waste at its facility in Bureau County three miles west of Sheffield.

The amendment would allow the company to bury waste. The area would be fenced to prevent unauthorized entry.

Typical wastes are those from hospitals, laboratories and industrial users of radioactive material.

The amendment is pending requests for a public hearing or petitions to intervene which must be filed with the secretary of the AEC by July 29."

Then on 28 July I went to New York and met with Muller and Federman. A Mr. Fink of Federman's office was present. Since Toy would not go along with the merger, it was agreed to proceed and simply make the payments to Central States. At this same meeting the word Teledyne was mentioned as they began to talk of combining the three companies. Further, Federman refused to pay Toy's consulting fee.

In August we borrowed money from the Farmers Bank in Sheffield on a mortgage on the equipment.

One item of interest was our fire alarm system. AEC requirements were that we be connected by automatic alarm to a fire system. This was done to the Annawan system. The trouble was that lightning set off the alarm and resulted in false alarms. There were a few and we believed the signal was set so it would not be set off by lightning. Then on 2 August there were four alarms. So we proceeded to discontinue the system, installed sprinklers, and stored no combustible materials during the

installation of the sprinklers.

About 1 August we received the Illinois license and buried 60,000 cubic feet in a few days. The Illinois Health Messenger for September 1967 carried the following article:

"DISPOSAL FACILITY LICENSED

The United States Atomic Energy Commission has issued a license dated August 1, 1967, to California Nuclear, Inc. to operate a storage facility for the disposal of radioactive waste materials near Sheffield in Bureau County. The announcement was made by Dr. Franklin D. Yoder, director, Illinois Department of Public Health.

Under the conditions of the AEC license, California Nuclear, Inc. may receive, process, re-package, store and bury radioactive wastes at the site. The department signed a 99-year contract with the firm in October, 1966, but the facility could not begin operations until the AEC issued the license. It is expected that the area will serve as a collection point for radioactive waste material throughout the Midwest.

The company purchased 20.4 acres of land for the disposal site and deeded it back to the State in perpetuity. The contract for the disposal site was negotiated for and signed under authority granted in the Radioactive Wastes Act signed by Governer Otto Kerner in August 1963. Under provisions of this Act, the Illinois Department of Public Health is charged with seeing that the facility is operated properly.

At the present time, Illinois firms and institutions dispose of radioactive wastes by having them hauled out of the state, by waiting for the materials to decay and then flushing them down the sewer, or by burying them in small quantities on privately owned land.

'The presence of a radioactive waste disposal facility in Illinois,' Dr. Yoder said, 'will serve as an inducement for nuclear and allied industries, especially chemical processing companies, to build plants in the State.'"

We also elected William K. Bennett Secretary-Treasurer of the company--against my goodwill and better judgment.

Then on 19 August Beierle called and stated someone stole our end loader at Sheffield and drove it over the countryside north of the site, breaking down fences etc. The insurance covered the $2,500 damage. I reported the

incident to the local and state people but they simply ignored the incident.

On 29 August we submitted a bid to Argonne for their wastes. On 25 August we visited the Department of Public Health in Springfield. Randolph expressed the hope that the Abbott contract would permit us to remain independent and that we would not have to join Nuclear Engineering--he was not quite that blunt.

One month in 1967 we had a profit of $20,000. On 8 September Mrs. Florence Berghorn, who was a friend of Winnie, came into the office and stated she wanted to invest $14,000 in California Nuclear. This was the last outside money that we accepted. I believe she still has the Nuclear Engineering stock. Later I got into trouble as I advised her to sell when the Nuclear Engineering stock was over $30 per share. It is now about $13. I was told that I was acting as a broker. At $30 her markup would have been 4.68 and at 13 it would be 2.03.

About the same date a Mr. Richard Koop of Richland requested repayment of his loan of $5,000. This was repaid immediately.

On completion of the Dresden job Eugene and I drove to Dresden primarily to thank both Fred and Bill for what they had done. On the way we agreed to ask the Board to award each of them 1000 shares of stock. But both were demanding and stated they wanted 1000 shares as a bonus. This riled me up. We did give them 750 shares each but had they not demanded 1000, they would have gotten 1000 each.

In respect to finance our proposal to go public was held by the Securities and Exchange Commission in Seattle for some reason. Then on 6 October 1967 the Seattle office requested we refile our application. They also brought up the question of the loans. Mr. Leslie Gustafson stated that these loans were a slight technical violation--actually we were going public by subterfuge. The loans were interest-bearing notes against the company. Their issuance as far as I could ever determine was legal. I was told once by a SEC responsible officer that if people had that much faith in us the loans were legal and the SEC was not involved. The question was never settled in court.

We continued trying to obtain financial help with visits to various Chicago banks. Finally we talked to Mr. Davidson of the Small Business Administration. We talked to him several times but got nowhere. They referred us to Indianapolis but they did not help.

Also on 10 October we were asked to visit Pioneer Services Engineering Company in Chicago to discuss waste disposal produced by the Wisconsin Reactor. We made several design suggestions which I was told later were followed.

On 16 October 1967 Lugene and I visited Mr. Kadaisch at Dresden. There were some resins left in the tank but how much we could not measure. It was impossible to pump from the center and obtain a clean tank. Kadaisch requested a proposal on handling the Dresden II and III drums. To the best of my knowledge we never submitted the proposal.

To divert from the main story, we were asked to bid on some supporting services for the LaCrosse, Wisconsin Reactor. In addition the bid was to cover development of an improved assembly. We bid on the basis of a 5 year development of the fuel assembly while United Nuclear bid on the basis of a 6 month development program. Of course, we lost. I don't know what happened but I'm glad we didn't bid on a 6 month program as it takes years to test ideas. Joe Thie still acts as a consultant to Dairyland.

In October Lugene and I talked to Bailey and Lugene told Bailey about the reprocessing plant work she was doing with some oil companies. It was agreed these people would contact Bailey. I never knew whether or not they did.

In October we had several meetings re merger with Nuclear Engineering and with Chicago Flyash. Both these sections should be kept in mind in reference to what we were doing. Of course both sites were busy and we were near the financial break even point. Our daily business went on as we carried out the negotiations for finance. It should be remembered that there were many interconnections with always Commonwealth Edison pushing in the background. Without their support we probably would have been lost.

One thing that bothered us was the continual violation of company rules by both Johnson and Beierle. Each assumed that he could write checks for any amount. Actually we had to authorize checks over $1,000 but without warning both would deposit checks received for work and write all kinds of checks. On 6 November I reviewed this whole subject in a letter to both of them.

Between negotiations with Nuclear Engineering and Combustion Byproducts I attended the American Nuclear Society meeting in November. It seemed that Fall I was in Chicago nearly half time. I was still at Purdue and working on the Tarapur project.

Art Matheson told me Gulf Oil had purchased General Atomics. They were talking of a fuel leasing corporation. This would include some uranium ore owning companies. I also talked to Milton Edlund about a fuel ownership corporation to assemble fuel loads and oversee reprocessing. This would have been an excellent idea had I had time to follow through on it. Since I did not, Milt worked out an agreement with a Consumers Power engineer and they set up Nuclear Assurance Corporation, as noted above. This company has grown by leaps and bounds. Milt has 2.5% of the stock, I think, and $500,000 for his efforts. We still have contacts with him.

William A. Loeb asked if he could assist in a public offering of stock. At that time we believed we would be joining Combustion Byproducts. So we told him that we would contact him after the contract was signed.

Beierle and Johnson became more and more unhappy due to our lack of finance and the long drawn out negotiations with Nuclear Engineering. So we met with both Fred and Vesta Beierle on 15 November. Fred wanted more authority etc. He wanted definite commitments. As we expected to join Combustion Byproducts, I could not make any commitments until I talked to Craig Cain. This I agreed to do. He threatened to resign until I pointed out he would lose the 750 shares of bonus stock already promised him.

One amusing thing happened in November. We had obtained a loan from the Citizens First National Bank of Princeton, Illinois on the building at Sheffield. This had been endorsed by Mr. Castner from whom we purchased the building. Why we never knew. Anyway the note was for three months. But we had no money to pay it. So after some four months Lugene called Mr. Gordon Sears, the bank's cashier. She promised to send Mr. Sears a letter explaining when the note would be paid. Instead Lugene and I visited Mr. Sears. Lugene had just gotten a new expensive suit which she wore and I even dressed up. On arrival at Princeton I introduced myself and Lugene and told Mr. Sears Lugene's husband and I were on the Purdue faculty and then I told him a little about Lugene. He interrupted to tell us his daughter was a Junior at Purdue etc. After about a half hour of friendly talk he asked what he could do for us. We mentioned the note and our desire for an extension. He replied, "Oh yes, interest rates have gone down a bit. How about 3 months at 7-1/2% instead of the 8%?"

On 2 December Mr. Millis reported a meeting with

Commonwealth. He stated Bailey had stated they were very pleased that California Nuclear was not joining Nuclear Engineering.

During all of 1967 we were trying to get approval of the Securities and Exchange Commission in Seattle to issue stock. As we had not gotten approval we contacted the Chicago office and sent information to Mr. James F. McLaughlin. On subsequent visits to his office we found him helpful but we were not able to get approval to sell any stock.

On December 4 we issued the Thirty-First Progress Report to the shareholders and persons who had made loans to the company. This report reviewed the status of the merger negotiations with Nuclear Engineering and the means for obtaining additional financing.

At a board meeting on 4 December 1967 we approved bonus stock as follows:

Frederick P. Beierle and William D. Johnson, 750 shares each for various items, including the packaging of the Dresden resins.

Eugene G. Hungerford, 750 shares for extra duties, including losses in consulting for others.

Avilla S. Terrell and Irene E. Backus, 50 shares each for extra duties (Donna was our bookkeeper and Irene our Secretary).

On 6 December 1967 we had one of the two serious accidents that occurred in the history of California Nuclear. Cliff Powers at Sheffield fell off a ladder and broke an arm and had a possible concussion. He was off work about four weeks. The other accident occurred in Washington, as noted above. One of our best truck drivers had to take to the ditch to avoid running into a car that drove out of a driveway in front of him. The cab was seriously damaged and the driver severely hurt with bruises and broken bones. It took a couple of hours to cut the cab away and several hours in the operating room to put him together but a month later he walked out of the hospital.

While the second accident occurred with a load of radioactive wastes, no container was broken open or anyone exposed to more than a minute amount of radioactivity.

An inspection of the Sheffield site was made by

Ziemer on 30 November. He stated that, "I was quite impressed with the overall operation and believe that the personnel at Sheffield are doing an excellent job."

On 6 December we talked to McLaughlin relative to stock. He requested more information and recommended we write up a proposal to issue stock under Regulation A.

On 7 December a very serious thing happened. Dr. Phillip Powers was to give a long talk at the Commonwealth class. So he fell and broke his arm. As a result I had to fill in even though I had not prepared a talk. It was the old game of talking about things you know little about.

On 11 December 1967 we sent the Chicago office of the Securities and Exchange Commission a formal request to issue $300,000 of stock. This was never approved. Also on 11 December Toy returned from treatments in the New York hospital. He told Bennett he was in good condition. On 12 December Bennett told us that Harold Turner called him and stated he was acting for a group of California Nuclear shareholders who were planning to sue California Nuclear. He indicated the basis for the suit was that we have accepted loans to be converted into stock and that this was illegal. Actually we had accepted loans to the company with the understanding that each loanee could take stock later if it could be issued, otherwise the loans could be taken in cash plus interest. As noted, we never had a court ruling. At least two families or persons, the Helgesons and Koops, asked for and were paid in cash. I always believed Bill Johnson instigated the suit as he did not agree with our management.

On 13 December 1967 there was a meeting of William Shehan, representing Federman, William Muller, representing Federman, and William K. Bennett, relative to employment contracts. It was verbally agreed that Eugene Hungerford would be paid $10,000 per year for three years, for 125 days per year. The suit which Turner had stated he was instituting worried everyone and essentially removed Chicago Flyash from their proposal to join us.

While not a direct part of this story, on 14 December Daniel Hang of the University of Illinois agreed with Wallace Behnke to present the Fuels Management Course developed at Argonne to other utilities in a Summer Institute at Purdue. This occurred for at least three summers following this conference.

On 19 December I wrote Beierle a letter requesting reasons for some of his trips to the West Coast. I knew what he was doing and I believed that some of the trips were

involved in the initiation of a suit against us as managers. Also he had made personnel transfers to the West Coast without notifying us, let alone requesting approval.

15. Sale of California Nuclear, Inc.

Even as early as 1964 several companies discussed the possibility of purchase or combination with California Nuclear. These discussions increased as time went on. I have already mentioned Commonwealth Edison and California Salvage, and referred to others, but over the five year period there were many other discussions. These are discussed below.

a. Nuclear Fuels Services

I have also mentioned Nuclear Fuels Services several times. But I have included a more extended discussion here.

Since Walton Rodger and I had known each other for several years, it wasnatural to discuss combining Nuclear Fuels Services and California Nuclear. Walt was at Oak Ridge when I moved there but he left soon after to become Assistant or Associate Director of the Chemical Engineering Division at Argonne. I had had some contacts with him there. Then we worked together quite intimately as partners for a year.

Walt wanted California Nuclear to join Nuclear Fuels Services. But when he left Nuclear Fuels Services that idea was dropped. While Walt and I were partners we worked on plans for a waste disposal company with American and Foreign Enterprises with whom I had worked at times for several years. The President of American and Foreign Enterprises worked out an agreement with one of the large trucking companies and we were quite pleased with everything except the stock distribution and officers to be elected; so we dropped the negotiations.

b. Manst Corporation

I never knew much about the Manst Corporation but in October 1965 Mr. John Mangueri of Manst approached us about joining Manst. Mr. Mangueri promised many times to send us information about Manst but he never did so. Then on 15 December 1965 Mr. Mangueri called saying they were interested in joining or investing in California

Nuclear. Due to the fact that Central States Small Business Investment Company had agreed to loan money to us, I did not follow through on this lead. Fred did talk to them later.

About all I ever learned about Manst Corporation was that John Mangueri had set up the corporation in Alexandria and Walt Rodger had told him about us.

c. Milmanco Corporation

Milmanco never actually made an offer but, as noted in the discussions relative to the Washington site, they did assist us by promising to invest $100,000 if we needed it as a guarantee to get the Washington site. We never got together on a contract.

I believe their motives were simply to keep Nuclear Engineering as led by Bruin and Hufft out of Washington.

d. Long Island Nuclear

In addition to Nuclear Engineering and California Salvage, there was a firm located on Long Island called Long Island Nuclear, that was licensed to collect radioactive wastes, store them and ship to West Valley. The firm at one time had a license to transport and dump in the Atlantic Ocean but by about 1965 this had been cancelled.

The company was owned nearly 100% by John LaGrua and his wife. We never saw financial reports or knew how much business was being done but it was substantial. John approached us to merge. It was obvious that there were advantages for LaGrua and California Nuclear to do so. John claimed control because he was in sound financial condition, so he stated, and had a going business. I was skeptical to say the least.

Finally we worked out what we thought was satisfactory merger terms and submitted these to our Directors and shareholders but the merger was called off by us when LaGrua asked for more than 35% of the stock of the combined companies.

Then on 16 November 1965 John called and in my absence talked to Irene Backus. He said: 1) he wanted

to know if the merger was off; 2) he stated our stock was up for sale and grabs by the public; 3) he stated he should be a part of the Illinois site group as he had sent a telegram to the State of Illinois recommending us for the site, (we never heard of the telegram elsewhere); 4) that we had been turned down by a Chicago bank; 5) that we had asked General Electric for financing and General Electric had turned us down; and 6) we would possibly have the Washington site taken from us due to the constitutionality question.

The next day I wrote John his proposal made on 1 November was not on very equitable terms and we would probably not accept it. Then on 21 November Walter Rodger called. LaGrua had called him. Walt suggested a 40, 20, 40 break with Walt having the 20%. I indicated I did not believe LaGrua would be cooperative and we dropped further discussions. John LaGrua kept up his requests into 1966 to join or buy California Nuclear. He also tried to buy the Kentucky site from Nuclear Engineering. Finally on 18 February 1966 we broke off all negotiations.

Then again toward the end of April John called and wanted to discuss joining with California Nuclear. And again I put him off. LaGrua knew about our contract with Central States. So on 1 June 1966 LaGrua called Jim Toy of Central States. Apparently they talked for half hour. As a result Jim called me and suggested:

1. We arrange a mutual buyout agreement whereby we would buy all the stock of Long Island Nuclear or Long Island Nuclear could buy all the McLain stock in case anything happened to LaGrua or me.

2. We work out a mutual agreement to work together for two years with a conditional merger agreement.

I disagreed on the basis of the misstatements which LaGrua had made, but I did agree to visit Long Island with Toy and to try to continue talking. Toy and I visited his setup on Long Island early in June. He had an old shed and a couple of old trucks. Then he came to Lafayette. Our secretary, Irene Backus, Eugene, and I met him at the airport, brought him to Lafayette, talked about three hours and then took him back to the airport in Indianapolis. Irene took down every word. We didn't trust him. He wanted 55% of the merged company. I talked about a possible 35% for him. So again we dropped negotiations. We, however, continued discussions for several months.

Still, about 1 August LaGrua called Walt Rodger

about joining California Nuclear. Walt stated that LaGrua was in bad financial trouble but had bid on a Westinghouse job for $105,000 with out-of-pocket estimated costs of $94,000. We heard much later, I think in 1968, that LaGrua had done a poor job and Westinghouse was suing him. Also he had had at least one bad spill.

Then on 13 September 1967 he called and wanted to merge with us. Since then we have learned that LaGrua has had serious troubles, including the suit with Westinghouse. What happened I don't know. The last I heard was that he had lost his AEC licenses.

After we had signed the "Sale of Assets" contract with Nuclear Engineering, John called on 7 August, 1968. He said that he was about to throw a "monkey wrench" into Nuclear Engineering's operations by a suit against California Nuclear, Stuart McLain, and Nuclear Engineering. He claimed Nuclear Engineering owed him $22,000 and that he had been denied use of the Morehead, Kentucky site. He further stated he would ask the AEC for a hearing.

I did nothing nor heard nothing further either from LaGrua or his lawyer, Lowenstein.

e. Landauer

Landauer talked of combining with us. His firm read exposed film badges etc. While they were active with several employees, they still had a very small business in respect to property etc. I personally never liked Landauer. Why, I don't know, as he was friendly and well liked by others. I certainly had no reason not to like him either as he was always friendly and helpful to me.

I visited his plant but it was quickly obvious that all the firm had was the film business. Landauer wanted to buy California Nuclear for practically nothing. So I thanked him and left.

f. Chicago Flyash

We had a very long flirtation with Chicago Flyash. As a matter of fact we still have close relations with them and may work with them in the future.

The company consisted of three partners with a considerable staff. Craig Cain was and is the President and Business Manager and he generally runs the operations

of the company with the other partners handling the finance and legal problems.

As noted earlier, Chicago Flyash was set up at the suggestion of Commonwealth Edison to handle their flyash. It was Eugene Bailey of Commonwealth Edison that urged us to merge. Chicago Flyash developed the use of flyash in concrete etc, and the company has been quite successful. Craig wanted to expand but the others did not. On 3 November 1965 I talked to him. He indicated he was interested in working with us and perhaps financing us. I agreed to send him information. He also said he would help us get equipment for the Illinois site.

On 15 November 1965 Craig Cain called and stated his people were not very interested in the waste disposal business but they would invest $5,000 to $10,000 if we needed it. I suspect Bailey had been pressing Craig.

By the end of 1966 Chicago Flyash had made two loans to us. One was for stock for $5,000 and I believe the second was a short term loan for $10,000 and this was quickly paid back.

On 13 July 1967 I called Craig Cain again. This was done at the request of Commonwealth Edison Company who did not want California Nuclear to join Nuclear Engineering. Bailey suggested Chicago Flyash buy the Illinois site but neither Chicago Flyash nor we wanted to do this. Then we tried to get Craig Cain to assist in management. This he declined to do.

Again on 16 October 1967 we talked to Chicago Flyash about investing in California Nuclear. I do not remember who made the contact. At any rate Eugene and I visited their office in Chicago and talked to Craig Cain, O'Brien, Mullendorf, and McGuire for some time. They appeared interested and we agreed to further discussions.

Again at the suggestion of Bailey of Commonwealth, we met with the Chicago Flyash people on 24 October. Eugene and I drove to Chicago and talked to Cain, O'Brien, Mullendorf, Nash, and McGuire. They tentatively agreed to loan California Nuclear $200,000 with the provision that this would be converted to California Nuclear stock if and when we could carry out merger negotiations. We agreed to talk to the California lawyers about the steps we needed to take as we were also negotiating with Nuclear Engineering. The next day we talked to Williams, our San Francisco lawyer. He stated that we could talk freely to Chicago

Flyash but we could not show them the Nuclear Engineering contract; we should notify Nuclear Engineering that we have broken negotiations; and we will need a considerable amount of information about Chicago Flyash. Since Nuclear Engineering had stated they would sue us if we broke negotiations, Bennett said they had little to sue us for.

The negotiations with Nuclear Engineering are of interest here and should be referred to. They had worked out an agreement that was ready for signature but the Negotiating Permit had run out. Further, both Eugene and I were very opposed to joining Nuclear Engineering for lots of reasons, the most important was their low technical standards. So I called Craig Cain and told him I had to act promptly. He said he would be in our office Monday and we would pay Nuclear Engineering's note.

On 26 October a Mr. McBride, who worked for Chicago Flyash, came in and talked to us about our financial situation. On 30 October Craig Cain and James Mullendorf came in and spent the day with us. We borrowed $42,000 from Chicago Flyash and sent Nuclear Engineering full payment of what we owed them. The negotiations with Nuclear Engineering were reported to Chicago Flyash on 3 November 1967. Craig Cain stated they were ready to fight a price war with Nuclear Engineering as we had been threatened by Nuclear Engineering.

Then we had another meeting on 4 November at the Chicago office. Johnson and Beierle came in and we met at length with Cain, Mullendorf, and Nash. As a result of the discussions Nash strongly recommended against any combination with us. Johnson then informed us that he was quitting California Nuclear. Later we talked about Nuclear Engineering's contract.

On 3 November we talked at length and it became clear that both Beierle and Johnson would never agree to anything except a merger with Nuclear Engineering.

On 10 November Bennett and I drove to Chicago and met with Cain, Nash, and Mullendorf. Mr. Nash was afraid that Nuclear Engineering could sue us if we joined Combustion By Products. Combustion By Products was a subsidiary, I believe, of Chicago Flyash. He requested that if we obtained a letter from the California Commissioner of Corporations or our California attorney stating that it would be impossible for legal reasons to merge with Nuclear Engineering, they would be satisfied. Of course, no such letter could be written as there were no legal reasons why we could not join Nuclear Engineering. Why he was worried, I could not

and do not understand. Perhaps he didn't like us. They were also worried about Central States and they planned simply to pay them off. Had they done so, I don't know how the McLains would have come out.

On 22 November Craig Cain called and stated Beierle had visited his office and told him that "a number of California Nuclear shareholders are unhappy that we have not accepted the Nuclear Engineering proposal and are talking about a suit." Fred also stated Johnson would probably resign (he had but we had ignored his verbal resignation and he continued to work and to cash his pay checks).

On 6 December 1967 Eugene and I again visited Craig Cain. We told him that Robert Williams, our California attorney, had had difficulty getting any information about the merger with Nuclear Engineering as the Commissioner refuses to make a statement without a signed agreement in hand. He had previously indicated he would not approve such a merger but he would not make a formal statement. We told Craig that Bennett and we could not understand the problem as we have no acceptable contract with Nuclear Engineering, and we have broken off all negotiations. We explained that we have received no proposed contracts; Fred and Bill have been told by Nuclear Engineering that they must sign non competitive statements but they have been offered no contracts; the merged company would be under Continental American; and we would not be represented on the Board.

On 12 December Craig Cain and Kenneth McBride of Combustion By Products, came in and spent most of the day with us. Craig stated they were ready to write a contract with us. As soon as this is signed Craig would like to visit the following places with us: Colorado, Maryland, South Carolina, and work on radiation records.

Later we decided we would have to switch the radiation records to a new corporation in Indiana and switch the California corporation to Indiana and then merge with the Delaware corporation which was subsequently renamed Nuclear Management, Inc.

Then on 13 December Craig Cain stated by telephone that he would send us money for the Delaware corporation to permit us to proceed with the radiation records. This he did. But as noted elsewhere, the AEC dropped the project.

On 13 December there was a meeting of William

Shehan, Muller, Bennett, Lugene, and me to discuss our proposed employment contracts with Nuclear Engineering. The next day Bennett came to our office and dictated the notes of their meeting. On 14 December I talked to Craig Cain. He said he will have Nash call Bennett and Turner relative to the shareholder suit. He stated they were progressing rapidly in respect to the contract and plans to work with us.

On 21 December 1967 Craig Cain called and stated that they had decided that they could not go ahead with the merger due to the risk of the SEC suit and the small shareholders' suits. Fred had called Craig the previous evening. I do not believe that there was any danger in either suit.

Lugene estimated her losses as $150,000 and the McLains' as $500,000 due to this cancellation. We would have sued Beierle and Johnson but neither had much except their California Nuclear stock.

Again on 8 April 1968 we talked to Craig Cain and Gene Mullendorf. They were interested but afraid of suits if we were to join them. Then on 20 April after the Deputy Commissioner had disapproved the merger with Nuclear Engineering pending a review, we again talked to Craig Cain and tried to assure him that there could be no small shareholders' suits as the Commissioner had ruled the Nuclear Engineering merger was not fair to the small shareholders. Anyway, most of these people had simply made loans to California Nuclear and were not shareholders. Cain and his partners were still worried.

Again on 26 April I talked to Craig Cain and included the possibility of Tri-State Trucking joining but Craig again indicated fear of suits.

From 1968 until the present, early 1974, we have kept in close contact with Craig Cain. On 25 January 1974 Lugene Hungerford and I met with Eugene Bailey of Commonwealth Edison. Due to the poor record of Nuclear Engineering and the fact that an accident in transportation of radioactive wastes, Bailey would like Combustion By Products to buy the Illinois site from Nuclear Engineering. Bailey asked us to make an estimate of what Craig should pay. The next day I called Bruce Harris and asked him to make an estimate of how much business is being done at Sheffield. Later on 25 January we had lunch with O'Brien and Cain but did not tell Cain what Bailey had asked.

After the agreement with Nuclear Engineering

was signed Nuclear Engineering paid the note which California Nuclear had signed with Combustion By Products. Also over the years we have personally kept in close contact with Craig Cain. Since we have considered a chemical waste site in the Chicago area Craig has agreed that if we do open one we will interchange wastes that are best handled by the other company.

g. Tri-State Trucking Company

One of the companies that seriously tried to buy California Nuclear or an interest in the firm was Tri-State Trucking Company. I believe had Tri-State bought a large block of our stock, that they and we would have benefited.

Mr. George F. Boyd, the Tri-State President, wanted to go ahead but his financial people objected since we were a deficit company. On 6 December 1965 I met with Mr. Boyd and he talked about buying us. After considerable discussion Mr. Boyd suggested they buy $100,000 of California Nuclear stock and we stay independent. Then he and Mr. L. R. Reynolds, Jr., President of the First National Bank (probably of Joplin), took me to lunch. Mr. Reynolds asked many questions. Mr. Boyd told me Reynolds was quite wealthy as he was worth about $3 x 10^{7}. He was also a very large shareholder in Tri-State.

Mr. Boyd called Mr. Combest, their Board Chairman. I was quite sure they would help us as three members of the seven member Board seemed favorable. They also indicated an interest in buying Nuclear Engineering.

On 8 December 1965 I sent a letter to Mr. Boyd stating that I had discussed his proposition with the other Directors and we all favored joining Tri-State as outlined. On 17 December Mr. Boyd called and asked for a considerable amount of detailed information which I sent him. He stated their Board was worried because we were not a Delaware corporation.

On 30 December 1965 Beierle and I met with Mr. Boyd and Max Morgan of Tri-State in Joplin. They wanted to invest if we would form a Delaware corporation. Later their bankers and accountants objected to the point that the subject was dropped.

One funny thing happened. Beierle and I returned to Kansas City by plane on the Friday evening of 30 September. We had no reservations on home. We asked

the ticket seller at the airport for reservations to Portland and Chicago. As all planes were filled I began to ask for a ticket to any place in the Midwest and Fred asked for a ticket to Denver, Chicago or elsewhere. The girl looked dumbfounded and asked if we knew where we wanted to go.

Once too Fred and I had a similar experience in Chicago. The girl at the desk asked where we wanted to go and Fred reeled off about eight places. She just looked at us and asked, "Are you serious?" The girl next to her said, "Of course they are serious. Can I help you gentlemen?"

Once I was in Downers Grove and walked into the Travel Agency. They had a new girl and when she asked what I wanted I started to hand her left over tickets, including railroad tickets which they did not handle, for refund and then started on a list of requests. She just stood and looked at me. One of the girls familiar with my travels walked up and said to the other girl, "Don't just stand there. Bawl him out. He stays awake half the night thinking up these crazy things for us to do." Then she turned to me and said, "What can we do for you?"

Then I sent a formal letter to Mr. Boyd on 7 January 1966. He and Mr. Morgan had agreed that Tri-State would invest in California Nuclear and we would work together. Later, as noted above, this fell through. They would have gone ahead on a lower than par value stock which I declined.

I believe Mr. Boyd could see the future prospects of work with us but the other people in Tri-State did not. For example, transfer of nuclear fuels etc was possible. This is a good example as is that of Chicago Flyash of the socalled "business people" making decisions against the judgment of the "operating people". The business people only consider the books while the operating people consider the whole project. For example, Beierle, Johnson, Hungerford, and I were experienced in the field of nuclear wastes. Only Rodger, Harris, and a few others knew much about the business. With a reasonable amount of financial help we would soon have dominated the industry. Both Craig Cain and George Boyd understood this.

In January 1974 we were told by Bruce Harris that Tri-State was doing trucking for Nuclear Engineering as Nuclear Engineering drivers were on strike. Tri-State is not unionized.

h. Isotopes, Inc.

At the end of February 1966 Isotopes, Inc., through Dr. Warner and Mr. Brown, had talked to Fred Beierle about a combination of Isotopes and California Nuclear. I knew Dr. Brown and I think that I had met Dr. Warner.

Isotopes is a subsidiary of Teledyne and well managed. To join with them would have been logical. Later I visited Dr. Harry Brown and others. As discussed later, Teledyne did become involved with us.

Dr. Kulp in April 1966 wanted me to meet him and Dr. Brown in New York to discuss the purchase of California Nuclear by Isotopes. Dr. Brown was President of Hazelton Nuclear Science Corporation. But they wanted to buy us for a song.

About 12 December 1966 a Mr. Christiansen, Chairman of the Board of Isotopes, called Jim Toy relative to joining California Nuclear. Isotopes had been losing money and it appeared Dr. Kulp was being replaced. I told Toy that Isotopes had tried once before to join with us under what we considered a poor arrangement. I agreed that a merger of Isotopes, California Nuclear, and American Nuclear would have great advantages since we did not compete but would support each other. What Toy did about it I don't know.

As noted later, Dr. Kulp tried to buy our stock as a part of Teledyne. When Teledyne bought Isotopes I don't know. Dr. Kulp also operated the U. S. Potash plant for a year and I heard from Federman he changed a good profit into a three million dollar loss. At least the Carlsbad Potash plant was closed in 1973.

Then Nediatech bought some Teledyne equipment in 1972 on lease-purchase. Teledyne people were almost nasty when we got behind in payments.

Also when Teledyne tried to buy our Nuclear Engineering stock Themis, Secretary of the company, offered $21 for the stock and when I refused he stated Teledyne would force the price down below that and buy it for less. When Dr. Kulp tried to buy our stock he wanted to pay over the $21 but could not do so. So Teledyne failed to get control of Nuclear Engineering. Themis' threat was, I believe, illegal and he could have been prosecuted by the SEC.

i. U. S. Testing

In March 1966 U. S. Testing requested financial data and their Board studied joining with us but no action was taken.

j. Health Physics Associates

Mr. William D. Rivkin, Vice President of Health Physics Associates, suggested we join with them to make a proposal to Illinois. I declined. As discussed above, he raised objections to the contract of Illinois and California Nuclear.

I always thought that Mr. Rivkin's original proposal was simply to obtain information about us.

k. Nuclear Chicago

Dr. John Kuranz, Vice President and active manager of Nuclear Chicago, and I were old friends as I had done consulting for Nuclear Chicago. Nuclear Chicago made instruments, checked radioisotopes, etc.

On 10 February 1966 I talked to John and he stated that Nuclear Chicago would very much like to buy us. Or in any case we should work together. John stated they had some sort of a legal difficulty with the Department of Justice and that they needed the Department's approval for mergers. He requested detailed information relative to California Nuclear. He said he would contact the Department for approval to merge or buy California Nuclear, and that as soon as this was received he would make a business loan to us. Nuclear Chicago was then embarking on a Health Physics program. I then talked about the loan with Central States as we had not yet signed the papers. He stated to proceed with it and as soon as Nuclear Chicago could get the Department of Justice's approval we would pay it off. And I took his word for it.

Toward the end of February John notified us that the merger with Nuclear Chicago was deferred at least until June as Abbott Laboratories and Nuclear Chicago had signed a study agreement to merge and no large financial commitments could be made until the merger was completed. This left us really up in the air as we had signed the agreement with Central States on the belief that Nuclear Chicago would help us.

On 5 August Curtis, who was Vice President of Central States Small Business Investment Company, reported through Toy that if we wished to join Nuclear Chicago, Central States would approve as it was their objective to assist small businesses to start and we should consider they would support us in any merger that was beneficial to us. This was the only good statement ever made by anyone in Central States to the best of my knowledge. It certainly was a wholehearted spirit. However, their contract called for many privileges--or they thought it did but they had not considered properly Eugene's additions. I always admired and liked Curtis.

On 26 July I had a meeting with John Kuranz. We could only talk in general terms due to the court order relative to the purchase of Nuclear Chicago by Abbott Laboratories. This order was to run out in a few days. Kuranz was most interested in a merger or purchase by exchange of stock. I talked to Robert Chudy for an hour. He was in charge of their Special Products Division. This covered instrumentation, film badges, radiochemicals, including sealed sources and standard solutions, planchetts, vials, etc. I also talked to Robert Hoglund, Manager of Market Planning. He was interested in how we could work together.

I was not very satisfied with the visits as their interests were more in Health Physics. Later the merger of Nuclear Chicago and Abbott Laboratories was disapproved by the federal government. I believe the government opposed the merger because both companies had Radiological Physics groups and the merger might have lessened competition.

Finally Searles bought Nuclear Chicago. As noted below, Searles considered purchase of American Nuclear and California Nuclear but they would not pay us what we thought we were worth.

Then on 14 November 1966 a Mr. Vanderbrink of Nuclear Chicago called and stated that they wanted to merge with California Nuclear. His message was actually delivered to me at a Nuclear Engineering Board meeting in San Francisco. I told him I would be in his office the next day.

Mr. Vanderbrink and I discussed a possible merger. We reviewed the history and how we might work together. It was agreed that, if we could work it out, Searles would purchase 51% of the California Nuclear stock and we would work together. A Mr. Levingood of Searle then joined us and we discussed financing.

On 18 November Eugene and I visited Searles Laboratories. We discussed financing with Mr. Levingood, who discussed the financial and merger possibilities. He was worried about our agreement with Central States and its possible legal difficulties. He agreed to talk to their lawyers and contact us. I had Mr. Boyden of the Sheffield Bank call Mr. Levingood about us.

We discussed a joint combination of California Nuclear and American Nuclear with Nuclear Chicago and Searle. On 10 January 1967 Eugene and I met Wayne Graybeal, President of American Nuclear, and Dr. Lacey, I believe a consultant from Oak Ridge, at Chicago and then we called on Dr. Vanderbrink and Dr. Tittle of Nuclear Chicago. Vanderbrink was in charge of marketing. It was obvious that American Nuclear's work in casks and our work in waste disposal fitted well into Nuclear Chicago's work. After considerable discussion Graybill suggested that we make a joint proposal, as follows:

Item	American Nuclear	California Nuclear
Stock	0.625	0.375
Loan for 60 days	50,000	50,000
Loan for 2 years	250,000	250,000
Cash for 51% of stock	603,000	367,000

We also agreed that at the end of two years Nuclear Chicago could withdraw and we would pay the stock price back in five years with interest at 6%. We were both so sure of profits in two years that we agreed to these terms.

Vanderbrink agreed to discuss the proposal but we did not believe Nuclear Chicago would go through with the deal. I believe Searles vetoed the purchase of American Nuclear and California Nuclear. Actually, I do not know what happened. They should have bought the deal. The smoke detector mentioned in paragraph o. below was placed in production a few months later and the first year's profits were over $1,000,000.

This leads again to the important conclusion that decisions by corporations should be made by the technical staff with advice from the business staff. It was obvious I believe to the technical people that both American Nuclear and California Nuclear had great potential.

1. Nuclear Science and Engineering

One evening in March 1966 I discussed a merger

with the President of Nuclear Science and Engineering. As a part of the discussions with Nuclear Engineering a three-way proposal was made but fell through.

n. Applied Health Physics

As a change Mr. Robert G. Gallagher of Applied Health Physics suggested we buy 80% of that firm for $85,000. We did nothing as we found they had very little.

On 29 March Mr. Gallagher called me and asked for a bid on removal of 100 barrels of wastes. He also requested copies of our brochure and financial reports. I sent these but did not follow up. He also suggested that we buy American Nuclear Corporation of Oak Ridge, as it was for sale for $80,000 (which it was not). This is discussed below in paragraph o.

Later in April 1966 Gallagher called and asked if we were still interested in Applied Health Physics. I said, "Yes." He stated they had bid on a demolition job and quoted us as a part of the organization. Pending further negotiations, he asked for an exclusive representation in the states surrounding Pittsburgh. I stated we would have to check insurance and licenses but I did not disagree in principle. I agreed to try to meet him soon after his call.

On 22 April Toy and I met with Gallagher. It developed that most of Applied Health Physics sales were for clothing, irradiation measurement equipment and materials, calibration, etc, and a spray-on strippable plastic. Gallagher appeared to be an idea man. He was a Certified Health Physicist. He appeared to be a good salesman with poor judgment, and not a good manager. The company needed at least $15,000 cash immediately. They had a total indebtedness of $80,000. The Gallaghers owned 52% of the stock. We did nothing with them and I don't know what happened to them.

On 26 April Gallagher called and stated he was enthusiastic about the chances of a sale to or a merger with California Nuclear. We said we could put him on the combined Board of Directors and would be glad to have him join us. However, we made no commitments.

On the 27th I talked to Dick Cunningham about Gallagher. Dick stated he was technically capable but to push ahead with the company, he had made statements that were dishonest. I had suspected this but I had had no data. So this ended the discussions with Gallagher. Why

do people not be honest? It is so much easier. Word of bad doings travels faster than word of good doings! And it's so hard to keep your stories straight.

n. Midwest Applied Science

In 1966 William Spaulding of the School of Business Administration at Purdue was working part time for Midwest Applied Science of West Lafayette, Indiana. They had a small plant at the north edge of West Lafayette. Bill suggested the two companies join. Midwest showed little interest. And I showed even less interest.

On 3 June I talked to John Goldberg about Midwest. He stated that DeGroff, their President, had continued work after it was obvious that there was no chance for a profit. He also stated we could easily hire all their employees. Nevertheless, Midwest has continued and now is growing rapidly.

o. American Nuclear Corporation

American Nuclear Corporation was organized by some Oak Ridge people. Mr. James Wild was President. They were manufacturing gamma radiation sources up to the 100,000 rad range.

Then on 12 December 1966 Lugone and I had lunch with a Mr. Wayne Graybeal of American Nuclear. He was the owner of a trucking company in Tennessee and had financed American Nuclear. As a result of the loss of money he had taken over active management of the company. He had turned the company around and it was on a profit basis in three months. He had developed a metal analyzer for junk dealers and was developing a flame and smoke detector which American Nuclear patented.

This story is continued in paragraph k. above.

p. Nuclear Engineering Company

As noted earlier, it was William Johnson's unhappiness with Nuclear Engineering that got us started in California Nuclear. The company was controlled by the following people:

Bruen	50%
Hufft	20%
Gorey	?

This information was given to me on 17 May 1966 by Stewart Corbett. How true it was I do not know. On 20 May 1966 at a California Nuclear Board meeting Fredrick P. Beierle stated that he "had been informed that certain Directors of Nuclear Engineering wish to merge Nuclear Engineering and California Nuclear." I heard later it was Aaron Katz who made the recommendation.

Bill Johnson had worked for Nuclear Engineering but for how long I don't know. His brother was manager of the Nevada site. Sometime after California Nuclear was formed his brother was killed in an automobile accident. But Bill believed that his death was due to Hufft's continuous pressure on him which made him nervous.

Contacts with Nuclear Engineering have been mentioned in other sections. Some of these are:

1) State of California Hearings

2 December 1963 - Mr. Hufft's testimony, we believe, was knowingly incorrect in that he testified a few thousand cubic feet were being collected annually in California while actually the total was nearly 190,000. We believed he gave this testimony in an effort to keep California Nuclear from obtaining a burial site in California.

2) Washington Suits

We believe these suits were started to hold up California Nuclear. We had a direct loss of about $75,000 plus a sales loss of about $50,000 per year for five years because of the suits. We believed that these suits were in violation of the Federal Trade Act. During these suits we could not deliver wastes to Washington and had to ship to Nevada at an extra cost of about $5,000.

3) Offer to Remove Stored Wastes

In October 1963 we began to store wastes in California. About the time of the taxpayer's suit Mr. Hufft offered verbally to remove all these wastes and to assume all our debts if we would sign an agreement not to continue in business in California. We believed this offer was in violation of the Federal Trade Act. Negotiations are discussed below.

I don't know the dates but sometime in 1965 or 1966 Hyman Federman formed a group known as Nuclear

Engineering Associates. This group was made up of several people with Wall Street connections. The only ones I remember were:

Hyman Federman, a Wall Street broker
Aaron Katz, a lawyer
James B. Hallisey, a lawyer

Katz was older than Federman and had set Federman up as a broker. Aaron appeared to be honest and trustworthy. If Nuclear Engineering had followed his suggestions, I think we would have had a good company. Also there was some tie in with Hoffman-LaRoche. Perhaps one of the men in Nuclear Engineering Associates was the American manager.

Nuclear Engineering Associates all gave Federman their stock proxies, so he voted for the group. They immediately bought out Bruin and Hufft so they controlled some 60 to 70% of the Nuclear Engineering stock. Then Federman installed his brother-in-law, Max Margolis, a San Francisco lawyer, as Secretary of Nuclear Engineering.

Katz had found out about the California Nuclear contract with Central States Small Business Investment Company in Ft. Wayne. So about 20 June Aaron called Toy about a merger. Katz suggested that his group pay $400,000 for 55% of the Nuclear Engineering stock to be purchased or exchanged with Federman's group of which Katz apparently owned a large part. They would also pay McLains $400,000 for their California Nuclear stock.

Presumably a holding company would be set up controlling 55% of the stock and the small shareholders would be in a separate group. Katz suggested management be the California Nuclear management group. Apparently he did not like James Harvey, the President of Nuclear Engineering.

Katz suggested that we would start with burial sites in Kentucky, Nevada, Washington, and the option on one in Illinois. He suggested closing Nevada, opening sites in Arizona, Eastern and Southeastern parts of the country and reduce rates to a lower profit and improve services. I believe this would have been a good and workable plan.

Other ideas discussed were to continue the Whole Body Counter and to buy Helgeson's stock.

Then on 25 July 1966 James Toy of Central States

called me. He stated Aaron Katz had called again and that Aaron said he was definitely interested in a merger. Aaron and Toy arranged a meeting in New York for 5 August.

On 4 August a pilot from Ft. Wayne picked me up at the Purdue Airport. At Ft. Wayne we picked up Jim Toy and flew to New York with a stop at the old Black Moshannon Airport, now called the Petersburgh Airport. It was at Black Moshannon that I landed so frequently on the way to Curtiss-Wright. On the morning of the 5th an associate of Jim Toy's, Professor William Haberle, from the University of Indiana, talked with us.

Toy and Haberle worked together on acquisitions and computer soft ware. Haberle was on Dean Weimar's staff. We agreed to say little but let the Nuclear Engineering staff do most of the talking.

At the meeting we met in Hyman Federman's office. Lugene had been at their cottage in Connecticut and drove in to meet with us. Besides Toy, Lugene, Haberle, and me, there were:

Hyman L. Federman, broker
Aaron Katz
James B. Hallisey
Alfred D. Morgan (from Federman's office, I think)

Federman turned out to be friendly most of the time, very intelligent, and a pusher for Federman. Aaron Katz appeared to be very intelligent. As noted above, I liked him. He claimed a finder's fee for the final agreement. Being Jewish, he liked to tell Jewish stories.

Federman stated that he and Katz represent the 8 buyers of 55% of the Nuclear Engineering stock. They had agreed to pay Hufft $100,000 as a consultant for two years and Hufft had agreed to buy a boat and some real estate.

Toy and Haberle reviewed our financial status and future plans. Federman stated they needed us for management and Katz stated we had a deal. Haberle agreed to write the merger contract--which I believe he never did anything about but collect for the time. At least I never saw or heard of anything. He seemed like a bag of wind to me. It was agreed that California Nuclear would be the continuing company with me as President.

Nuclear Engineering had hired Admiral Mills as

Chairman of the Board. Mills had been Hyman Rickover's boss in Washington and a real pusher for the nuclear submarine.

It was agreed that the McLains, Central States, and the 55% of Nuclear Engineering stock would be placed in a voting trust to control the company. The Board was to consist of Toy, Haberle, McLain, and others from Nuclear Engineering. Federman stated my salary was too low. It was agreed to meet on 18 August in New York and 27 August in San Francisco.

It was reported at the first meeting that Harvey had stated he was delighted that we were being brought in. He also told this to Bill Johnson.

At the next meeting Federman stated Mr. Dean had called him and asked if Nuclear Science and Engineering Company of Pittsburgh could be included in any consolidation that would be workedout with Nuclear Engineering. Mrs. Dean was the majority shareholder in Nuclear Science and Engineering Company. They were doing $3,000,000 worth of business per year. We agreed to hold her idea in abeyance until the other contract could be worked out. I agreed to talk to Adelman who was running Nuclear Science and Engineering.

Mrs. Dean's husband, Gordon, was a Commissioner when I was in Washington and we became well acquainted. He was killed in an airplane accident sometime in the interim.

It was agreed that we tell Nuclear Chicago we are talking of a merger with Nuclear Engineering and possibly merge with Nuclear Chicago later. Federman stated he represented Citco and money for a reprocessing plant could be made available. I agreed to talk to Commonwealth and Walton Rodger.

We agreed to put in the following bonuses:

Irene Backus	$ 750
Bill Johnson	2,500
Fredrick Beierle	2,500

Actually we did include Irene for 50 and Bill and Fred for 750 shares each later. Bill and Fred sold theirs soon after the merger, I believe, but Irene sold hers later for over $3,200 and bought a trailer that her son used while he went through college.

The following was not at the time a part of these sale discussions but it was pertinent later on. After

return to Lafayette I went to Chicago and talked to James Schumar at Argonne. A William Muller was in his office. Later in August Bill Muller worked out what we both agreed would be a satisfactory merger agreement. We estimated Nuclear Engineering's facilities, licenses, etc at about $400,000 and California Nuclear's as about $208,000. I believed that on the basis of potential the two companies were nearly equal. However, we wound up recommending:

40% common to Nuclear Engineering
40% common to California Nuclear
20% preferred to Nuclear Engineering

with the plan that the preferred would be purchased by the succeeding company over three years with 6% interest. This I believe would have been a very equitable agreement.

Since Central States had a considerable investment in California Nuclear, I reviewed the prospects in a memo sent to Jim Toy on 24 August 1966. I included several services not offered by either company.

Bill Muller was still interested in the nuclear fuel reprocessing end. So on 30 August we had another meeting. The suggested corporation would be set up in Delaware. Bill suggested that the new corporation buy Nuclear Engineering, California Nuclear, and a prospectus be prepared for a fuels reprocessing company.

On 9 September we had another meeting in New York. This was attended by Muller, Katz, Federman, Halisey, Toy, and McLain. We discussed the merger and agreed to 65% to NECO and 35% to California Nuclear, or 122,000 to NECO and 71,155 to CNI. However, no contracts were signed but only orders were given to the attorneys to proceed with drawing up the contracts. After discussion with Toy and Curtis, it was agreed that we would continue to talk even though we believed our prospects were improving.

On 2 November Beierle and Johnson came to Lafayette from Sheffield and Richland and James Toy from Fort Wayne, to discuss the possible merger with Nuclear Engineering. Toy had worked up a proposed contract and sent it to Hyman Federman. He stated he would try to arrange a meeting at Sheffield and include Federman and Haberle.

Muller called on 3 November. He stated he had been in New York and had told Federman that McLain would not sign a 35-65% arrangement. Federman said that was the best he could get. So they agreed 10% would be set aside

and the McLains could buy that later. Federman agreed but on 7 November I met Muller and Federman in Chicago. Federman was all happy about the proposed contract. Federman stated he would recommend that I be Vice Chairman of the Board at $7,500 for rest of 1966, $10,000 for 1967, $12,500 for 1968, and $15,000 per year for two more years plus 5% of the gross earnings. He agreed the office would be moved to Chicago. My duties would be to plan expansions, obtain additional sites, assist on the financial matters, and work on acquisitions. Had he pushed this plan, we would have had a good company.

On 8 November I drove to Fort Wayne and met with Toy, Gallmeyer, Haberle, Beierle, Curtis, Katz and Federman. Details were worked out including the Board. This was to be Mills, McLain, Haberle, Muller, Curtis, Federman, and possibly others.

On 11 November a Mr. John Zerbel, a business advisor and accountant from Milwaukee, came in as an advisor to Federman. He spent some time talking to Lugene and me relative to the merger with Nuclear Engineering. We stated that the probability of the merger was low. He was surprised as he understood everything was worked out and he was simply checking the papers as an outside accountant. We agreed to show him our books provided he, as an accountant, agreed to submit only a verbal report until the final papers were signed. This he agreed to do. After talking to us he stated he would recommend that the office be left in Lafayette under our management. He did look over our income tax and financial statements plus the contract with Central States. Later he and our secretary, Mickey Loveless, and her husband went out to dinner and dancing until 2:00 A.M. at Federman's expense. Federman nearly cried when he got the bill, at least he acted that way the next time we saw him. We laughed.

On 12 November we had a Board meeting at Sheffield. Toy flew in from Fort Wayne. The Board agreed to proceed with the merger with Nuclear Engineering! On 14 November I met with the Nuclear Engineering Board in San Francisco. I made a presentation of our proposal which was reiterated by Federman with some minor differences.

While in San Francisco I talked to a Mr. Bock about the possibility of getting the Commissioner of Corporations to permit us to issue more stock. Also Mr. Vanderbrink of Nuclear Chicago had called me at the Board meeting stating that they were interested in merging with us.

In the Fall of 1966 we rented some equipment from Nuclear Engineering. Their President, James Harvey, tried to get information from Bill Johnson on the basis that we were about to merge and we should exchange bid rates, etc with Nuclear Engineering. I warned Bill (probably it was not necessary) that he should be very careful in conversations with Harvey. Bill was an expert at non committal.

Early in December we commented on a Proposed Contract of Sale of Assets of California Nuclear to Nuclear Engineering. However, when we got the proposed contract there were many changes. In a letter dated 3 December 1966 we tried to get these things straightened out. By that time Mr. Muller was working for Federman in New York.

Relative to the merger, we flew to New York on 6 December and met with:

H. L. Federman
Saul Katz
---- Weinstock
William Muller
James Halisey
Lugene Hungerford

They listed the additional information required to complete the papers. Everyone was friendly but it soon developed that Halisey, who owned some $40,000 of Nuclear Engineering stock, objected to the merger. Later Federman and possibly others bought him off. Anyway, at this meeting we were told that the Nuclear Engineering Board would not approve the changes in the original plan that we recommended. Then our Board refused to accept the original plan, as submitted by Nuclear Engineering. I so wrote Federman on 9 December. On 13 December I wrote Beierle and Johnson a letter in which I stated the proposed contract with Nuclear Engineering was so open ended that they could take us over for as low as $80,000. This would have given the small shareholders only about $3.00 per share. Both Beierle and Johnson wanted us to join Nuclear Engineering. Why, I never found out. I know both had been promised good jobs by James Harvey, but I do not know if other promises had been made to them.

On 21 December I sent Hy Federman a letter again stating that the proposed contract with Nuclear Engineering had to be more specific in respect to details.

On 22 December Toy called and stated that we should consider selling the Washington site to Nuclear

Engineering. Harvey had stated a couple of times that the Washington site was of no use. Actually I think it was 1969 or 1970 before it began to be profitable. However, I told Toy the following in a letter dated 22 December 1966:

"The idea of selling the Washington site to NECO would not, in my opinion, work out. NECO tried desperately to keep California Nuclear, Inc. from getting the Washington site. First, they submitted a proposal as soon as they heard that we had done so and then when we were selected, they formed a subsidiary corporation - at least this is what we believe - which got a taxpayer's suit started against the State to prohibit the State from signing a contract with California Nuclear, Inc. Second, when the State was informed that it could not sign a contract with us by the Court without enabling legislation, and after this was passed and new proposals were requested, NECO again submitted a counter proposal. Again, we won out. Third, even after the award of the contract to us NECO continued the court action on the constitutionality question involved for months and only dropped the suit when we agreed not to press a counter suit for triple damages. I am not sure that we should not have sued! Copies of the official papers from Washington are enclosed. As a result of the things that happened above, we probably would have difficulties in selling the site to NECO."

On 27 December Eugene and I talked to Robert Wieczorowski on LaSalle Street about joining Ranchers Exploration Company. After talking to Weizorowski we walked a couple of blocks, got a sandwich lunch, walked on a couple of more blocks to Dr. Breed's office where we stopped for a few minutes only as Dr. Breed was not in, and then walked on a few blocks to Muller's office on Michigan Avenue. Our total time was not much over an hour. Just after we got to Muller's office Federman called him and told Muller that we had talked to Wieczorowski and he had recommended we go with Ranchers. Federman told Muller to give us almost anything we wanted. On our return to Lafayette we found that Halisey had called Bennett about my employment contract.

On 5 January 1967 Muller suggested we interchange shipments in California with Nuclear Engineering with San Jose and north to Richland and south to Beatty. Of course, Harvey sabotaged this idea. I thought it was illegal. We objected to several items in the proposed contract but about 10 January Federman told both Toy and Muller that he would accept all our suggested changes.

Hy Federman called and suggested a meeting on 20 January. So on 20 January Lugene, Bill Bennett, Bill Muller, and I met with Federman. It was again agreed that we would get 60,000 shares with 50,000 to be placed in escrow and to be paid in three years dependent on a combined business of 1.3 million per year. We agreed.

On 26 January Lugene talked to Federman. He told her Toy was considering foreclosing on their mortgage. I thought that this was a threat by Federman to push us into Nuclear Engineering. Both Beierle and Johnson kept pushing us to sign up with Nuclear Engineering as I think, as noted above, Nuclear Engineering had agreed to give both of them better jobs. On 30 January Johnson called and stated he wanted to go back to Washington from California and to leave the health physics work in California to Harvey of Nuclear Engineering. I agreed to the Washington transfer but not the use of Harvey as our Health Physicist.

Also on 30 January Helgeson called and stated he wanted to sell his California Nuclear stock. Winnie and I bought the stock at par.

Then on 31 January Beierle called our bookkeeper, Donna Terrell, all unhappy. He had heard we were in California (we were talking to International Chemical and Nuclear). He also claimed that the Nuclear Engineering merger was held up since we had not furnished Federman with all the data. Actually Lugene had called Federman a few days previously and Federman requested the figures be sent in writing which they had been. Beierle told Donna that he considered Lugene and I responsible for the delay in the merger. We signed the first bona fide contract we got.

Then Toy called on 31 January just after Beierle's call. He stated Halisey, who was working with Federman, had called about the figures that they needed to complete the merger contract. When he was told that Lugene had called Federman about them, he was satisfied. He also had heard that we were in California talking to some company with an International name. We never knew how people kept track of us. Bruce Burton, our accountant, was trying to put together a certified statement at this time.

Then on 3 February Federman called and stated he would have to change some of the terms of the contract. But he did not say what. Then on 4 February Muller indicated that he would call Federman and try to get things straightened out.

On 6 February we talked to Bill Bennett relative

to the stock issues raised by Federman. Then on the 10th we sent Federman a letter listing and approving the changes he suggested with one correction of a previous letter which he had misinterpreted. So we were surprised to receive a letter from Federman on 18 February stating that the deal with Nuclear Engineering was off. He gave no explanation.

Then again on 3 March 1967 we were all in Federman's office: Federman, Halisey, Katz, Rothberg, Haberle, Bennett, Muller, Lugene, and I. Rothberg and Haberle were representing Central States. Actually, Toy was in the hospital in New York for treatment of his cancer at this time. Halisey opposed the merger--he told Lugene that you can't negotiate with a woman; to which she replied that he could if he tried to be reasonable. Anyway, we again came to terms but it later developed that Federman and his group had to buy Halisey's stock for $40,000. I believe Lugene, Katz, and Bennett were the only straight honest people present. By that time I didn't even know what I was.

We were still in doubt about the merger. Since apparently the members of MECO Associates that controlled Nuclear Engineering had given their proxies to Federman, he could do as he pleased. But his brother-in-law, Max Margolis, and others had to be considered. Katz was all for the merger. I think he liked me. Federman represented a woman in Switzerland who owned a part of Hofmann-LaRoche. Lugene found this out by some side remark and checked back with her New York lawyer friend. Also we believed that Federman or someone he represented owned a part of Ranchers (hence the reason he knew we had talked to Wieorozerowski a few minutes after we left his office). One of the other people was Rhame who was involved in International Chemical and Nuclear and with Beckman Instruments.

On 8 March I sent Federman a letter outlining again our cash needs and plans for possible expansion. Of course, the West Coast people, Margolis and Harvey vetoed these. They could only see their jobs which they may have believed were not too secure. Actually the expansion of the combined companies would have increased their work as indeed it did.

About this time Federman heard through Muller that we were planning a reprocessing plant and looking into making a proposal to the AEC relative to radiation records. Federman immediately wanted a piece especially of the records. As Lugene was doing consulting for other companies, she resigned for a time from California Nuclear. Later she objected since she was not offered a contract at the same

time I was. On 16 March Eugene sent Federman a letter outlining some details and a financial statement as of the end of January. Also on 16 March Federman called about several other companies. Federman wanted to know why Panic of International Chemical and Nuclear was interested, see subparagraph y. below. We suggested that it was the tax loss. I suggested talk but watch your step. Federman asked us to push Bennett for some data.

Federman stated a Mr. Gallagher of Applied Health Physics was in to see him. I suggested Federman beware. The plot continued to thicken. On 18 March I talked to several people at International Chemical and Nuclear. A Mr. Rhame called and asked if we had signed a contract with Nuclear Engineering. When I said no, he stated they would like to buy us and Nuclear Engineering. A George Harwood came on the line and then Mr. Panic. He wanted to know what we would sell for. I didn't trust him so I simply said send us a bid in writing for several hundred thousand dollars and we would consider his bid. Had I given him a definite amount he might have accepted. He said they would make a bid that would top Federman's. That was that and there was no more at that time.

I checked with Bennett to make sure that what I was doing was legal. Eugene suggested we were playing poker with diamond studded chips. This is why I say we are professional gamblers as we are continuing to be. But it takes years to build a profitable company and lots of staying power. Even though they are diamond studded chips, one must use them if he is to win the pot.

The woman who owns most of Hoffman-LaRoche apparently was the key figure even though they told us she did her own grocery shopping each morning. Rhame was a Vice President of Beckman Instruments, and we suspected a cross tie-in with Hoffman-LaRoche. Anyway, I tried to check on Rhame. After a few calls Frank Davis, whom I knew in Washington and who got me on the ASME Pressure Vessel Committee along with Eugene Bailey of Commonwealth and Harvey Wagner of Detroit Edison, stated he knew Rhame. Frank stated, "get a good lawyer and stay away". This confirmed my fears of this group of people.

Then on 25 March 1967 Federman called again. He stated Nuclear Engineering could not issue the agreed on 44,000 shares but he stated that they could issue 34,000 shares. After discussion with Bennett and Eugene I sent Federman a telegram agreeing to accept 40,000 shares.

Federman also stated they wished to issue

$2,000,000 of warrants as soon as the contract with us was signed and we would start full services to the power companies.

On 30 March, after a class at Commonwealth Edison, I picked up Lugene and Federman and drove back to Lafayette. Then on 31 March we had an extended meeting in the office. Winnie did not attend as she was in the hospital in traction due to her hip. Present were Federman, Toy, Haberle, Bennett, Burton, Lugene, and I. We again agreed on a merger on the basis of 10,000 shares to be issued immediately plus 34,000 shares to be issued over a period of three years on the basis of business of the combined companies, based on a total for the three years of $1,100,000 per year.

On 5 April Muller tried to get Federman to issue 40,000 shares immediately. On 10 April Muller stated he again called Federman and Federman stated he was having trouble getting approval by the California Commissioner of Corporations. He stated the contract would be sent to us for approval in a few days.

In April we got a great deal of static relative to the proposed contract with Nuclear Engineering. Beierle's salary in California Nuclear was $16,000 but Fred was told by someone, possibly Harvey, that it would be lowered to $12,000. Anyway, Fred then called Federman and Federman told him that it would be $16,000. Fred had an offer from Westinghouse and was tempted to accept it. At that time we were just starting the packaging of the rest of the Dresden resins. In order to assist us Nuclear Engineering loaned us $35,000 in March which was used to pay bills. We also kept Central States informed of what we were doing.

Then on 23 April Federman called and stated the Nuclear Engineering stock was up and things indicated they were paying too much for California Nuclear. In spite of all this talk, details were being worked out. So on 28 April I sent a long letter to Admiral Mills, Chairman of the Board of Nuclear Engineering Company, outlining what could be done if the merger should be completed. In this letter I pointed out that we had submitted proposals to Colorado, Maryland, and South Carolina to open waste sites in those states.

Nuclear Engineering requested a Proforma Balance Sheet, and this was prepared by Bruce Burton. A copy was sent to Federman on 3 May, along with a letter pointing out that it was overly optimistic.

On 16 May 1967 I sent the California Nuclear

shareholders and lendees a copy of a proposed merger on sale of assets to Nuclear Engineering. The papers sent were a 3-page abstract of the 47-page document. This included a sale for 44,000 shares of NECO stock, or about 21% of the total stock, on a conditional payment, depending upon sales of $3,324,000 for 1967-69 for the combined companies. The Nuclear Engineering stock was bid $18, asked $21, on 15 May 1967, or a total value of about $880,000 for California Nuclear. And Nuclear Engineering agreed to pay all our debts. We considered the value of a license to bury wastes in Illinois as $1,000,000. We had assurance of receipt of the license but had not received it at that time.

Then on 22 May, or about then, we received a telegram from Federman saying that the merger could not be carried through that:

1. California Nuclear did not have a negotiation permit;
2. The higher than expected cost of the Illinois geology work ($12,000 versus $10,000 estimated); and
3. Our 3 week vacation policy.

I asked Bob Williams to obtain the necessary permit and stated the McLains would pick up the $2,000. I assumed that NECO would write new contracts with the employees and anyone not satisfied could quit.

When we began to talk details with Nuclear Engineering we found their employment policies were less liberal than those of California Nuclear. Of course, morale ended up being different too.

It should be noted that Central States had consistently worked for the merger. However, as pointed out above, Eugene had written in a condition in the Central States contract that made the option on our stock of little value as we could immediately buy the stock back. This had been pointed out to Central States by Mr. Federman's accountant, Mr. John Zerbel, even though he had stated he would divulge no information we considered confidential. However, we continued to acknowledge some liability to Central States.

On 26 June (see also Ranchers), we received a letter from Ranchers that they were going to foreclose on a $10,000 note we had signed with them. Ranchers also called Toy and Central States agreed to sell their loan to Ranchers if they couldn't work out anything with Nuclear Engineering. So I called Federman and gave him 30 minutes to answer. He did not call back in the 30 minutes; so I tried to call

Maxie Anderson of Ranchers. He was busy on another line but had he answered we would have been forced to work out a deal with Ranchers. Anyway as soon as I hung up Federman called. He had talked to Admiral Mills, Chairman of the Board of Nuclear Engineering. Mills had told Federman that if we joined Ranchers we would run Nuclear Engineering out of business. Federman stated they would make a contract with us regardless of what they had to do. I did not but I should have told him to send me a night letter to this effect. Federman agreed to make a deposit of $50,000 in escrow to show good faith. This he never did.

In a telephone conversation on 3 July 1967, Harvey stated that Nuclear Engineering would hold a Board meeting in a few days and that he was sure the merger would be approved. On 10 July Toy told us that Donner, Nuclear Engineering's lawyer in New York, had told him the Nuclear Engineering Board had approved the merger. This called for 1.59 shares of Nuclear Engineering stock for each share of $10 par California Nuclear stock or $10 in loans. At that time Nuclear Engineering stock was selling for about $20 per share.

On 13 July Muller reported that one of the shareholders in Nuclear Associates who owned a large block of Nuclear Engineering stock had objected to the merger on the basis that the combined company would be a deficit company. As a result Federman or NECO Associates bought Halisey's stock for $40,000 even though Halisey had only paid $30,000 for it. On 1 September 1967 Eugene made the following comparison:

"A STUDY OF THE FINANCIAL STATEMENT
OF NUCLEAR ENGINEERING CO., INC.

January 1 - June 30, 1967
Compared with the year 1966

L. Hungerford
1 September 1967

The total sales for 1966 were $664,402.71. With the growth of the nuclear industry it was anticipated that this amount would easily reach $700,000 for 1967. On this basis the formula for California Nuclear, Inc. earning NECO stock as part of the merger was that $700,000 per year would be credited to NECO and the remaining sales would be used to calculate stock earned by CNI in 1967, 1968, and 1969.

No Profit and Loss Statement has been received for the first half of 1967 but the changes in the Financial Statement

of Condition indicate either a large loss in sales or a very low profit ratio. The sales for the last four months of 1966, which began at the same time as the merger negotiations began, averaged about $48,000 per month. If this average is taken for a total of 6 months the sales would be about $290,000. One half of 1966 expenses would be about $277,000. If sales have been reduced, a few of the expenses would be reduced. Due to the fact that most expenses other than hauling and site expenses would be fixed, only about $30,000 reduction in expenses would be evidenced. This would leave expenses of $247,000 for the first half of 1967, or a gross profit from sales of approximately $43,000. According to the statement the total of the profit plus reserve for income taxes for half of 1967 is $43,136. If this is compared with the profit anticipated from an extension of the sales of the last four months of 1966, the results seem to indicate that NECO's sales could still be as low as late 1966. If this is the case, CNI sales would have to make up about $125,000 per year of NECO sales before any stock would be earned.

If NECO sales only total $575,000 for 1967 and CNI sales are the $450,000 predicted for the year, the present negotiating contract and number of shares of NECO stock offered are quite out of line.

If adjustments are made in the two statements in order to make them consistent, a change in current assets becomes apparent. The current portion of the Bruen-Hufft note should be added to the December 31, 1966 statement. This gives $322,470 for current assets. The CNI note should be added to the June 30, 1967. The total current assets would be $289,338 or a reduction of $33,132. Current liabilities were reduced by $30,035 for a slightly less favorable ratio of current assets to current liabilities.

There has been an increase in net worth of only $9,026 after dividends were paid. When the fact that deferred costs to Bruen and Hufft represents $24,500 more in the other assets classification is considered, it can be seen that the tangible assets have actually shown a larger decline than have the liabilities."

Then on 18 and 19 September Federman and Muller went to California to work out some more details. I never knew what, if anything, took place.

On 13 September LaGrua reported to us that Nuclear Engineering was in trouble in which they had transferred some materials in violation of ICC orders. Apparently this was minor.

Also on 13 September Toy called Bennett and

stated the negotiations with NECO were going slowly and would require several more weeks to complete. On 19 September Toy called and stated that Federman had not made the $50,000 deposit that he had promised to make.

On 20 September another kink developed in the chain. Apparently this kink is still present. The story is somewhat like that presented below and continued in separate sections below. To start with, much of what is written below is what Muller and Federman told Eugene and me. We did not take an active part in most of the negotiations but did so when we were directly involved.

First, Federman had formed NECO Associates to buy control of Nuclear Engineering. As noted above, there were about 5 people involved, one of which represented Hoffman-LaRoche in the United States.

Second, one of these, Halisey, was we believe subsequently bought out by Federman.

Third, Federman claimed to have proxies from all these people.

Fourth, at some time or other NECO Associates at the behest of Muller, we think, bought the old United States Potash Company's mines and plant near Carlsbad, New Mexico, for a relatively low price. A Mr. Paul Cash was apparently President of this company and another person, whose name I have forgotten, was Superintendent. After purchase of this plant Mr. William Muller was sent down by Federman to run the plant. Muller had been fired, we think, by Great Lakes Carbon and made Vice President of Federman's group after we introduced the two. Muller was also a consultant or had some other relationship with Sanderson and Porter. Federman's office and Sanderson and Porter's office were located nearly opposite one another on lower Broad Street just below Wall Street.

Fifth, Federman apparently formed a company to own and operate the potash facilities. This was Continental American Royalty Company, usually written as CARCO. Paul Cash was also involved in this organization.

Anyway, by September 1967 these organizations were apparently in being. So the following is what Muller apparently had cooked up to sell to us and Federman. Eugene apparently was not present at a meeting I had with Muller on 20 September. At that meeting I listened only. The gist of what was said follows.

a) The merger of California Nuclear and Nuclear Engineering was progressing. The only difficulties were with the regulatory agencies.

b) The original deal was 65,000 shares of Nuclear Engineering stock of which 21,000 was to pay off Central States. Muller suggested that since the market price of Nuclear Engineering stock had advanced during the negotiations from $8 to $21 per share that CARCO buy the 21,000 shares and the McLains give Central States 6,000 shares on their option, which we could later buy back.

c) NECO would buy 60% of CARCO for $500,000. Because of this the Commissioner of Corporations of California would be bypassed. CARCO would pay Central States $120,000. A new consolidated Texas corporation would result. (Of course Muller expected to run the whole thing.)

d) Among other things we would handle the technical, market analysis, expansion, etc.

By the end of September Nuclear Engineering had made a loan to us. On 1 October I checked with Bennett and was assured that if Nuclear Engineering called the note that it could be kept in the courts for months.

On 11 October 1967 Mr. Muller called from New York. He stated the negotiations on the merger were proceeding rapidly. He wanted me to go to New York but I could not go. Then he asked for power of attorney which I refused. The plan called for 20% California Nuclear, 80% Nuclear Engineering, as a subsidiary of Continental American Royalty. No one would have bought this except Muller. He stated they would fold in a carbon company and a titanium company. At least I was told the carbon company eventually went broke.

It is of interest in respect to the dealings with Continental American that the following be included:

"ATOMIC ENERGY CLEARING HOUSE
Published by Congressional Information Bureau, Inc.
Vol. 13, October 9, 1967, No. 41
Page 30

WASTE DISPOSAL LICENSING ACTIONS

Nuclear Engineering Co. - Filed in Docket 27-10 is an August 24 letter from Graubard & Moskovitz, NYC (Richard I. Donner) to AEC stating:

We wish to advise you that our client, Neco Associates,

proposes to sell to Continental American Royalty Company, a South Dakota corporation, having its principal office at 302 Stemmons Tower South, Dallas, Texas, the 68,000 shares issued and outstanding common stock of Nuclear Engineering Company, Inc. which it owns. These shares constitute 55.6% of the total issued and outstanding common stock of the company. Upon consummation of the transaction, Neco Associates, Inc. will control Continental American Royalty Company. It is contemplated that all of the present management, including officers and directors of Nuclear Engineering Company, Inc. will be retained and that no member of the Radiation Detection Team will be replaced.'

'We ask that you consider this a formal request for consent to the transfer pursuant to the provisions of Sec. 30.34 of 10 CFR 30, Sec. 40.46 of 10CFR 40, and Sec. 70.36 of 10 CFR 70...'

On Sep. 22, Graubard & Moskovits wrote further (in part):

'w. If the proposed transfer is effectuated, Neco Associates, Inc. will receive, of the common stock of Continental American Royalty Company sufficient shares to give to Neco Associates Inc. (and its stockholders) approximately 66 2/3% of the outstanding vote stock of Continental American Royalty Company and control of said corporation. Thus, the same group will thereby control the same 68,000 shares of Nuclear Engineering Company, Inc....'

On Sep. 28, DTL replied (in part):

'The Commission finds that the proposed transfer of control would be in accordance with the provisions of the Atomic Energy Act of 1954, as amended, and hereby gives its consent thereto...'

'The Atomic Energy Commission has no regulatory authority over the Licenses issued to Nuclear Engineering Company, Inc. by the States of California and Kentucky...'"

On 23 October 1967 Mr. Robert Williams, our attorney in San Francisco, called Eugene. Bob reported he was having trouble getting information since the negotiating permit between Nuclear Engineering and California Nuclear had expired. He also stated that most of the information we had requested about Nuclear Engineering and Continental American Royalty could not be obtained.

Then on 26 October Muller called and stated that he and Mr. Paul Cash, President of Continental American Oil Company were working out the last details of the contract. I told Muller that we could not negotiate further since the negotiating permit had run out. Muller replied, "You don't need a negotiating permit." He stated that he and Cash wanted to come down that afternoon and see

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me. I put them off and they visited Sheffield. We checked with Bennett and he agreed we could not negotiate without a negotiating permit. So we held an Executive Committee meeting of Winnie, Eugene, Bennett, and me. We agreed to send a telegram to Nuclear Engineering breaking off negotiations. So on 26 October I sent a telegram to Harvey, Mills, and Muller as follows:

"CALIFORNIA NUCLEAR HEREBY TERMINATES ALL MERGER NEGOTIATIONS WITH NUCLEAR ENGINEERING."

Of course, we had borrowed money from Nuclear Engineering and had only a verbal contract with Mr. H. William Muller. Copies of the telegram were sent to Toy and Federman.

On 27 October Muller called and asked why we had broken negotiations with Nuclear Engineering. I explained there were a number of reasons. Among them were we were not sure that we had proper negotiating permits. Muller stated that our lawyers did not know what they needed and we did not need any more permits. He stated he would come down and explain the situation. I stated this was not necessary. The conversation ended with Mr. Muller stating he would send us a bill for his services in the afternoon. This is discussed in another section.

Then on the 27th we received a telegram from Nuclear Engineering that their note for $35,000 must be paid by 30 October 1967. Also Toy of Central States called on the 27th and opened the conversation with "What have you done now?" He then stated that they would demand immediate payment of the $120,000 loan. I said fine, we'll pay you. Then he calmed down. I explained that we had tried to call him but he had been in New York getting treatments. I also explained the negotiation permit thing and that we had had an Executive Committee meeting and agreed that legally we had to take the action. He then acted calmly.

On 31 October we had a Board meeting which Toy attended. He reported that Muller had contacted him and told him no negotiation permit was needed as the New York group had decided CARCO would buy the assets of California Nuclear in exchange for stock and therefore no negotiating permit was necessary. Next the Board passed a resolution confirming my action in sending a telegram breaking negotiations with Nuclear Engineering prior to this meeting. Toy abstained from voting on this resolution.

Toy then suggested we set a 60 day limit with CARCO and set forth the terms we would do business on. The

Board also ratified action authorizing us to obtain a negotiating permit to negotiate with Combustion By Products and its related companies (this included Chicago Flyash).

Beierle and Johnson apparently had been offered wonderful jobs by Nuclear Engineering Company, or perhaps they were offered money on the side to push the merger with California Nuclear. The latter I doubt. But they continued to push us. On 2 November Beierle called and stated he and Johnson had talked to Federman, Mills, Harvey, and their lawyer. Fred stated they had agreed on all our terms, including 35% of the stock. But on questioning it was 35% of the previous Nuclear Engineering stock and not 35% of the combined stock. I refused to accept. Bennett then talked to Johnson and Beierle. Later I talked to Federman for 30 minuts. I agreed to 65,000 shares, which he finally refused, but he did agree to send us a telegram--which he never did. In fact, Federman seldom did what he stated he would do.

We then agreed we would not talk without a negotiating permit and only on a written contract. Toy, Beierle, and Johnson kept pushing for the merger. I believed that it was not Toy's business.

At a meeting on 4 November Fred asked if we would sell to Nuclear Engineering for cash. Very apparently he had been talking to Nuclear Engineering people and certainly he had no negotiating permit. Later that day I found out that Beierle had indeed talked to Nuclear Engineering and that their cash offer was far below the stock offer.

On 9 November Fred stated that if we did not approve the merger with Nuclear Engineering, the small shareholders would ask for a hearing and demand an explanation. I don't know whom he met.

For our protection we wrote up a long draft of a report "Considerations of the Proposed Merger of California Nuclear and Nuclear Engineering, Inc." on 13 November 1967. This was never distributed but could have been used as a reference for court proceedings. It reviewed the Washington suits, etc, and our relations with Toy of Central States. It is more detailed in respect to the business but does not follow the negotiations in the detail presented here. The story given here does not include our serious troubles with Central States, which are reviewed briefly in some of the other chapters. The writing was dated 13 November 1967 but it included references to conferences through November. Parts are included in other chapters.

On 17 November Bennett talked to Toy. Bennett stated that Toy stated he had become convinced that a merger with Nuclear Engineering would never be completed and that they were giving us the run around and that they never had any intention of combining with California Nuclear.

On 27 November Bob Williams called Bill Bennett, Bob stated he was not getting information concerning the merger with Nuclear Engineering. Mr. Pickett, of the Commissioner of Corporation's Office, had stated that no formal proposal had been submitted and no ruling had been made on the deal. He stated that they would probably refuse to approve the deal. Bob then talked to Walter Olson, Nuclear Engineering's lawyer, who stated that he thought the deal was off. Then Bob talked to Max Margolis, Secretary of Nuclear Engineering. He stated he did not know but stated Muller and Federman were handling the deal. This confirmed my suspicion that Muller was working for Nuclear Engineering as well as for Federman, even though he had submitted a bill for his time plus a lot more to California Nuclear. We questioned the ethics of Mr. William Muller!

On 30 November Bill Bennett reported that Mr. Shien, of Federman's office, had called. He stated the "legislation" had not proceeded as rapidly as expected but that he thought the sale of assets could be handled legally.

On 29 December 1967 I sent a Report to Shareholders relative to the merger with Nuclear Engineering. This is quoted below in its entirety. At the same time Statements of Accounts were sent to all "Shareholders and Persons Who Had Made Loans to California Nuclear."

"CALIFORNIA NUCLEAR, INC.
2323 South Ninth Street
Lafayette, Indiana 47905

December 29, 1967

To: All Stockholders and Persons Who have Made Loans to California Nuclear, Inc.

Subject: Thirty Second Progress Report

Gentlemen:

1. Merger Negotiations

In the Thirty First Progress Report which was sent to you on December 14, 1967 we reviewed the status of merger negotiations with Nuclear Engineering, Inc., and the possible

sale of stock to Combustion By Products, Inc. Since then Combustion By Products, Inc., has withdrawn from negotiations for the reasons stated below:

a. Some of the small stockholders of California Nuclear, Inc. threatened to cause some kind of action to be commenced against California Nuclear's management or against the Company or both to prevent the sale of stock to Combustion By Products. Apparently the threatened action was based on the premise that the Nuclear Engineering merger would result in a greater stock value in the near future.

b. We understand that the small stockholders informed Combustion By Products that the Securities and Exchange Commission had indicated that California Nuclear, Inc. had issued some stock illegally. To the best of the knowledge of your management the Securities and Exchange Commission has stated that they considered the stockholders as family groups and there has been no violation of the spirit of the Securities and Exchange Law and they approved our issuance of stock without prejudice.

c. Combustion By Products appeared to be concerned over the financial commitment if suits occurred.

Immediately following the action of Combustion By Products your management indicated approval of the sale of assets to Nuclear Engineering subject to certain restrictions. A review of the proposed contract indicated that the terms of the sale of assets were favorable but not in your management's opinion as favorable as the sale of stock to Combustion By Products. The writing of the contract for the sale of assets to Nuclear Engineering Company has been pushed and we believe that the contract could be signed 'in the near future'. The stockholders in a continuation of the December 15, 1967 meeting which was recessed until December 28, 1967 approved a resolution to proceed with contract negotiations by 14,751 votes for the sale of assets versus 0 votes opposing the sale of assets subject to certain restrictions, see below; 2397 shares represented by proxies assigned to Mr. Frederick P. Beierle, or stock owned by him, were not voted as he did not attend the December 28, 1967 meeting. Proxies were not returned for 1923 shares of stock which were therefore not voted. Since the sale of assets requires only a majority of the total shares to be voted for approval, the resolution was approved subject to the conditions of the resolution, as 77.3% of the possible votes approved and 0% disapproved.

We expect that the final contract with Nuclear Engineering will be signed in a few weeks. The contract terms include delivery of 42,700 shares of Nuclear Engineering stock to California Nuclear, Inc. California Nuclear, Inc. will carry out the following steps:

a. Request permission of the Commissioner of Corporations of California to issue California Nuclear, Inc. stock to those persons who have made loans to California Nuclear, Inc. and who request the stock, or pay the lenders their principal plus interest. Permission to issue stock for stock bonuses approved by the Board of Directors for stock payable on December 31, 1967 and for accrued salaries will be requested.

b. Request approval of the Securities and Exchange Commission to issue stock to the lenders and for bonuses as indicated above.

c. Forms are included with this letter for each lender to approve the conversion of their loans to stock. Your immediate return of these forms is urgently requested as it will permit the early issuance of the stock. The exact number of shares of California Nuclear, Inc. stock that may be issued is not known. However, the following is our best estimate.

	Value at Par	Shares
Present shares of outstanding stock	$190,710	19,071
Present Loans	80,960	8,096
Deferred Salaries 12/31/67	35,000	3,500
Bonuses	13,500	1,350
Totals	$320,170	32,017

It is expected that a few persons will not accept the shares of California Nuclear, Inc. capital stock for their loans. Thus about 1 1/3 shares of Nuclear Engineering stock are to be issued for each $10.00 invested in or loaned to California Nuclear, Inc.

Once the sale of assets of California Nuclear, Inc. to Nuclear Engineering, Inc. has been completed, steps will be taken to dissolve California Nuclear, Inc. This must be done within one year after the sale of assets. At the time of the dissolution the assets of California Nuclear which will consist at that time of 42,700 shares of Nuclear Engineering capital stock will be distributed to the stockholders of California Nuclear.

Nuclear Engineering has agreed to make its best efforts to register the stock distributed to California Nuclear stockholders. If this is completed, the stock may be sold in a 90 day period. We assume that a Prospectus of Nuclear Engineering will be prepared and copies sent to all stockholders at the time of the registration.

2. Nuclear Engineering

Nuclear Engineering, Inc. is controlled by Continental American Royalty Company of Dallas, Texas.

3. Financial

A certified statement for the end of November, 1967 is being prepared and a copy will be sent to you shortly.

CALIFORNIA NUCLEAR, INC.
/s/ STUART McLAIN
Stuart McLain, President"

Early in January 1968 we reviewed the "Agreement and Plan of Reorganization" dated 29 December 1967 for combination with Nuclear Engineering. On 2 January we sent a copy of this "Agreement and Plan of Reorganization" to Beierle and Johnson. In the cover letters we indicated that we assumed that they had received proposed employment contracts from Nuclear Engineering. We never heard but we believed they were told verbally only what Nuclear Engineering planned to do. We believed, as noted above, that they were made big promises but we later believed that they were simply mad at us. At least the latter was true.

On 6 January 1968 Eugene sent a letter to our California attorney, William L. Porter, of Crimmins, Kent, Bradley and Burns, reviewing a threatened suit by Beierle and Johnson. They had demanded that we buy their stock at the equivalent price of $28.00 per share for 4,000 shares, or $112,000. This was the demand that scared off Combustion By Products as payment would have opened the company to demands from all the small shareholders.

On 8 January 1968 Beierle stated he had not received a copy of a contract from Nuclear Engineering. This confirmed our suspicions that Beierle and Johnson would never receive such contracts. The letter to Mr. Porter is presented below:

"Jan. 6, 1968
Our File 1068.1

Mr. William L. Porter
Crimmins, Kent, Bradley and Burns
155 Montgomery Street
San Francisco, California 94104

Dear Mr. Porter:

Enclosed is a copy of the present agreement for the sale of assets of California Nuclear, Inc. to Nuclear Engineering Co.

As you will see there are a considerable number of clauses and conditions which could be very time consuming in reaching a final agreement. These are essentially the same types of conditions which appeared in our first proposed agreement.

The difference is that the shares of NECO stock offered is now 42,700 where it was originally 65,000. The original proposed contract was for a merger in which Stuart McLain would be able to name three members of a nine member Board of Directors. A later proposed agreement was for 44,000 shares and a subsidiary (in order to use tax loss carry-forward). Then NECO terminated negotiations in May 1967. Negotiations were almost immediately reopened due to the pressure on us resulting from a demand note for $35,000 for a loan from NECO to CNI in late March when most of the terms of an agreement had been reached.

A New proposed agreement was prepared and several times we were promised that the only remaining items would soon be corrected and two dates were set for signing the closing papers. These were in August. Both were delayed and we terminated negotiations in September. After days of pounding the pavement to visit everyone possibly interested, we found an interest in equity investment by Combustion-By-Products Co. This is one of four companies, all interrelated and owned by the same three stockholders. One of these, Chicago Fly-Ash, is a service company of Commonwealth Edison of Chicago. They had known of California Nuclear since 1963 and Stuart McLain had been with their principals through a Commonwealth Edison introduction. They had just invested in one of these other companies and could not invest further at this time.

In late October 1967 they expressed an interest. McLain and I met with the three principles, the comptroller and the chief engineer. Later the comptroller visited our office for a look at our books and on November 4 McLain and I met with Mr. Cain, their president and major stockholder, and the engineer. We went to the Sheffield, Illinois site. Mr. W. D. Johnson, our West Coast Manager, came in unexpectedly to us but not to Mr. Beierle. The picture they painted was black. Still Combustion was interested. Other meetings were held. In spite of a meeting at Beierle's and Johnson's insistence with Combustion and the McLains, Mr. Cain was still interested and made a loan of $42,000 to the Company. His brother in law and major stockholder, Mr. Roscoe Nash, was somewhat worried. It wasnot until after Mr. Harold Turner called Mr. Bennett and Mr. Beierle had met with Mr. Cain and we believe also with Mr. Nash that the negotiations were called off. This was after the demand of $28.00 per share for about 4000 shares of CNI stock or a suit would be filed or must merge with Nuclear Engineering. This was in December.

Both Mr. and Mrs. McLain as the principal stockholders do not believe in the negotiations with Nuclear Engineering. Nor did any officer or member of the Board until Mr. Beierle was elected to the Board in December. This was a mistake but was done in an effort to satisfy him. Now we find ourselves in the present situation of the minority ruling and causing an expected loss to the larger stockholders. They are asking an unfair price or a lawsuit. With license problems we cannot dismiss employees as easily as can most companies. However, we are moving toward an adjustment of the license so that Mr. Beierle and/or Mr. Johnson may be discharged.

We need to know how bad the suit could be if we decide to combine with a third company. Are the possibilities so bad that the major stockholders have no alternative except to negotiate with a company against their will and be required to sign an employment and on competitive contracts? This is our position at present and we are not too happy about it!

Sincerely yours,
CALIFORNIA NUCLEAR, INC.
/s/ LUGENE G. HUNGERFORD
Lugene G. Hungerford,
Vice President"

Then on 8 January Mr. William Porter of Crimmins, Kent, Bradley, and Burns, called. He stated that he had talked to Harold Turner, who was the lawyer representing Beierle and Johnson. Mr. Porter stated that Turner had indicated that Beierle and Johnson had no real grounds for a lawsuit. Also Turner stated that he believed the minority shareholders think that Nuclear Engineering has made a good offer.

Mr. Porter also stated that they cannot sue us since both Beierle and Johnson were involved if any violation occurred and the statute of limitations on any violation of the Securities and Exchange Commission had run out. He stated that the only possible suit would have to be based on the charge of gross mismanagement and negligence to accept a good offer. In summary, he stated that the chance of a serious suit was very, very slim. We had never considered the idea of a suit more than a threat. Nevertheless, the threatened suit by Beierle and Johnson practically forced us to join Nuclear Engineering.

Then on 12 January 1968 we signed a preliminary contract with Nuclear Engineering. This agreement, when completed, stated that all California Nuclear property would

be transferred to Nuclear Engineering in exchange for 42,700 shares of Nuclear Engineering stock. The loans in lieu of stock for $85,547.50 made to individuals by California Nuclear were to be converted to stock. This stock plus the stock previously issued by California Nuclear amounted to 27,625 shares, or a ratio of Nuclear Engineering to California Nuclear stock of about 1.43. Since the Nuclear Engineering stock was quoted as bid $21, sell $24, we considered the small shareholders of California Nuclear would be adequately covered as each $10 loan wasreplaced with stock worth about $30. Since 1968 the price has varied considerably with some stock sold at $30 or more after a further 10% stock dividend or $46.86 or greater.

The contract included a three year contract for Stuart McLain but none for Lugene G. Hungerford. The McLains agreed to continue her contract. The contract did not cover contracts for Beierle and Johnson. Since they had pushed so hard for the Nuclear Engineering agreement, I considered any contracts with them had been handled directly by Nuclear Engineering. Actually, soon after the final contract was signed at the end of June, the President of Nuclear Engineering stated he had sent Johnson "down the road". Also Beierle either was dropped or resigned soon afterwards.

The final closing papers were to be signed 15 March 1968. However, the date was advanced to 28 June 1968 due to slowness in preparing the final contract. On 21 January 1968 I signed a contract with Lugene Hungerford for $12,000 per year for three years for 110 days per year, plus $200 per day for any time over the 110 days. I agreed also to nominate her to the Nuclear Engineering Board.

During the latter part of January 1968 Lugene attended the Health Physics Meeting in Augusta, Georgia. During the meeting she talked at length with Leroy Stratton of the Illinois Department of Public Health. He was quite upset that we were joining Nuclear Engineering. Also the South Carolina people, Robert Blair and Henry C. Schultze, were upset. Schultze wasthe representative of South Carolina to whom we submitted our proposal to open a radioactive waste site in that state. Later Nuclear Engineering did not wish to open a site there and Schultze and Beierle formed Chem Nuclear which did open the site.

In this respect, another company attempted to get Lugene to leave us and set up another waste disposal company and try to get the South Carolina contract. She actually looked at land. Also Schultze continued trying

to get California Nuclear to move into South Carolina. No one wanted Nuclear Engineering. (During her survey for land she had an automobile accident, but no one was hurt.) She also told Mr. Schultze about the plans of the other company.

At a meeting of the Board of Directors of Nuclear Engineering on 30 January 1968 they reaffirmed the Illinois and Richland sites but took no action in respect to South Carolina. How dumb can you be?

We have always thought it was Harvey's opposition as he was always over his head as President of Nuclear Engineering. Margolis supported him and Federman supported Margolis. I attended a portion of the Nuclear Engineering Board meeting. I believe I could have worked with Admiral Mills but never could with Harvey. Harvey was just dumb but he did know enough to pull the wool over Margolis' eyes. This speaks volumes for Margolis.

On 16 February Eugene and I visited Leroy Stratton relative to the Illinois site. Leroy wanted a letter from Nuclear Engineering re standards, personnel, etc. I understand such a letter was later sent but Nuclear Engineering hardly lived up to it.

On 19 and 20 February John Young of the New York law firm was in. Beierle and Johnson came in and we straightened out all details except for some small items on the Central States contract, and decided to let Muller sue for his claimed fees.

I tried to get Admiral Mills to do something re South Carolina but he did not do so. Later, due to lack of any action on the part of Nuclear Engineering, Chem Nuclear was organized and got the site. I always thought Harvey knew he didn't know how to evaluate an area so he just fought doing anything. The Dallas friends of Eugene tried to get her to set up another company and go after the South Carolina site. They were at the time (February 1968) interested in a reprocessing plant in that area.

On 4 March 1968 William Bennett and I drove to Chicago and flew to Washington to see Nathan Bassin, in charge of licensing, Troy Conner, the AEC lawyer, Joe Young of the New York law firm, and James Harvey, President of Nuclear Engineering. The meeting was held to discuss rewriting of the licenses of Nuclear Engineering and California Nuclear.

On 8 March a Mr. Hoover called Eugene and

wanted a detailed breakdown of our $35,550 to be converted to stock. He was a part of an accounting firm Labarde and Hoover.

Finally on 8 March, Harvey did write for information and this was sent him on 12 March re South Carolina. On 15 March Winnie and I drove to Aiken, South Carolina and talked to Mr. Robert Blair about the situation. They were then interested in a reprocessing plant and service center but this was soon dropped.

On 19 March we sent Harvey another letter relative to South Carolina. On 21 March Margolis called and stated that he, Harvey, Johnson, and Beierle had met with Koch to discuss the transfer of the Washington site. Later Beierle called and stated a meeting had been set up to discuss the transfer of the Illinois site. Later Leroy Stratton called and stated he had called off the Illinois meeting as Nuclear Engineering had not supplied the requested information. During this period Beierle acted as if he was President of California Nuclear.

Then on 20 March two of My Federman's accountants, Arthur Rogovin and Bruce Garen, came in along with Bruce Burton, to review our books. I told them it was not at all certain that the merger would be finalized. They were greatly surprised and apparently so notified Federman as he moved things from then on. I proceeded to threaten to fire Beierle but he calmed down and became cooperative.

Then on 23 March Lugene had a party for all the people in the Lafayette area that had had a part in California Nuclear. A very grand time.

We continued to discuss finance with some of Lugene's friends but they believed we should be independent from such a large company. They did agree to help if necessary. We did talk to Diamond's group again but not to Diamond directly and his assistant thought we were boobs from the country! Which we are!

Meanwhile we were notified in early April that Thomas W. Pickett of the Commissioner's office in California, had held up the merger with Nuclear Engineering.

On 9 April I visited Springfield and talked to Leroy Stratton. The Department had decided to go along with Nuclear Engineering and to cancel their contract if need be. Actually the manager at Sheffield, Mr. Kriso, I believe, has done a good job.

On 12 April 1968 I sent Federman a letter reviewing the situation but as expected he did nothing.

Then on 19 April 1968 Bennett reported that Williams had stated that the California Deputy Commissioner had stated the merger of California Nuclear and Nuclear Engineering was disapproved pending a review. We agreed to go to California to talk to the Commissioner.

On 29 April 1968 the Nuclear Engineering people (I believe Federman) called Bennett and stated they had heard we were talking about mergers with others. Bennett agreed but added we couldn't extend an option forever. Whoever it was told Bennett they were working on a sale of the combined companies and our stock would be much higher.

Finally on 30 April we agreed to an extension of the agreement for 45 days with a 6 months loan for $50,000. This loan was made. An alternative would have been a stock sale but in view of the merger agreement we had not pushed stock sales.

On 1 May Williams stated that Porter and Olson (our lawyer and Nuclear Engineering's lawyer) had talked to the Commissioner of Corporations. He in turn had agreed to continue the review of the merger and wanted the detailed costs of development of the burial sites. The Commissioner hinted that he would escrow all the stock paid to California Nuclear over $500,000. We promptly prepared a "Report on Status and Plans of California Nuclear, Inc." and this was sent to the Commissioner.

Then about 1 May Long Island Nuclear entered an objection to the sale of assets of California Nuclear to Nuclear Engineering. The AEC studied this and rejected it.

At this same time Mr. Paul Cash was involved with U. S. Potash in one of Federman and Muller's deals. Paul suggested that we use the loan from Nuclear Engineering as pressure on Central States to drop their lien on the McLains' stock. I don't know how it would have worked and anyway Toy's lien was of little value.

Cash then stated he thought they should pay Toy off completely. I believe Federman vetoed this but I never heard. Then things got very involved. N. William Muller entered a claim against us and opened a suit in San Francisco, see Section 18. Toy demanded $10,000 at once. Bennett talked to Paul Cash. He stated that the

money could be paid but Federman's lawyers, Graubard and Moskovitz, were afraid that the tax loss carry forward might be lost. They decided a "direct deal" with Toy would be legal.

Meanwhile, we carried out the regular work at the sites. This included building equipment to reduce liquids to solids at Sheffield and Hanford.

Finally on 9 May Bennett talked to Toy but they came to no conclusion. Then on 10 May I had to go to Pittsburgh for Purdue so Eugene held the Fort and things happened. Mr. Murphy of Soil Testing Laboratory called and demanded a payment. He was promised $1,000 which was sent him I believe several days later.

Then the Corporate Commissioner in California told Williams that he needed more data. This was gotten together and mailed to him the next day. Toy also called and refused to talk to Eugene but he was told I was on tour and could not be reached. Cash reported to Bennett that he was going to New York to see what was going on and that he had talked to Muller. Bennett and Shehan talked things over and Shehan stated that they simply wanted to complete the merger and would make a $10,000 loan. We got the impression that Shehan was not happy with Muller's suit, Toy's arguments or Nuclear Engineering's actions. In fact, Muller's suit seemed to make everyone mad except Federman.

On 16 May 1968 Bennett called, stating that the California Commissioner of Corporations had agreed to the merger subject to:

a. One third immediate stock issue.
b. Escrow rest for 3 years.
c. Earnings must be at least $25,000 per year higher or some stock might be cancelled.

On 27 May Mr. Paul Cash came in with a check for a loan for $10,000. The bank would not accept it as the loan had not been approved by the Continental American Royalty Company Board. Subsequently the CARCO Board did approve and we obtained the money.

On 17 May 1968 Eugene and I visited Mr. Sears relative to an extension of a loan on the Sheffield buildings. On 11 May 1968 we had a Board meeting of California Nuclear. Paul Cash was present and indicated the merger with Nuclear Engineering would proceed in a few weeks.

One item that held up the merger in respect to the California Commissioner of Corporations was that we had not capitalized all the site developments. He refused to let us do so but did approve Nuclear Engineering doing so after the merger.

On 4 June it developed that the Commissioner ruled that we would have to buy and sell fractional shares. Actually the McLains bought all the fractional shares. On 15 June 1968 we had a shareholders meeting to consider the sale to Nuclear Engineering. This was approved.

On 12 June Mick Webber, one of our drivers in Washington, was involved in a headon collision. He was seriously hurt but recovered. A car pulled out in front of him and he struck the other car and ran off the road. The two people in the car were not seriously hurt. This is mentioned elsewhere.

On 15 June the shareholders approved the sale to Nuclear Engineering. On 27 June 1968 Eugene Hungerford and William Bennett met in Graubard and Moskovitz law office with the lawyers and representatives of Nuclear Engineering to work out the last details of the contract between California Nuclear and Nuclear Engineering. Apparently no real troubles were encountered. Then on the 28th I flew to New York and we all met in Graubard and Moskovitz office. Present were:

James I. Toy, California Nuclear
Eugene G. Hungerford, California Nuclear
William K. Bennett, California Nuclear
Stuart McLain, California Nuclear
---- Young, lawyer for Graubard and Moskovitz
---- Donner, lawyer (part time only)
Max Margolis, Nuclear Engineering
James Harvey, Nuclear Engineering
William Muller, Nuclear Engineering

The agreement called for sale of California Nuclear assets to Nuclear Engineering for 42,700 shares of stock. Central States Small Business Investment Association of Ft. Wayne, had a loan of $120,000 and an option on a portion of McLain's stock. Eugene had added a clause in the SBIA contract that nullified the option on our stock in that it permitted us to buy the stock back under very profitable conditions which had occurred. We acknowledged a debt to Toy and we agreed on a gift of 4,500 shares of stock. It turned out that Toy was considering California Nuclear stock while we were considering Nuclear Engineering stock. In the showdown Toy called his home office and

refused our offer. I refused to agree to his request.

Donner then stated to me in Toy's presence that Toy was being unreasonable. He suggested he be asked to leave and Young immediately asked him to do so. They agreed that Central States would be paid on the following business day. However, Toy had a claim for a lot of expenses and consulting fees. All these we objected to as the expenses were unreasonable and the consulting fees unjust as he had never done anything to speak of. He had been to Lafayette a few times but always to check on their loan and never as a consultant to help us. Later the McLains agreed to pay Toy several thousand dollars and we did so.

Poor Toy, he was suffering from cancer of the face. He was in New York several times for treatment and operations. He died from the cancer about three months later.

"THE INDIANAPOLIS STAR
(September 1968)

JAMES TOY JR. DIES
IN NEW YORK HOSPITAL

Fort Wayne, Inc.--Funeral services for James I. Toy, Jr., 44 years old, Fort Wayne, president of the Central States Small Business Corporation, will be held at 10:30 a.m. Monday in the Simpson United Methodist Church here. Burial will be in Lindenwood Cemetery.

Mr. Toy died Thursday in Memorial Hospital at New York, N.Y.

A native of Huntington, he was a 1950 graduate of Indiana University. He had lived here since 1964 when he joined the Central States Firm.

A resident of Indianapolis from 1950 to 1952, he had been with savings and loan associations in Indianapolis and Joliet and Rockford, Ill. In 1955 he was named Joliet's 'Man of the Year'.

Mr. Toy also was a member of the faculty of the Fort Wayne I.U. extension center.

He was a member of Amity Masonic Lodge at Huntington; the Mizpah Shrine, Scottish Rite, and Kiwanis Club, all of Fort Wayne, and Sigma Chi Fraternity.

Survivors include the widow, Mrs. Barbara Toy; the mother, Mrs. Gladys Toy of Greencastle, and four sons and a sister.

Friends may call after 2 p.m. today at the Chalfant-Perry-Klaehn Funeral Home here."

Anyway, we closed the deal that day in New York on 28 June 1968. When the contract was submitted to the California Commissioner of Corporations he rejected it on the grounds that California Nuclear was a deficit company and the agreement was a poor one for the Nuclear Engineering shareholders. When we found this out, Eugene stated she thought she would have to call her Texas friends. For several years she had been doing consulting for a group of Texas oil companies that were interested in nuclear fuels enrichment and who actually had made a proposal to build a billion dollar plant but which the AEC ignored so far as we ever knew. Anyway she did call one of the "Texas Group". He requested an hour to check into the situation. Of course, he knew of our previous financial troubles.

What this man did we never knew. But in about 45 minutes he called back and stated the Commissioner would approve the merger but some of the stock would be held in escrow to be issued later depending on future sales of the merged companies. We agreed and the merger was completed. And of course the stock was all issued.

We heard very indirectly that the Texas man or his representatives in California talked to the Governor. Apparently there must have been some assurances given to the Governor about us.

While not a part of this story, it may be interesting to add that Johnson found other work for several years, then according to Beierle, he lost some money. In 1973 due to difficulties at the Kentucky site, Nuclear Engineering hired Johnson to assist them in a cleanup of some radioactivity.

Beierle, along with the man to whom we had submitted our application to South Carolina, apparently organized the company known as Chem-Nuclear. Chem-Nuclear, using what we were told was a slightly revised California Nuclear proposal, obtained the South Carolina site. Beierle talked to us in 1973 as discussed elsewhere, and we tried to merge with Chem-Nuclear but their management people did not agree. So Beierle joined Nuclear Management as of 1 September 1973. Beierle and his brother had also started a company to build irrigation equipment and we understand that this company has been very successful.

Further contacts with Nuclear Engineering are presented in Section 19.

q. Abbott Laboratories

Early in the Fall of 1966 at Mr. Muller's suggestion, he and I visited Abbott Laboratories to talk about the possibility of a sale or merger of California Nuclear. We met with Mr. Erwin von Allen, Vice President in charge of Corporate Planning, and Mr. Edward J. Matson. They indicated very little interest.

r. N L Industries

On 22 September 1966 Mr. Bailey of Commonwealth Edison recommended we join with N L Industries. Nothing came of this as Bailey was interested in a reprocessing plant in Illinois. (But later as a part of Nuclear Engineering, we did discuss sale of the combined company to N L Industries.)

s. Ammunitions Corporation

In our discussions with Colorado about a waste burial site there, a Mr. John Claus of Ammunitions Corporation of America, called. He stated that Mr. Coreton of Dow Chemical had told him that we had a proposal to open a waste disposal site in Colorado. Mr. Claus suggested they had submitted a proposal. He then suggested we join forces. This was not a real proposal for purchase but rather a joint proposal. I suggested he buy stock in California Nuclear.

Ammunitions Corporation's main business is the manufacture of ammunition for Sears Roebuck and Company. We were not really interested.

t. Rockefeller Foundation

It was suggested that we contact the Rockefeller Foundation in order to try to obtain capital. So on 22 November 1966 I called Mr. K. A. Wood of the Foundation and I also sent him a letter re finance. Later he called back and stated that the Foundation had invested in a similar company.

u. Commonwealth Edison Company

Eugene Bailey of Commonwealth Edison knew of our poor financial condition and he became worried about us. So he proposed Commonwealth buy 51% of our stock. He

reported one of their Vice Presidents had agreed and would recommend that this be done. However, Commonwealth did not do so.

(I have always believed that consideration of this purchase led Commonwealth into considering the fuel management business.) I helped get Commonwealth into their own nuclear fuel management through Purdue. Then they set up a $10,000,000 corporation to do fuel management for others.

In a letter to Toy on 22 December 1966 I stated I did not think Commonwealth Edison would do anything as they would talk and not act. Then on 16 February 1967 Bailey asked if I had talked to Mr. Baebert, Vice President of Commonwealth. I had not done so. Then Bailey stated Commonwealth had decided to buy California Nuclear. Later I talked to Baebert but he seemed to think that they could not move very fast. We did send him financial and other information on 17 February 1967. So far as I know Commonwealth took no further action.

v. Ranchers Exploration Company

On 27 December 1966 Lugene and I visited a Mr. Robert Wieczorowski, a broker in the Chicago office of Beckers, Inc. He had called and wanted to talk about a combination of California Nuclear and Ranchers Exploration Company. We talked with Wieczorowski for three hours.

Later in the day we visited Bill Muller about joining Nuclear Engineering. Then on 3 January 1967 Lugene and I flew to Albuquerque with Bob Wieczorowski to meet Maxie Anderson. Maxie was President of Ranchers and apparently in a short time had turned the company from a loss into a profit. The company apparently was formed by a group of ranchers near Albuquerque who owned uranium bearing land. Maxie was very cocky. He had worked with Wieczorowski for quite a time. Bob was convinced that we needed each other which I think we did.

In the evening we had dinner with Maxie and Bob and later talked to Bob until nearly midnight. The next day we met with Maxie, Bob, and their accountant, a Mr. Branigan, from Ernst and Ernst. We were all interested in a merger but we were not sure that we could work out an agreeable financial agreement. To help us out Ranchers immediately loaned us $10,000.

On 16 and 17 January 1967 Mr. Branigan came

in and looked at our books. Then on 25 January Lugene and I visited Wieczorowski and Maxie Anderson at Beckers in Chicago. Maxie wanted to buy us for a song. He finally offered 4,500 shares of Ranchers Exploration stock or some $15,800 at the price of their stock at that time and about $80,000 at today's prices compared with the $800,000 or so that the California Nuclear shareholders have received in cash for their stock which has been sold.

Due to Nuclear Engineering's cancellation of the possible merger at the last minute (we expected to sign the contract in February 1967), we again talked to Wieczorowski on 20 February. He indicated Ranchers was still interested and would act at any time. So on 23 February we visited Bob Wieczorowski at Beckers in Chicago. He indicated that a merger could be worked out but not on very favorable terms.

Then on 2 March we again talked to Wieczorowski. Ranchers had raised their bid but not far enough. As a result of our discussions Ranchers became interested in opening low level radioactive waste disposal sites. They even went so far as to try to hire Lugene. She refused. About this same time the Texas oil companies tried to hire Lugene to move to Texas.

Actually Ranchers interest in the waste business I believe added several hundred thousands of dollars to our eventual stock values since Nuclear Engineering knew we had good backing if needed.

The loan of $10,000 which Ranchers made to California Nuclear on 3 January 1967 was for six months. Since we did not have very much faith in Maxie, we immediately used the money and also started a fund for repayment. So about 10 days before the full payment was due Maxie sent us a letter stating that as soon as the note was due Ranchers would foreclose. I'm sure he did not expect payment. Such friends!

But on 9 June 1967 I had lunch again with Wieczorowski. Nothing came out of this meeting. On 26 June Johnson called and said that he had heard Ranchers was going to foreclose. This I believe was after we had sent Ranchers a check for $2,000. On 27 June we sent Ranchers a check for $8,000 to cover the rest of their loan. I heard this quite upset Anderson as he thought we were in his pocket cheap.

But Maxie had written Toy stating they were

foreclosing. Toy called all excited and asked what could we do. When I told him, we had paid the loan he wanted to know where we got the money. I explained we had no faith in Maxie and expected trouble so we simply saved ahead and paid him off.

Sometime later Eugene and I were walking down LaSalle Street in Chicago when we noted a man some 30 feet in front that had on high boots with gold studs on the back of the boots. Eugene said, "That can only be Maxie!"

w. Payson and Trask

Someone suggested that Payson and Trask of New York invested in companies such as California Nuclear. We contacted them but they indicated interest only in manufacturing and not service companies.

x. American Research and Development

One of the men at Payson and Trask that I talked to recommended that I send a letter to Mr. William Congleton, Vice President of American Research and Development, in Boston as that company invested in small service companies. This I did on 31 December 1966. However, they indicated little interest in California Nuclear.

y. International Chemical and Nuclear Corporation

On 26 January 1967 Dr. W. F. Rhame, of International Chemical and Nuclear Corporation, of Industry, California, called and stated that they had just heard that we were considering a merger with Nuclear Engineering. He stated they believed there should be two companies in the waste disposal field and that International Chemical and Nuclear was definitely interested in a purchase or a merger with California Nuclear. We indicated that we believed that we were near a contract with Nuclear Engineering and that if they were really interested that they should move rapidly. We then discussed our financial needs. Dr. Rhame stated he would talk to the other people and contact us again.

Comments relative to Mr. Rhame and our relations with International Chemical and Nuclear Corporation are presented in the Nuclear Engineering writeup in the discussion in March, 1967.

On Sunday, 29 January 1967, Dr. Rhame called and asked Eugene and me to visit their plant at Industry as soon as possible. We agreed to be there the next morning. This trip turned out to be of interest because of the weather. It was cold and there was snow. Eugene and I made reservations from Indianapolis only to find on arrival at Indianapolis that there were no reservations. After some argument they put us on as they had seats to spare. We arrived at Pasadena at 0330 A.M. Los Angeles time.

Later that day we talked to Mr. Osdol. After some talk we drove to Burbank and talked to Mr. Segal, their lawyer, and Dr. Panic, their President. Panic was interested. However, Segal offered us $55,000 in stock for all our investment in California Nuclear. We replied that we had no interest in such an offer.

Two things are of interest, however. First, Dr. Panic took us to lunch at a club. The woman in charge of the dining room told us after we were seated that they could not serve us as women weren't allowed. So we had to move to a private dining room. Dr. Panic was very chagrined about it. Second, we should have accepted the stock as soon thereafter they developed a new medicine which sent their stock up over a factor of 12.

z. Eastman's Gillion Union Securities

On 16 February 1967 a Mr. Yoeckel of Eastman's Gillion Securities of Newark called. He stated there was a chemical firm in New Jersey interested in buying or merging with California Nuclear. We told him we were close to a merger with Nuclear Engineering but had made no commitments. He stated he would talk to his client and call back. We never heard more from him.

aa. Bank of America

Through a friend, Mr. Charles Richards, of Fremont, California, we were requested to send information to him that he had agreed to forward to the Bank of America. This was done but the Bank took no action.

ab. Tri-City Nuclear Industrial Council

Mr. Robert F. Phillip, President of the Tri-City Industrial Council assisted us in obtaining loans, etc

to open the Washington site. While the Tri-City Nuclear Industrial Council did not take any action, the Council did consider assisting us. In August 1967 Mr. Phillip contacted Beierle again. As a result I sent him a letter outlining our needs for money. However, the Council took no action. He referred our letter to Douglas-United Nuclear.

ac. Martin Engineering Company

Early in September 1967 the Martin Engineering Company of Neponset, Illinois, approached Beierle relative to finance. As a result we sent their President, Mr. E. F. Peterson, a letter and called on him. However, he indicated that the funds needed, etc made it impossible for his firm to assist us.

ad. Douglas United Nuclear

On or about 5 September 1967 Mr. Robert Phillips of the Tri-City Nuclear Council talked to Mr. Stuart Koepcke of Douglas United Nuclear. Douglas United indicated interest in talking to us. We did talk to them but the persons that talked to us were bored. Only billions could rouse their interest!

ae. Robert Hayes

Robert Hayes asked for some material re our financial condition and business. I talked to him at his office in Chicago but he indicated very little interest.

af. Atlantic Richfield

On 8 September 1967 Robert Phillip called and stated he had talked to the Atlantic Richfield people at Richland. They indicated great interest but they would want the headquarters moved to Richland.

On 12 September I talked to Mr. Lawrence R. Richards, President of Atlantic Richfield. On 15 September Eugene and I met with Mr. Richards and Jorlen, Vice President, Warren, Manager of Operations, Kronin, Manager of Finance, and an officer of the Tri-City Council. We left a detailed proposal. Actually I don't think they were interested and nothing came of our efforts.

ag. Atomic Disposal Company

Mr. Frank Pastorelle of the Atomic Disposal Company at Midlothian, Illinois, in mid September 1967 asked if we could work together or join. We did talk several times but nothing came of it. Atomic Disposal picked up small shipments in the Chicago area and then shipped to Kentucky and Illinois sites for burial.

Pastorelle took considerable interest in what we were doing. He talked to a Bennett Industries, Trvellers Insurance, and Eddie Fredrics. Only the latter which was a small trucker was interested. He in turn got us to talk to a small steel firm in Chicago area. The President of this company was interested but his Board refused to take action.

Pastorelle even suggested sending a packet of information to Howard Hughes. Then on 27 October 1967 I called Pastorelle to inform him of break off of the negotiations with Nuclear Engineering. He suggested we talk to his brother and others in New York.

ah. Theodore L. Diamond

Mr. Edward Miller, a metallurgist that I hired at Wayne State University from Purdue, and who applied at Oak Ridge National Laboratory soon after we moved there and whom again I recommended be hired, suggested we contact an old friend of his, Mr. Theodore L. Diamond. Mr. Diamond apparently owned or managed an investment firm at the correct address of 1 Wall Street.

In September 1967 we sent Mr. Diamond a letter and Eugene and I along with a consultant, Paulding from near New York, called and made an appointment with Mr. Diamond. On arrival at his office we found he was out (whether he was out or in we never found out). Anyway we talked to an assistant who stated they were not interested in any investment under $1,000,000. While he was not rude, he definitely tried to give us the impression we were ignorant hicks and he knew all the answers before we asked questions. I was amused.

Then on 8 January 1968 Mr. Diamond called and stated he was sorry that no one had called us about our proposal. He stated that they would like a couple of days to study the proposal. Later he called back and stated he could not meet with us as planned. So on 15 January I wrote him saying that due to the delays we were proceeding

with the Nuclear Engineering contract. He then expressed his regrets and apologized and stated that he was very sorry that he had not been able to meet with us as he had been desirous to help us.

Nevertheless, on 13 February 1968 Eugene and I were in New York and we called on Mr. Diamond to thank him for his interest. Then in April 1968 Diamond called again. We contacted Paulding as our consultant and took a lot of backup papers to New York. Bennett had told us that we could easily void the Nuclear Engineering papers we had signed. This was on the basis that Nuclear Engineering had not followed through on their agreements. However, Mr. Diamond failed to help us.

ai. Illinois Group

Dr. Schutz, Mayor of Sheffield, called on 30 October 1967 and stated that a group of investors had approached him relative to investing in California Nuclear. We agreed to talk to them. It turned out that they wanted control for a song.

aj. ATCOR

At an American Nuclear Society meeting in Chicago on 6 November 1967 Mr. James Y. Paulding then Vice President of ATCOR, talked to Eugene and me for a couple of hours relative to a merger of ATCOR and California Nuclear. He stated that they had adequate financing and that they could provide money for expansion. We were dubious as we had heard that they had done some poor work. However, they later developed a more satisfactory reputation. Certainly, as it turned out, they could not have been as bad as Nuclear Engineering under Harvey. At that time ATCOR was owned 50/50 by Paulding and Murphy and they had 10 or 12 people.

On 6 January 1968 Pauld[illegible] of ATCOR, came to Lafayette to discuss work with them or joint financing. Since ATCOR could not take rapid action, we proceeded with the Nuclear Engineering contract.

ATCOR is still in business, I believe (December 1973) but I do not know what they are doing.

ak. California Salvage

California Salvage had an AEC license to dump

radioactive wastes in the oceans when we started California Nuclear. They were located in the Los Angeles area and operated a sizeable ocean dumping operation of non radioactive wastes. We discussed joining with them but never came to an agreement.

al. General American Transportation

In discussions relative to a heavy railroad car to transport irradiated fuel, General American Transportation suggested an investment in California Nuclear. Nothing came of this as they decided not to develop the railroad car. The conferences were a part of Nuclear Management but they became interested in all of our ideas.

am. International Telephone and Telegraph

Several times Max Margolis, Secretary of Nuclear Engineering, mentioned the name Geneen. This apparently referred to the President of International Telephone and Telegraph. Lugene suggested that Geneen was backing Federman. We never did find out. At any rate, International Telephone and Telegraph never made any direct moves to buy Nuclear Engineering that we heard about.

16. Muller's Suit

Our relations with Mr. H. William Muller of Clarendon Hills, Illinois, extended over several years and resulted in some help, a suit, continuing contacts after settlement, and finally a "stab in the back" by us.

Mr. Muller was a brilliant man. He claimed to have had at least a Master's Degree in Chemical Engineering. Certainly in his field he is outstanding. In a "brag session" one day he claimed to have had taken 25 credit hours in one semester while an undergraduate Chemical Engineering student. Lugene, whom I class as a genius, took 24 hours and a course in Orchestra Directing one semester. Both were earning most of their expenses or at least Muller so claimed. Walton Rodger and Joseph Thie did as well, I believe, especially Joe.

So when we met Muller we were impressed and had much in common. His trouble was that he had no sense of right and wrong and we finally decided he could not be trusted.

When I met him I understood he was a friend of Dr. James Schumar of Argonne, and did not check on his background. Jim later stated he had talked to him several times. When I met Muller, we needed his help and he asked for ours. Later he claimed we did nothing for him while he did a lot for us. Finally, he sued us when our stock was in escrow and he was able to hold up our stock. We finally settled out of court. Again, my respect for lawyers that would handle such a case came near zero. I'm still glad that my ethics are not those of lawyers. In a speech on 22 March 1775 Edmund Burke stated, "It is not what a lawyer tells me I may do; but what humanity, reason, and justice tell me I ought to do."

Since we kept a daily journal, we were able to outline what each of us had done. The time spent by us for Mr. Muller and his claimed time are listed below:

"TIME SPENT BY STUART McLAIN AND
MRS. EUGENE G. HUNGERFORD FOR
MR. N. WILLIAM MULLER

Prepared November 20, 1967

Date of Work	Work	Hours	
		Stuart McLain	Eugene G. Hungerford
August 9, 1966	Discussions with Muller and Schumar, trip to Argonne	6	0
About August 15, 1966	Discussions at Argonne regarding Reprocessing Plant	6	3
August 20, 1966	Letter to Commonwealth Edison	4	2
August 30, 1966	Discussions at Argonne	6	3
August 31, 1966	Preparation of Prospectus	8	4
September 1, 1966	Discussions of Reprocessing Plant	6	0
September 8, 1966	Trip to Buffalo and Discussions with Muller, Rodger, and Reese	6	0
September 13, 1966	Reprocessing Company Budget	4	8
September 14, 1966	Prospectus for Reprocessing Plant	8	8
September 15-19, 1966	Approximately one day, 8-9 hours	0	8

September 19, 1966	Prospectus for Reprocessing Plant	8	3
September 20, 1966	Letter to Commonwealth Edison on Reprocessing Company	4	1
September 21, 1966	Trip to Chicago and meetings on Reprocessing Company	8	0
September 22, 1966	Discussions with Commonwealth Edison	4	0
September 26, 1966	Meetings in Chicago	4	4
October 30, 1966	Letters, etc. regarding Prospectus	4	0
October 22-26, 1966	Prospectus for Fuels Reprocessing, Lugene edited during this period 10 hrs	20	10
October 29, 1966	Trip to Pittsburgh-Lugene 4 hours night reading and commenting on typed copy	0	4
October 30, 1966	Meeting in Pittsburgh-Lugene and Eugene also at meeting	4	4
November 1, 1966	Conference with Rodger	2	2
November 15-22, 1966	Prospectus-Lugene coauthored (four days)	32	32
December 12, 1966	Discussions with F. Culler	8	8
March 1, 1967	Letter regarding Nuclear Services and Organization	4	4
May 4-5, 1967	First Draft of Prospectus for Nuclear Management, edited 6 hours by Lugene	0	6
May 5, 1967	Letter to Numec	3	0
May 6, 1967	Fuel Management Company discussions	4	4
May 8-11, 1967	Prospectus for Nuclear Management	10	10
May 15, 1967	Elk River, Dairyland BONUS Proposal	8	8
May 16, 1967	Elk River, Dairyland BONUS Proposal	8	8
May 17, 1967	Elk River, Dairyland BONUS Proposal	8	8
May 22-25, 1967	New York and Columbus regarding Elk River Proposal	24	0

July 13, 1967	Discussions regarding Fast Reactor Fuel Examination Facility	8	0
	TOTALS	234	152

Consulting Fee - McLain $250/day
Hungerford $200/day $11,112.50"

We also listed $383.34 expenses.

Mr. Muller's letter follows:

"N. WILLIAM MULLER
334 Ridge Avenue
Clarendon Hills, Illinois 60514
312-323-5076

October 27, 1967

California Nuclear, Inc.
2323 South Ninth Street
Lafayette, Indiana 47905

Att: Dr. Stuart McLain, President

Dear Dr. McLain:

In accordance with our telephone conversation this morning in which you requested I submit my invoice for services in consultation and negotiations on the part of California Nuclear, Inc. in various attempts at merger with various companies, I am attaching an invoice and a detailed analysis.

Prompt payment of this amount would be appreciated.

Yours truly,
/s/ N. WM. MULLER
N. William Muller"

Our Journal lists the following time by months that Mr. Muller did for us in comparison with his bill:

Muller's Statement			Our Records by Month in Days
"N. William Muller 334 Ridge Avenue Clarendon Hills, Illinois 60514 312-323-5076			
Statement for Services to: California Nuclear, Inc. 2323 South Ninth Street Lafayette, Indiana 47905			
Charges per diem:			
Aug. 1966	3 days		1.5
Sept.	4		3.0
October	10		0.5
November	5		1.375
December	6		2.25
January 1967	8		0.87
February	4		0.75
March	9		0
April	10		1.25
May	5		0.5
June	7		0.25
July	5		2.5
August	6		0
September	6		1.25
October to date	5		0.25
Total	93 days @ $250	$23250	15.5
Out of Pocket, Telephone and Travel Expense		$ 4127.52	No account
Total Amount Due		27,377.52"	

15.5 days at $250 per day is $3,875 versus Muller's claim of $23,250. Eugene's comments on Muller's bill were:

"CALIFORNIA NUCLEAR, INC.
2323 South Ninth Street
Lafayette, Indiana 47905

October 30, 1967

I like the formality of this letter and would like to request a break-down of days and hours worked and purpose. He appears to have charged all time to CNI when he was not out of the country. How could he go to Central and South America so many days, work as full time Vice President of Great Lakes Carbon until June 30, and still consult 71 out of a possible 205-210 workin; days from August thru June

inclusive? I believe the man with the tall striped hat would be interested in these finances.

CALIFORNIA NUCLEAR, INC.
/s/ EUGENE G. HUNGERFORD
Eugene G. Hungerford
Vice-President

LGH:mw"

Our Journal notes were used to prepare a detailed account of our meetings with Mr. Muller. These notes are presented below with the exception that references to various appendices and the appendices are deleted. These appendices made up many pages of records.

"CHRONOLOGICAL SUMMARY OF CONTACTS
BETWEEN MR. N. WILLIAM MULLER AND
STUART McLAIN RE CALIFORNIA NUCLEAR AND
OTHER MATTERS AS TAKEN FROM
STUART McLAIN'S JOURNAL

August 9, 1966

Sometime prior to August 9, 1966 Dr. James Schumar, Metallurgy Division of Argonne National Laboratory called me (Stuart McLain) and stated that a 'Mr. Mullins' and he had been discussing the prospects of entering the nuclear fuels reprocessing business. The 'Mr. Mullins' had come to Dr. Schumar for advice. Dr. Schumar stated that he had indicated that I would be able to advise 'Mr. Mullins' concerning what procedure to follow, and that I might be interested in working with him. Accordingly, a meeting was arranged. This differs from Dr. Schumar's memory of what actually happened. I believe that Dr. Schumar forgot a previous telephone conversation in which he mentioned Mr. Muller's visit to his office.

On August 9, 1966 I drove from Lafayette to Argonne, Illinois to meet with Dr. Schumar and Mr. Muller. On arrival at about 4:00 P.M. at Dr. Schumar's office in the Metallurgy Building at Argonne National Laboratory, I was introduced to 'Mr. Mullins'. Even then I did not get his name straight. We discussed reprocessing of nuclear fuels til about 6:30 P.M. During the discussion the financial difficulties of California Nuclear, Inc. were mentioned; that a merger of California Nuclear, Inc. with Nuclear Engineering had been proposed; and that we had had a preliminary meeting to discuss the merger on August 5, 1966. Mr. Muller offered to help write the combination report

between California Nuclear and Nuclear Engineering Company. It was McLain's understanding that this offer was made in return for his and Mrs. Hungerford's assistance in preparing a proposal for a reprocessing plant in which Mr. Muller was interested. No written contract was prepared but it was definitely understood by McLain that each should assist the other without payment.

After the meeting at Argonne Muller, Schumar, and McLain had dinner together.

August 19, 1966

Sometime between August 9 and August 19, 1966 Mrs. Hungerford and Stuart McLain visited Mr. Muller at Clarendon Hills. About three hours was spent reviewing and preparing proforma balance sheets. Mr. Muller on August 19, 1966 visited Mr. Hyman Federman's office, 50 Wall Street, New York, and attended a meeting concerning the merger of California Nuclear, Inc. and Nuclear Engineering. Prior to the meeting Mr. Muller, Mrs. Hungerford, Stuart McLain, and Mr. James I. Toy, Jr. met and discussed the possible financial terms of the merger. The meeting lasted from 11:00 A.M. til about 4:30 P.M.

After the meeting at Mr. Federman's office, Mr. Muller, Mrs. Hungerford,and Mr. McLain went to the Tuller Hotel where the latter two had reservations. The three had dinner together and talked in Mr. McLain's room until about 10:00 P.M. when Mrs. Hungerford left for the night and the men continued for maybe another hour and resumed about 8:00 A.M. the next morning. Mrs. Hungerford joined them for breakfast. Almost all of this time was spent in discussing fuel reprocessing and manufacture. California Nuclear was discussed as only a possible part of this complex. A little discussion was about a future trip to South America which Mr. Muller planned and some possible financial deals.

August 25, 1966

On August 25, 1966 I stopped at Clarendon Hills for about two hours during which I had lunch with Mr. and Mrs. Muller. We discussed the California Nuclear merger and stock issue.

August 30, 1966

On August 30, 1966 I spent most of the day talking to Dr. Schumar and Mr. Muller relative to nuclear fuels manufacture and reprocessing.

During one of the meetings with Mr. Muller--I do not remember for certain which, but I believe it was on August 25--we discussed payment and Mr. Muller simply waved his hand and said we are helping one another and lets not worry about payment.

August 31, 1966
I worked most of the day on the Prospectus for a Nuclear Fuels Reprocessing Plant.

September 1, 1966
I spent the day in Clarendon Hills discussing the Reprocessing Plant with Mr. Muller and at Argonne with Mr. Muller and Dr. Schumar.

September 2, 1966
I sent a letter to Mr. Muller relative to drawings for certain fuel assemblies.

September 8, 1966
Flew to Buffalo with Mr. Muller and talked with Mr. Stanley Reece and Dr. Walton Rodger about reprocessing from 8:00 P.M. til Midnight.

September 9, 1966
Spent the day in New York in a meeting relative to merger of California Nuclear and Nuclear Engineering. Mr. Muller was present and took an active part in the discussion. The meeting lasted from about noon to about 4:00 P.M.

September 12, 1966
Mr. Muller called. He stated that he had been doing some studies of the merger conditions. We also sent Mr. Muller a copy of a 'Proposal for a Nuclear Fuels Reprocessing Plant' which was addressed to Commonwealth Edison Company.

September 13, 1966
I spent most of the day in preparation of a cost schedule for a reprocessing plant. Actually we had spent more than the one day on this calculation.

September 21, 1966
Spent about two hours at Argonne National Laboratory talking to Mr. Muller and Dr. Schumar relative to the Fuels Manufacture and Reprocessing Plants. In the afternoon Mr. Muller and I drove to North Chicago and talked to representatives of Abbott Laboratory re California Nuclear for about one hour.

September 26, 1966
Spent the day in Chicago with Mr. Muller. In the morning we discussed the reprocessing plant and in the afternoon we met with representatives of the Northern Trust Company relative to finance of California Nuclear. Meeting lasted about one hour. Later we drove to Hinsdale and talked about the Fuels Manufacturing Plant with Dr. Schumar.

October 10, 1966

I wrote a letter to Stanton L. Reese in which I stated that Mr. Muller had 'continued to work on the prospectus' of the reprocessing plant.

October 13, 1966

Mr. Muller was in and we spent most of the day discussing finances of California Nuclear and the Reprocessing Plant. Mrs. Hungerford was present at most of this meeting. She suggested some possible changes in the cost analysis of the reprocessing which she later calculated. Possibly this is one of the ten days that Mr. Muller charged to California Nuclear for October. If so, it is not clear how he worked as a full time employee of Great Lakes Carbon and spent most of the day discussing Nuclear Fuel Reprocessing as we remember that that was the main topic of discussion most of the day.

October 24, 1966

We stopped at Mr. Muller's home in Clarendon Hills, Illinois and picked up a writeup of the proposed reprocessing plant.

October 26, 1966

We issued a 'Prospectus for a Nuclear Fuels Reprocessing and Manufacturing Plant'. The prospectus was written primarily by McLain with help from Mrs. Hungerford. Mr. Muller outlined the organizational chart. McLain spent most of several days work on the Prospectus. Mr. Muller was listed as Senior Author as he was directing the project and planned to use the prospectus to interest financial groups.

October 30, 1966

Met with several people in Pittsburgh to discuss the reprocessing plant.

November 1, 1966

Met with Rodger and Reese re the reprocessing plant.

November 3, 1966

I talked to Mr. Muller by telephone. While in New York Mr. Muller had talked to Mr. Federman relative to the merger. We have no idea of the time involved in Mr. Muller's discussions but it would appear to be less than a day.

November 4, 1966

I talked to Rodger about the reprocessing plant and called Mr. Muller and told him the results.

November 7, 1966

Mr. Muller and I met at 10:00 A.M. in Chicago. Later

we met with Mr. Federman and spent the remainder of the afternoon discussing the merger of California Nuclear with Nuclear Engineering.

November 22, 1966

Submitted a revised 'Prospectus for a Nuclear Fuels Reprocessing Plant' to Mr. Muller. This was prepared by Stuart McLain with Eugene G. Hungerford co-authoring. No contribution was made by Mr. Muller in the writing other than his write-up received October 24, 1966.

Apparently talked by telephone to Mr. Muller about Reprocessing Plant and our business. Mr. Muller stated he would talk to Searles Laboratories.

December 3, 1966

There had been a telephone conversation with Mr. Muller. In order to bring him up to date I sent him a letter re the merger. We had received a proposed contract and the letter refers to the page numbers in the proposed contract.

December 6, 1966

Met with Mr. Muller and others in Mr. Federman's office in New York in the afternoon. It should be noted that Mr. Muller was working a great part of this time in New York at Sanderson and Porter. Their office is within a block of Mr. Federman's office. Mr. Muller, therefore, spent only a small portion or about three hours at this meeting.

December 8, 1966

On December 8, 1966 we issued a 'Prospectus for a Nuclear Fuels Manufacturing Plant' and 'Prospectus for a Radioactive Sources Plant'. These were issued primarily at the request of Mr. Muller as he wanted to form a Company to carry out several types of business.

December 15, 1966

Mr. and Mrs. Muller drove in from Clarendon Hills. Mr. Muller wanted to talk with Mr. William K. Bennett about the proposed Nuclear Engineering merger contract. After about an hour in the office Mrs. Hungerford and Mr. Muller went to Mr. Bennett's office. Mr. Muller spent some time pointing out deficiencies in the contract. Mr. Bennett was taking no notes, only following his file. Finally Mr. Muller finished. Mrs. Hungerford asked Mr. Bennett is this sounded familiar. He said that yes it sounded like a replay of Mrs. Hungerford's statements that she and Mr. McLain had pointed out a few days earlier. The three had lunch and Mrs. Hungerford and Mr. Muller returned to the California Nuclear office. After about an hour of further discussion of possible California Nuclear finances, the Mullers left to go home.

December 27, 1966

Mrs. Hungerford and I visited Chicago and talked to Mr. Muller for about two hours.

December 30, 1966

I sent Mr. Muller copies of some talks that I had given to a class.

January 5, 1967

Mrs. Hungerford and I had arrived in Chicago from a trip to New Mexico the night before. After the Commonwealth Edison class which McLain left about 3:30 P.M. they met with Mr. Muller and discussed the proforma balance sheet and merger with Nuclear Engineering. This meeting lasted through dinner and a drive to Mr. Muller's home in Clarendon Hills.

January 13, 1967

We elected Mr. Muller as a Director of California Nuclear, Inc. He was not present at the meeting.

January 20, 1967

Mrs. Hungerford and I met Mr. Muller in New York for lunch. After lunch we met with Mr. Federman and others in Mr. Federman's office. Mr. Muller attended only a part of the meeting as he was absent most of the afternoon. In the evening flew back to Chicago and took Mr. Muller to Clarendon Hills.

February 3, 1967

Mr. Federman called Mr. McLain and stated that the terms of the merger contract would have to be changed.

February 4, 1967

Mr. Federman's call referred to above was discussed with Mr. Muller. Mr. Muller stated that he would call Mr. Federman.

February 8, 1967

Mrs. Hungerford and I drove to Clarendon Hills, Illinois and had a three hour meeting with Mr. Muller. Most of the discussion centered on the balance sheet and preparation of a Proforma Balance Sheet. Many of Mr. Muller's suggestions on cash flow were highly impractical as he suggested reducing employees at Sheffield even when he did not know that two or more were working each day building a road and developing the site, not on operations.

February 17, 1967

I sent Mr. Muller a copy of 'Isotopes and Radiation Technology' Fall 1966 for his use.

March 1, 1967

We sent Mr. Muller a long letter relative to the various nuclear services that we had discussed with him. This letter was written a few days after a meeting with Dr. Schumar at Argonne and was the result of a combined effort of Stuart McLain and Eugene G. Hungerford in developing and writing.

March 3, 1967

Agreement re merger worked out again at Mr. Federman's office. But Mr. Muller was not present, except for about 1/2 hour at lunch and about one hour at the end of the day. He was at a meeting at Sanderson and Porter and came over when free. He did join Mr. McLain and Mrs. Hungerford for dinner at a restaurant near the offices. Mr. McLain paid for the dinners.

March 31, 1967

Agreement re merger worked out again, but Mr. Muller was not present.

April 10, 1967

Mr. Muller came in and we talked about California Nuclear and other things.

April 27, 1967

I talked to Mr. Muller about several things in the afternoon for a short time.

May 6, 1967

I spent the latter part of the afternoon and dinner with Mr. Muller. Discussed the Fuels Management Company.

May 8, 1967

During the period of May 6 to May 11 spent a considerable amount of time on a 'Nuclear Management' prospectus. Preliminary issue dated May 8 was sent to Mr. Muller as he was considered as a Director. It was our plans that Mr. Muller would take an active part in the sales promotion and finance of this Company.

May 14, 1967

A letter was received from the SEC requesting a proposal for assistance in management and planning for improvement of three reactors. This was discussed with Mr. Muller and a copy of the request sent to him.

Mr. Muller indicated that he would like to proceed with a proposal to operate the Elk River, Dairyland, and BONUS reactors. Accordingly, I drove to Argonne and discussed the design of a fast reactor fuels facility for the National

Reactor Testing Station and the Elk River, etc projects with Mr. Muller and Dr. Schumar.

Mr. Muller took the lead. He arranged with Sanderson and Porter of New York that he could act as Manager and Sanderson and Porter would finance the preparation of proposals.

May 19, 1967

On May 19, 1967 a telegram was received from Nuclear Engineering cancelling all merger negotiations between California Nuclear and Nuclear Engineering. On May 22, 1967 Mr. Muller spent about one hour in Mr. Federman's office discussing the merger of the two Companies. As a result of Mr. Muller's efforts merger negotiations were resumed.

May 22-31, 1967

On May 21, 1967 Mr. Muller and I flew to New York. Mr. Muller advanced travel money to me.

On May 22 and May 23 I worked in the offices of Sanderson and Porter in New York under Mr. Muller and Mr. Taverna's direction. During that time we prepared a proposal for operation of the Elk River, Dairyland, and BONUS Reactors. On May 24 we flew to Columbus and spent the 25th talking to people at Battelle Memorial Institute about the reactor program. As a result a proposal was prepared under the auspices of Sanderson and Porter, 25 Broadway, New York, and submitted to the Atomic Energy Commission.

After the discussion with Dr. Stanley Paprocki and others at Battelle, Mr. Muller and Mrs. McLain and I talked about California Nuclear for nearly an hour. Mr. Muller ordered me to discharge Mr. Beierle and to issue orders for operating the Company. In a letter received June 2 he listed several things that we had to do in order to satisfy the requirements for the program with Nuclear Engineering. During this discussion he was very condescending and superior in his attitude and talked as if he was President of California Nuclear and I was the office boy.

June 1, 1967

I had a meeting at Argonne with Dr. Schumar and Mr. Muller about the proposal prepared by Sanderson and Porter. Also Mr. Muller asked about our cost estimates on the whole body counter.

June 9, 1967

On June 9, 1967 I sent Mr. Muller a letter relative to a training program that he had been discussing with Professor Milton Edlund of the University of Michigan.

The following statements are based on memory as no entries were made in the Journal. They have to do with Mrs. Lugene G. Hungerford.

Mrs. Hungerford had set up the original books for California Nuclear and had been a part time employee. Sometime during the negotiations with Central States Small Business Company for a loan she wrote into the contract a statement that we could buy back the stock for which an option was granted at a low price provided that there was a reorganization or merger. A Mr. Zerbel from Milwaukee was sent in by Mr. Hyman Federman to check our books. As he was a certified accountant, we let him see some of the contracts. Later he told Central States about the clause in their contract which they had not really thought about. As a result they made us change the contract in order to increase our loan when we had to have money for the Illinois site in November 1966. At the same time Mr. Toy's attitude (he is President of Central States) toward Mrs. Hungerford changed to one of something decidedly less than love. I think in October 1966 he stated that we must discharge her.

What, if any, conversations about Mrs. Hungerford took place between Mr. Toy and Mr. Muller, we do not know. However, we do know that Mr. Muller also, about this time, developed an attitude similar to that of Mr. Toy. I suspect that part of his attitude came about since she was able to point out some of the discrepancies in his recommendations. At any rate, about May 1967 he took the attitude that she must be discharged and so ordered on condition that the merger with Nuclear Engineering could go through. We do not know how much of this order, if any, came from Nuclear Engineering. We were told by Mr. Muller that it was their order. At any rate, I was ordered by Mr. Muller to discharge Mrs. Hungerford. Later a contract was written with her and California Nuclear. Mr. Muller insisted that this be cancelled or transferred to Mr. McLain and Mrs. Hungerford did not accept Mr. McLain's contract. She then accepted a three year contract with California Nuclear and still later Nuclear Engineering accepted Mrs. Hungerford's contract with California Nuclear.

June 29, 1967

On June 29 I stopped at Mr. Muller's home for a very brief time. We discussed the organization of Nuclear Engineering and California Nuclear. From what was said I understood that Mr. Muller wished to be President of the combined company. He stated that as of June 30, 1967 he was severing his relations with Great Lakes Carbon Company. It is our understanding that he has been a full time employee as Vice President for Research and Development since our contacts with him started.

July 13, 1967

I talked to Mr. Muller by telephone. He reported results of a dissatisfied Nuclear Engineering stockholder and the fact that both Nuclear Engineering and California Nuclear will be placed in a trust fund in order to get both corporations out from under California regulations.

Mr. Muller reported that there had been considerable discussion and that people were claiming that the Sheffield site had been reported by certain Atomic Energy Commission people not to be satisfactory, and the site was approved only after Governor Koerner called Commissioner Glenn Seaborg. We do not know the story but we have been told that the story was different.

July 14, 1967

Mr. James I. Toy, Jr., President of Central States Small Business Investment Company of Fort Wayne, called and stated he had been talking to Mr. Federman and Mr. Muller. What the content of conversations between Mr. Toy and Mr. Muller were was never reported by Mr. Muller. During this period Mr. Muller acted as if he were making the decisions for California Nuclear and not as a consultant for us. At no time has he ever submitted a report of his actions or acted as a consultant. Beginning about June 1, Mr. Muller acted as if he were President of California Nuclear and that he would be President of the merged companies. On July 14, 1967 Mr. Toy insisted that Mrs. Eugene G. Hungerford be discharged as Vice President and Assistant Secretary. We do not know what conversations took place between Mr. Muller and Mr. Toy about this.

July 21, 1967

On Friday, July 21, 1967 Mr. Muller came in. He proceeded to order me as to what should be done. Among other things he ordered me to accompany him in visits to our accountants and attorneys and that Mrs. Hungerford should not accompany us.

We first called on Mr. Bruce Burton of Huth & Associates. Mr. Muller proceeded to tell Mr. Burton the changes that should be made in the financial statements that he had prepared for California Nuclear, Inc.

Later Mr. Burton called Mrs. Hungerford and reported that he was upset but was very firm. He stated that he would not make the changes in the books which Mr. Muller had demanded as he did not consider these changes legal. He seemed most concerned with what authority Mr. Muller had since Mr. McLain had made few comments. Mrs. Hungerford said later she believed he would have terminated his services to California Nuclear if he had not been assured that Mr. Muller had no authority. Details of changes were

not discussed.

After the visit with Mr. Burton, we talked to Mr. William K. Bennett. During this visit Mr. Muller dictated a letter to be sent to Mr. Toy. This was not sent as it was about 90% in error.

Afterwards, I discussed the reprocessing plant with Mr. Muller.

At Mr. Muller's insistence Mrs. Hungerford's contract was rewritten under McLain Associates.

July 24, 1967

Mr. Muller called and stated that Mr. Toy had objected to some of the terms in the proposed merger contract.

Mrs. Hungerford stated the change in her contract was without her approval and she would not accept the change to McLain Associates.

July 28, 1967

I went to New York and had an evening meeting with Mr. Hyman L. Federman and Mr. Muller. I met Mr. Muller at 4:00 P.M. and we had to wait for some time for Mr. Federman. After dinner we had a meeting in Mr. Federman's office from about 7:30 til 10:00 P.M. Mr. Muller had been in New York. After the meeting we stayed in New York and returned to our homes the following morning.

August 6, 1967

I talked to Mr. Muller by telephone. He wanted to know if we could analyze some sulfur samples for him. I checked later and reported that we could not do so. He then asked that I give him any ideas that I might have relative to recovery of sulfur from Central American hot spring areas. I spent several, two or three, days reviewing the subject and sent him a letter on August 9, 1967.

August 9, 1967

On August 9, 1967 Mr. Muller called and stated that a Central American Company wanted information concerning a commercial training program. I interviewed several people at Purdue University and sent him a letter giving him the specific data.

August 18, 1967

We sent Mr. Muller copies of the July Financial Report.

September 8, 1967

Mr. Muller called and I gave him a status report of our business.

Sometime in August or September I told Mr. Muller that he has been working recently more for us than we have been

working for him and that we ought to sign an agreement to pay him for the extra work in the future. He again stated that the amount would be small and we would not worry about it. Then on September 20 I again brought up the subject. Mr. Muller stated yes that he was doing more work on California Nuclear than we were doing on other things for him. I again pushed for a contract and a record of time but again he put me off. He did say that if he included all his time, the invoice would be substantial.

September 20, 1967

A few days prior to September 20 Mr. Muller called and stated that I should come up and discuss how things were going. On arrival, I was treated as a guest but was simply told what was to be done. It should be noted that Mr. Muller again indicated that he wanted to be President. I suggested that his time could be spent to a greater advantage on other things!

October 5-9, 1967

Mr. Muller called in a message announcing the Continental American Royalty-Nuclear Engineering stock exchange.

October 11, 1967

Mr. Muller called from New York. He stated that progress on the merger was being made and that he needed me in New York or he needed Power of Attorney. I did not choose to go to New York and I refused to send him Power of Attorney.

October 26, 1967

Mr. Muller called and stated that he wanted to bring Mr. Paul Cash, President of Continental American Royalty Company, to Lafayette tomorrow. Because of other negotiations I stated that I could not see them tomorrow; so they went to Sheffield without our invitation. In the evening I sent a telegram to Nuclear Engineering breaking negotiations.

October 27, 1967

Mr. Muller called and demanded to know why we broke negotiations with Nuclear Engineering. When I told him there were a number of reasons, he became quite agitated and stated that he was entitled to a definite explanation. Why as a consultant he believes that he could make such a demand was not explained to me."

Some of our notes are presented below:

"Just prior to our initial meeting with Mr. Muller, California Nuclear, Inc. opened negotiations with Nuclear

Engineering Company, Inc. for a merger. As a part of our contacts with Nuclear Engineering we introduced Mr. Muller to Mr. Hyman L. Federman who was the Chief Negotiator for Nuclear Engineering. Soon thereafter Mr. Muller and Mr. Federman entered into business deals. We did not bill either of these gentlemen for a "finder's fee" which would have been substantial.

Several months after the negotiations with Nuclear Engineering began we heard rumors that Mr. Muller indicated he would like to be President of the combined company. Later he told Stuart McLain that he would like to be President of Nuclear Engineering.

Nuclear Engineering Company, Inc. had permits to negotiate mergers with other companies during this period. As a result of negotiations a merger of Nuclear Engineering and Continental American Royalty Company was completed on or about October 5, 1967. Mr. Muller was active in the negotiations for this merger and was present at the closing of Nuclear Engineering and Continental American Royalty Company. (Note added 4 January 1974: It turned out later that this merger was not approved.)

As a part of the Sale of Assets of California Nuclear, Inc. to Nuclear Engineering Company, Inc., Stuart McLain, as President of California Nuclear, Inc., agreed to hold Nuclear Engineering harmless from settlement of the consulting fee and charges of Mr. Muller. At one time, before the Sale of Assets, Mr. McLain agreed to pay Mr. Muller $5,000.00 in full and complete settlement of the claim of $27,377.52. This offer was made through Mr. Paul Cash, President of Continental American Royalty Company. This offer was made to avoid delays of court action in completing the Sale of Assets to Nuclear Engineering and dissolution of California Nuclear, Inc., but was withdrawn when we were notified of the filing of court action.

Several times we requested that Mr. Muller agree to draw up a formal contract. This was requested so that we could determine if his time might be exceeding that spent by Stuart McLain and Eugene G. Hungerford. We stated that we would pay him if he was spending extra time. Two or more times Mr. Muller said in substance that he was working to help--that he didn't want to see a New York Jew get the best of a Midwest college professor. He simply waved us aside. No agreement was reached but he said he would submit an invoice if this were the case. In September 1967 California Nuclear, Inc. broke negotiations with Nuclear Engineering when we were told that Nuclear Engineering Company's negotiating permit with the California Commissioner of Corporations had expired. Mr. Muller immediately submitted an invoice for his services without regard to time spent by Stuart McLain and Eugene G. Hungerford. Subsequently, negotiations were reopened between the two

companies by others with Mr. Muller assisting Nuclear Engineering Company.

Mr. Muller entered an attachment on the California Nuclear, Inc. stock in escrow in the Wells Fargo Bank in the United States District Court for the Northern District of California, Civil Action No. 49169 dated July 26, 1968.

About 1/3 of Mrs. Hungerford's time listed previously was charged to California Nuclear, Inc. but was contributed to services for Mr. Muller with the understanding that this time was in exchange for Mr. Muller's assistance to California Nuclear, Inc."

Later during the negotiations with Mr. Muller I agreed to pay $5,000. Mr. Paul Cash Stated that Nuclear Engineering or Continental American Royalty would pay $5,000. However, Mr. Cash later informed us that Mr. Muller would not accept this but would accept $13,500 of California Nuclear stock (equivalent to about $48,000 of Nuclear Engineering stock).

Later he became President of Continental American Royalty and Chairman of the Board of Nuclear Engineering. He was also working for Hyman Federman part of the time. He also claimed to be a Director of a bank in Elizabethtown, Tennessee and a consultant to the Nicaraguan government. We had contacts with him for several years. Then we sold most of our Nuclear Engineering stock in 1972 and were no longer Board members.

In the latter part of 1972 Muller organized a group to make a bid to Petrobras (the Brazilian Government owned Petroleum Company) to open a potash mine using solution mining in Eastern Brazil known as the Sergepi Deposit. He requested William Pullen, Professor of Geology at Purdue, to act as consultant. Pullen agreed.

Since Pullen was also working for us, he told us about it. I immediately warned Pullen. I also wrote to one of my Brazilian friends explaining that Muller could not be trusted. So Pullen increased his fees and reported that at the meetings in Rio de Janerio Muller was ignored. So it cost Muller more in the long run than the $7,500 which we paid him.

Actually we were told by Professor Pullen that he understood that Muller was to get $1,000,000 stock in the Brazilian company. Also Professor Pullen stated that of all the proposals made to Petrobras he believed that Muller's was by far the best.

A note re the Sergepi deposits may be of interest. It is believed the potash salt was deposited from hot brines which occurred as Africa and South America were separating. This same type of action is now taking place in the Red Sea as Africa and Asia separate.

While Muller was Vice President of Great Lakes Carbon, the Detroit Edison group designing the Fermi Reactor, requested bids for some graphite. Eugene Hungerford specified a certain grade but was overruled and specifications were issued for a lower grade. Great Lakes bid and obtained the contract for this graphite, I believe, at some $300,000. The graphite failed in use and had to be replaced at very high cost. Muller later claimed that he knew the graphite was not satisfactory but he failed to say anything.

We now believe that Muller was fired by Great Lakes Carbon and that he has been fired by Federman, and others. Anyway I believed Petrobras should be warned about him.

Actually it was 13 August 1968 before we learned just what happened on his claim against us. On a lawyer's request the U. S. District Court of the Northern District of California, on complaint of Nathan William Muller, represented by Carey of Herzotein, Maier, and Carey of San Francisco, had attached 15,000 shares of our stock and this was being held by the Wells Fargo Bank. Bennett proceeded to ask for a transfer to the Northern District of Indiana Court but this was never done as we settled out of court.

We probably should have demanded $20,000 from Muller for our time and demanded a detailed breakdown of his time and then sued for personal damages.

On 26 November 1968 I stopped to see Schumar and Jim saw me drive by. Muller was in his office trying to get his help on "a big deal of instruments with Israel". He then told Jim that we had to settle our claims and asked Jim what he knew. Jim told him I was trying to get the case into court. This surprised Muller and he stated that "is not the way but we should settle out of court". About that time I walked into Jim's office and the subject was dropped. I'm sure Muller did not want to go to court.

The next day I reported these things to Bennett. Muller then refused $5,000 but agreed to accept 1,500 shares of NECO stock (about $41,000, as the price had gone up). I suggested Federman supply the stock.

On 17 December 1968 Schumar indicated he had the

impression Muller was just trying to embarrass me. On 13 February 1969 we had a Board meeting in San Francisco. After some argument by Federman, Muller came down to $15,000 which I refused, but I finally agreed to pay $7,500. Williams never thought I should pay a cent, nor did I. But I did pay the $7,500 to release the stock, etc.

Our contacts with Muller as Chairman of the Board of Nuclear Engineering continued until we sold the bulk of our stock in that company. Then we lost track of him. But in mid 1973 Professor William Pullen of the Department of Geosciences of Purdue reported he had agreed to do consulting for Muller. Both Bill and Ann had come to Purdue to see Pullen. I suggested to Pullen that he better get an iron bound contract. Pullen had agreed to work as a consultant at $100 per day, which I stated should be $300. But Pullen went ahead with Muller. The work had to do with consulting, using solution mining of potash in the Sergepi area of Brazil.

So I wrote to Professor Cimbleris in Brazil, warning him about Muller. Then early in September 1973 Mr. Fausto de Carvelho Monteiro of Petrobras, Rio de Janireo, wrote me about Muller as he had received a letter from Cimbleris. I wrote de Carvalho that Muller was not to be trusted. Then Professor Pullen reported when he returned from Brazil that the Petrobras people practically ignored Muller.

As a continuing sequel of the story, Pullen on 16 January 1974 stated that Muller had not paid him a cent for consulting and only part of his travel expenses on his trip to South America. Another consultant from Cleveland also had not been paid. Pullen claimed he had worked some 90 days for which I stated he should be paid $27,000. I suggested he talk to us and talk to our lawyer, William Bennett, and perhaps Robert Williams in San Francisco.

Later Pullen and Ted V. Jennings met with us for lunch. In respect to potash in Brazil, Pullen reported the economics were acceptable to Brazil and they could compete with Saskatchewan potash. Michigan potash is too deep, 8,000 ft, to mine by solution as the wells are too costly.

Pullen stated that Muller had put together a three man team that was excellent and Muller was a consultant to Sutter which he and Sanderson and Porter had put together. Sanderson and Porter is now owned by Control Data. Sutter designs and builds power stations. Its subsidiary Lume has

a subsidiary Kaluim, which will mine the potash. Lume is in construction. President of Kalium is Marcellus--Oliveia.

So what will happen is unknown. At least we warned Pullen. They have offered to pay him in Brazilian money.

So I stabbed Muller in the back!

V. LAFAYETTE, 1968

During the early part of 1968 I was involved with the Tarapur Project along with Dr. Joseph Thie. Commonwealth Edison Company loaned Mr. Clifford Zitek to McLain Associates and he and Dr. Thie went to the Tarapur Plant north of Bombay and assisted in the plant startup tests in July. All reports praised both men and emphasized their help in the tests.

I continued to complain about the treatment which we had received from the AEC relative to the Sheffield site. On 23 January 1968 I sent a letter to the American Society of Testing Materials, stating that the AEC had refused to accept the laboratory permeability tests and had required well drawdown tests. I contended--and I still do--that the permeability tests were the most reliable and the well drawdown tests were of no significance. But how do you convince non scientists of the reliability of scientific tests?

While I had little to do with the Tarapur Project, I did get involved to a limited extent in the problem of the control rod inlet tubes in the bottoms of the pressure vessel. These tubes were found corroded at Oyster Creek and Tarapur plants and all these tubes had to be repaired by grinding and welding. The problem apparently occurred due to sensitized stainless steel combined with stress corrosion crocking in the presence of chloride ion.

Bailey, Sosonski and Schiffkens had formed a small Nuclear Fuels Management Company and wanted to work with us but nothing ever came of it.

During this time we did considerable work as a part of California Nuclear for Dr. Breed in Chicago on checking radium needles, sources, etc.

Also we organized at Purdue an "Uranium Workshop" in cooperation with the Geology Department. This turned out to be very successful with some 25 people here from all

over the country for a one week's session. This was later repeated at least twice as were the Nuclear Fuels Management courses.

One Thing of considerable interest to me was a meeting with James E. Baize, President and apparently the owner of Plant Engineering Systems in Indianapolis. This was an engineering firm that was interested in nuclear power plants. The company seemed quite politically oriented but also did good engineering. They wanted us to reorganize Nuclear Management to include them but they did not indicate just how their company should be included. We have never heard of them since. Eugene in a memo dated 17 April took a very dim view of working with them. We would have clashed.

James Fulford on 24 May 1968 came up for his Doctoral examination. We all agreed the work was excellent but the Thesis was poorly written and parts should be rewritten.

In June I had the idea of a combined power and sewage recovery plant. On checking patents we found that two nearly identical patents with the same ideas as mine had already been issued.

In August Federman stated he wanted me to go to Israel to look at some new types of instrumentation. I refused on the basis that I knew very little about the subject.

On 9 October 1968 Mr. DuPont of the Kuljian Company, called and I made arrangements to fly to Calcutta on 18 October. The following week Eugene and I went to Oak Ridge to a week's conference on shipment of radioactive materials. On the way back I flew from Cincinnati to Bankok.

Several things occurred on this trip that may be of interest. On arrival at Honolulu on Pan American, I met Harvey Wagner and Joseph Thie on the way back to the States from Japan. We all agreed that Pan Am was (and still is) the world's worst airline. They had stood in line for an hour to check in and I had also done so in Cincinnati. We were all three mad. Later I flew to Tokyo, Hongkong, and to Bangkok for overnight.

Dutt from the Calcutta office of Kuljian met me. He was in Bangkok trying to sell a contract to build a newsprint papermill in Southern Thailand. We talked for a long time. We met early the next morning with the editors of the three newspapers in Bangkok. They stated that if we pulled all our troops out of Southeast Asia, that those countries would have to go Communist at once. In view of what has happened since, I wonder how dumb the United States

people can be. They certainly swallow Communist propaganda easily. For example, in a picture of a supposed bombing of an irrigation canal in North Vietnam printed in "Life", there were at least 10 things to indicate the "bomb" blast hole had been hand dug.

In order to get the papermill the Thais had to agree to a 30% increase in pulp price. After breakfast we drove around Bangkok, looked at the Golden Buddha, etc. On the way to the plane, after checking in at the airport, I realized that I was walking next to Babbs Bussy, one of Winnie's closest friends, and Lucille Howlett. They were on a tour of Southeast Asia.

At Calcutta Chowdbury met me. Since it was the Holiday on which everyone lights candles, everyone was out on the streets but traffic was light. There were few transients compared with the swarms there on my first visit to Calcutta. Drove around the city quite a bit.

On the evening of 22 October I flew to Bombay. Adani met me and took me to the Ritz Hotel. The next day I talked to Chakaravarti of the Indian AEC and then took the train to Tarapur where Prokash met me. Later swimming.

In the morning of 24 October I went over the waste systems. I recommended abandonment and redesign. I again recommended that the resins be pumped into a truck and transferred to burial as a slurry. General Electric had installed a centrifuge and was planning to use paper pulp to "solidify" the resins.

The next day Dayal demonstrated the solidification equipment. I was flabbergasted! They tried silica gel. Water could be squeezed from the solids. The weight of the materials in a 55 gallon drum would squeeze water through leaks in the bottom of the drum. They demonstrated the drum filling and capping. These worked with extreme difficulties. I was able to suggest a number of improvements which were made. The whole was a mess.

I spent two evenings visiting the Prokashs. He was born in Pakistan and his family was driven out with nothing. Mrs. Prokash was born in Babuchistan. He has a brother in Chicago.

On the third day I spent quite a bit of time with the Bechtel Superintendent of Construction. In the evening I had dinner with Prokashs. Several others were also there for dinner and the evening.

On the whole the plant looked good. Due to steel tubing troubles the heat exchangers were all being retubed. I was worried about the condenser but apparently there was no corrosion. I was impressed with what the Indians had accomplished.

One of the men working there was named Samson from somewhere in Ohio. He spent 10 minutes running down the people--particularly the poor people, especially their lack of toilets. I guess he didn't appreciate my question when I asked if his grandmother didn't think she had it made when she got an outdoor privy? He advocated cutting off all foreign aid. He then compared how a Midwest farmer would do the same things. The Midwest farmer uses $50,000 to $100,000 worth of machinery while the Indian has only a few hand tools worth at most $5 to $10. People forget what capital accumulation means. The Midwest peoples took up land stolen from the Indians and given them almost free. Very little capital was invested for large areas of highly productive land.

Then on Sunday Prokash took me for a long drive. We first visited a village, Chinchini, on the Coast, to visit a "rock hound". Bought Winnie a necklace. Then visited a village of die makers. For over 1000 years these villagers have made steel dies for making jewelry; mainly sold to the Arabs.

Spent Monday at the plant going over details of the waste disposal system. Then to Bombay by train and cocktails with Prakashs' cousin and her husband, the Alomas. Then dinner with Indian dances at the Victoria Hotel. In the late evening left for home.

But we were held in Beirut for several hours due to some minor engine trouble. Then on to Prague, Frankfort, London, and New York. Through customs and made the TWA to Chicago in 20 minutes. At the customs the man asked "Is that all you got?" When I said, "Yes," he laughed and said, "Get along and don't bother us." I had only a brief case. The next night went to see an Indian dance team at Purdue!

The Kuljian office in Bombay was under the direction of Mr. Adani as mentioned. He and his family were Hudras and were living in Karachi at the time of independence. He and his family were driven out penniless. He spent several years in London. He has many Moslem friends. He stopped at Karachi on the way back from London to visit his Moslem friends. He stated they seemed apologetic.

In 1968 the labor and clerks were receiving $35 to $36 per month. Inflation was high. Land costs were $800/yd^2 in the business district, $150 in the residential area, and $1/yd^2 ($1,613 per acre) 30 miles out. Food was plentiful and general prosperity seemed good. Bombay particularly appeared quite prosperous with new buildings just like Chicago. But concrete moved in small buckets on women's heads and people were sleeping on the sidewalks. People were choosy and general prosperity good. Quality of goods was improving and international sales were up.

Calcutta, on the surface, gave a very poor impression. Poverty was rampant. People poorly dressed, carts drawn by men. But everyone had his head up. Everyone was clean. Everyone takes a bath at least once and usually twice daily. Everyone helpful and friendly. Everyone on the streets talking and joking. People stated they liked living in Calcutta. Even the beggars were friendly.

By the end of November and early December troubles began to develop with the Tarapur plant. AID became worried with all the troubles and wanted Zitek for a year. I talked to Bailey and Al Veras about Tarapur and I sent what information I could to Prokash.

Since then, many troubles have occurred with the Tarapur plants. Operations have been curtailed and the power expensive. The troubles appear to have been mainly General Electric's fault but I have not gotten the technical reports. Now, 1974, the two reactors appear to be working very well.

In November 1968 we were in Washington to an Atomic Industrial Forum meeting. Also Douglas and Virginia came in as Douglas had to give a Seminar to the Oceanography people.

Then on 14 December 1968 the Indianapolis paper announced Jim Toy's death. This is noted elsewhere. Poor Jim. We have not heard from his wife and children since.

VI. NUCLEAR ENGINEERING

We joined Nuclear Engineering at the end of June 1968. While we expected that our relations with the management of Nuclear Engineering would be pleasant, nothing could have been further from what happened. Perhaps a good part of our troubles resulted from the death of Admiral Mills, who had been Chairman of their Board. Had he continued as Chairman, probably there would have been fewer difficulties.

In the first place we did not believe we should join Nuclear Engineering but at the final showdown we were practically forced to do so by Fredrick P. Boierle and William D. Johnson, who organized the minority shareholders and threatened suits. While the contract between California Nuclear and Nuclear Engineering was very complex, there was nothing in it that we could not have lived with. I was to be Technical Director and Lugene Hungerford presumably Assistant Technical Director. But on the refusal of Nuclear Engineering to give her a contract, the McLains paid her a low salary for several months.

It was agreed that I should be a Board member but it was nearly a year later at the next Board election before Lugene became a member. She was elected only then by the former California Nuclear shareholders.

With the death of Admiral Mills, James Harvey, the President of Nuclear Engineering, became the leading force abetted and supported by Max Margolis, the Secretary-Treasurer, who in turn was supported by Hyman Federman. Hy's sister was Max's wife. Paul Cash appeared to be a reasonable man but he was soon kicked out by Federman and Muller. Some comments about these persons (characters would be better) who made up the Board with me are listed below:

a) James L. Harvey. -- Harvey was very unsure of himself. He had had little college work but did have considerable experience as a truck driver, handling radioactive wastes. As such he had worked himself up to Manager of the Morehead, Kentucky burial site and finally under Hufft to his Assistant. Then when Hufft sold out to NECO Associates, he was made President. Actually, Jim probably did the best he knew. But he knew very little about the nuclear business. Further, he made up for his lack of knowledge by keeping everything closed to others and condemning others. His reputation both in knowledge and personal characteristics, was very low throughout the nuclear industry.

b) Max H. Margolis. -- Margolis was a lawyer in San Francisco. Max was conscientious. He apparently knew law but very little about business, and I always believed absolutely nothing about the nuclear business. Federman called him stupid one day but I would rather say he was very conscientious with little knowledge about Nuclear Engineering's business. He was too set in his ways to learn. He tried to make everything Harvey wanted legal

and he would not believe any of the stories that circulated about Harvey.

c) Paul E. Cash. -- Cash was a business man from Dallas. He apparently was well informed and capable but knew nothing of the nuclear business. However, he was very soon pushed out by Federman and Muller as a part of the CARCO management shuffle.

d) N. William Muller. -- Muller was a Chemical Engineer and really quite brilliant. He had had a broad experience as he had worked for several organizations and certainly was capable. As discussed in Section IX C. 15, he just couldn't be trusted. At the time of the merger he was working for Continental American Royalty Company or CARCO. He was also working for Federman, at least part time, in New York, and he claimed to be working for Sanderson and Porter. Actually he was only working for Muller.

e) Hyman L. Federman. -- Federman was a broker just off Wall Street on Broadway with an office staff of perhaps 50 people. He was an organizer and apparently had done very well. He had organized NECO Associates to buy Mufft's stock in Nuclear Engineering and voted all the proxies. He had hired Muller after we had introduced them and then he placed Muller in charge of CARCO.

Federman had a liking for me and at first a dislike for Lugene. Finally he learned to admire her. Federman was very capable in many ways and very interesting to talk to. We had over the period 1963 to 1972 many contacts with him. But I can't recommend that anyone trust him for over a nickel. As one man who knows him and who rides the same commuting train stated, he might help Hy out by giving him $5 but he surely would not loan him $10 without a signed note.

When the merger negotiations between Nuclear Engineering and California Nuclear were announced, there was very little interest aroused. The San Francisco Chronical, on 29 November 1966 (19 months before the contract was signed) carried the following item:

"MERGER TALKS

Nuclear Engineering Co. and California Nuclear, Inc.

have entered into merger discussions. Both companies are engaging in the business of disposing of radioactive wastes. Nuclear Engineering has headquarters in Walnut Creek, and California Nuclear has offices in Lafayette, Inc."

And that was about all that was said. I don't know why the "environmentalists" did not raise a rumpus. It is difficult to outline the progress of Nuclear Engineering as there were many things considered during our contacts with them. I have tried to be reasonably consistent by discussing the sales followed by a discussion of the possible mergers, and finally discussing our relations with Federman. In Section IV C. 15, I have discussed our early relations with Muller.

It has already been stated that Johnson was immediately discharged and Beierle soon after resigned or was discharged even though we believed they had both been offered important positions.

One item that always disgusted us was the advertising put out by Nuclear Engineering. On 4 December 1968 we issued a memo to the Board relative to their brochure "Buried Alive". It was not only poorly written but of the scare type. Of course, the Board and Harvey did nothing.

By 1 January 1969 not much had been accomplished by us. One third of our stock had been issued and nearly 14,000 shares were in escrow to be issued or cancelled later, depending on business. Muller's suit had not been settled.

In April we found that the NECO accountants, Arthur Anderson and Company, were trying to write off the purchase of California Nuclear rapidly so that we would not get all our stock that was held in escrow. After Bob Williams talked to them, they did not do this. He simply threatened court action.

Finally, we sold the bulk of our stock at about $50 for each $10 of money or time invested in California Nuclear. We still own 1,802 shares. We held this stock on the belief that the market price would rise even further. The price did so but we were held up so long by the Nuclear Engineering attorneys approving our release from SEC regulations, that the price dropped from about $35 to $8 per share; so we still own the 1,802 shares (May 1974). We sold the bulk of the stock at $23.75 per share.

On 10 July 1969 Bailey of Commonwealth Edison asked

if we were responsible for the technical management of the Illinois site. I explained that we were completely ignored. He then stated he thought there would be a blowup and that we should wait until that occurred.

In respect to Nuclear Engineering's expenses, we tried to find out what Federman and Muller were paid and why but we were unsuccessful. We also found out that Muller had gone to Central States and tried to get them to foreclose on us. Presumably this was after we had broken off merger negotiations with Nuclear Engineering. But we never were given or permitted to obtain the information necessary to act as Board members should. Later William Hall of Chemtree suggested that we should have given one share of our stock to each of 32 universities. This would have made 200 shareholders and NECO would have become a "reporting company" under SEC regulations.

Early in January 1970 the people at Point Beach, Wisconsin, Power Plant called and wanted several types of services. Since NECO had terminated Eugene's contract, she considered working for the Point Beach people. Finally, NECO did move and offered some services, so Eugene dropped out.

Later in 1969 Eugene had been upset by the cancellation of her contract and her husband had talked to Harvey. Harvey promised to pay her for some time but he never did anything. Then on 9 February 1970 Eugene wrote Harvey a long letter but of course Harvey never answered. Eugene should have sued Nuclear Engineering.

On 15 February 1970 Federman called. He started off by saying that he wanted to put some life into Nuclear Engineering. He stated the profits were up some but nowhere as high as they should be. He then told about a Mexican company deal which later turned out to be Plasticos Rex, see Part E below. He then asked me what I thought of Nuclear Engineering. I told him I thought it should expand and become a leader in the services to the nuclear industry. All our ideas were killed by Harvey and Margolis.

The various intrigues within the NECO Board continued. For example, in a telephone conversation Federman reported that he thought the Plasticos Rex was a good deal. I agreed but again stated Protective Packaging was not at 40,000 shares but okay at 15,000. He then stated he wanted to get Muller into negotiations and out of operations. Federman was beginning to lose faith in Muller. Federman had a man named Bierce but would not let us know his background. Later

we met Ted Bierce at CARCO and talked to him several times. He was honest. But he died soon afterwards. He was for a time the Head Accountant at CARCO.

On 24 or 25 March 1970 Federman called. He agreed with me that neither NECO nor CARCO had good management. He stated he wanted to combine several companies with an overall technical board of:

Plusset, Los Angeles
Chauncey Starr
Howard Klein
LeLain
Hungerford

I did not know Plusset but I did know Starr. I stated Starr had an excellent scientific knowledge and that he was an excellent theoritician, but no manager. Klein, I stated, was excellent.

As noted, we tried for several months to get approval from the Securities and Exchange Commission to sell some NECO stock without success. Nevertheless, the price rose and Teledyne tried to buy our stock at $21 per share. Eugene and I finally sold 25,000 shares to a Texas group for $22.75 and we still hold the 1,802 shares.

On 15 January 1971 I called Muller. I list here the topics discussed to show the various things that were going on:

Salt Vault
Sale to Teledyne
Sale to United Nuclear
Business of PFI

On 6 April 1971 Bruce Harris called. He stated that:

a. NECO had been fined $2,000 for overloads and lack of proper papers in the drivers' hands.

b. The site Supervisor, Dillon, had been fired.

c. United Nuclear deal was off since Harvey and others had demanded five year contracts. We had not heard of this.

d. Bruce stated the drivers were disgusted with things due to lack of know-how on the part of the Kentucky site supervisors.

On 20 May 1971 Eugene sent another detailed letter to

Hargolis about the money due us. Of course Hax did not answer. Finally Lugene got fed up and wrote up a list of "Charges of Discrimination by NECO". She threatened to sue Harvey on this basis and I believe she should have done so. But Harvey became more reasonable. Her memo of 7 July 1971 follows. It was never sent.

"Rough Draft July 7, 1971

Charges of Discrimination by NECO

Sexual Discrimination as defined by 1968 Law. Forbiding such by Government Contractors

1. Refusal of NECO to negotiate contract in early 1968 despite terms of negotiation and agreements with AEC and States.

2. Refusal to hold special election in 1968 as a result of CNI acquisition to allow 2 Board Members when they knew 1 nominee to be female.

3. One director as Pres. of CARCO tried to prevent evaluation of CARCO by denying admission to Potash Mine until threatened by Court Order.

4. Termination of CNI contract with statement by President that "We definitely do not need Mrs. Hungerford's services" when he later admitted that he did not even bother to find out how long her experience with CNI had been. He stated he thought if it be late 1966 or early 1967. He did not even know of participation in early NECO negotiations.

5. Attorney representing NECO and/or Federman Co. jumped up when he was trying to twist numbers of shares of stock and said that "that is the trouble with women negotiating. They are too stubborn."

6. Threatening to foreclose a loan in 1967 to force CNI to terminate services in 1967. It succeeded.

7. Tried to exclude me from closing procedures even though Treasurer of CNI. I refused to leave but I was only effective as the CNI attorney used my services.

8. Two directors promised to pay balance of contract after termination vote by 6 of 7 Board Members. There were

Stuart McLain and H. L. Federman. McLain had been paying as possible but not one cent from Federman.

9. After election to Board of Directors on May 29, 1969 as one of management nominees as per agreement but backed by about 21-22% of stock of NECO the problems became more frequent with real harassment at most meetings. They even refused to send my mail as a director to my office on which I was paying most of expenses until I stated I would return and not accept mail sent to my home.

10. Efforts to insist on payment of balance of contract in mid 1969 brought a series of angry correspondence from M. Margolis.

11. In October 1968, S. McLain and I attended a Transportation Seminar in Gatlinburg, Tenn. In November I offered ideas on overpacks to J. Harvey to meet new regulations to go into effect March 1, 1969. They were refused. In May 1969 there were instructions to S. McLain to study shielding and overpack containers. Several remarks were made to the effect that only he was needed for this. The following day McLain and I visited H. L. Federman at his hotel (Fairmont Towers). No one with any courtesy could have acted as he did. He gave McLain instructions like an errand boy and ignored me most of the time in conversation but said finally I could help Stuart but he was responsible. This was in spite of the fact that the work was more in my area of specialization than in Stuart's. This work was never used even though both worked on it and reported it.

12. Similar action had taken place on a study of the Whole Body Counter which McLain had been instructed to report on. I wrote 2/3 of that report as I could operate equipment and no other Board Member could do so. There was no recognition of my part of report.

13. On Hungerford - McLain CARCO evaluation I was told by Muller that my calculations were all off in spite of the fact that our relative worth of NECO and CARCO was 1/3 and 2/3 and Duff Anderson and Clark's professional evaluation was 33% and 67% (they were paid about $22,000 to $24,000 for their work).

14. In November 1969 I instructed NECO offices that I would be in San Francisco week at end of November and first of December and to send mail to the hotel there. Instead they sent it to my home and not even to office.

Therefore I did not see proposal to acquire PPI until 1½ to 2 hours before meeting when S. McLain brought his copy. Then at meeting McLain and I were accused of conflict of interest but especially me because even my husband was consulting for Uniroyal. This was damaging as consultants biggest asset is integrity. This became very insulting to the point that my husband called J. Harvey next day for $15.00 worth of long distance between San Francisco and Danville, California (40 miles). The argument got so hot over Harvey saying I said things and on my denying them he would say "Stuart said 'it'." I informed him that I spoke for myself and stated my own opinions.

15. In February 1970 there was a visitor from PPI. His projections of sales and cash flow were such that Muller offered CARCO's controller's services to make projections. McLain first and then I were asked to meet PPI representatives and Muller at CARCO offices to go over projections. We were not given same information on Super-Tiger as Muller was given due to the conflict of interest statements made in December and some repeated in February.

16. At same meeting proposal to study plasticos Rex S.A. S. McLain was asked to go to Mexico City. He asked me to go also. Federman stated they would not pay my way as they didn't want to be involved in "family planning". Both our spouses were told of this. This resulted in 2 or 3 letters and a call to Harvey by my husband insisting on an apology. A verbal one was given and travel paid but no apology as public as the statement.

17. In April we were asked to go back. Another agreement over paying me arose. Federman guaranteed this by phone but we went first week of May and were not paid until Board directed it and after much arguing in late August.

18. At the same April meeting there was a pre-Board Meeting with PPI and Mechanics Research persons using my evaluation of PPI. We, (McLain and I) were not notified of meeting and my report was shown to other side without my knowledge or permission in negotiations.

19. McLain and I voted 'No' on this acquisition but we were outvoted. In fact we were led aside by Muller who asked us to vote for the acquisition and said he and Federman planned to do so to please management. He said he knew that it was a bad deal. I told him I believed what I

wrote in the evaluation and would have to vote "No". It seems everyone except I were informed of the pre-Board Meeting including Mr. Howard Klein of Plasticos Rex. In fact we were held 15-20 minutes in reception room before we were allowed to go back to the meeting room.

20. After this meeting we received a copy of the revised agreement to acquire PPI for closing to be that month. After studying the agreement I was convinced that losses due to PPI could cause part of the stock owned by CNI in escrow to be lost with no loss of stock to anyone else. The company attorney was called and he said the escrow could be released if the Board signed a resolution so requesting it. I called Margolis asking for a mail ballot vote. He refused. In frustration I threatened an injunction against the PPI acquisition until this was done. Margolis threatened countersuits etc. Finally, he agreed to mail ballot and two and a half (2½) weeks later Commissioner approved the release. This was at May annual meeting.

21. Also at the May meeting the Board voted to pay off the Central States loan (an old CNI liability). This was informally agreed to be paid off just after closing with CNI June 28, 1968. Since this was 10% interest and a Certificate of Deposit was earning 5%, this changed majority opinion in spite of management objection.

22. Board split 4-4 on first vote for Plasticos Rex S/A changed after more discussion to unanimous but all of first voting in favor believed the others would still try to block this. Report by McLain and Hungerford plus some additional by Muller as a result of his trip to Mexico was presented.

23. Letters requesting paying for time on Mexico trip by Hungerford were refused by Harvey and Margolis. Finally told it would require Board action. I had believed this was approved with acceptance of report. When this was discussed in August meeting Federman interrupted until I couldn't stop harassment by Harvey and Margolis.

24. Report was made on Salt Vault by Muller and Gablin including movie which was almost a year old. Since this would also include CARCO, Mr. Gerber the CARCO secretary and legal council came to the NECO meeting. Mr. Margolis asked that he be excluded.

25. At the December Meeting Salt Vault was discussed and a

committee appointed with McLain as chairman and Hungerford as one of the members. McLain later prepared a budget. Harvey refused to approve budget and yet sent others not on committee on one or more trips on project for further work. Committee never functioned due to no budget but Gablin, Moon, and Harvey worked more on it. Federman said later (about April meeting) that budget was not approved due to Hungerford being on Committee even though he nominated committee which Board approved.

26. In January Federman, McLain, and Hungerford met in Chicago to discuss needs of company. Federman rejected all suggestions for change in company policy and management and said sell company instead.

27. January 26 Board Meeting accepted United Nuclear Corporation offer to purchase assets. Report of Salt Vault trips by Moon, Gablin, Harvey, and possibly others was given.

28. February 11 unsolicited proposal by National Lead (NL Ind) was given to Harvey and Margolis. N. L. asked about coming to Lafayette. Harvey and/or Margolis asked they rather N.L. Ind. not visit McLain and Hungerford. They did visit them (Hungerford and McLain) as shareholders and this later caused friction with rest of Board at April and May meeting. Margolis sent letters to Board and N. L. letter of intent with no explanation or brochures. Hungerford pointed this out in letter to Margolis. One copy of literature was then sent to McLain claiming postage was expensive to mail both.

29. April meeting brought suspension of N.N.C. offer. Also McLain presented claim for money due him. Hungerford supported some of his arguments and she was asked at meeting and next morning by Margolis and Muller in Margolis office to prepare information from Lafayette filed on claim. This was not until after statements which she made concerning events leading to claims were declared by Margolis to be untrue. Hungerford also presented CPA's claim from 1968.

30. She prepared Xerox of all information on file for each Board Meeting and mailed this about May 1. At the Directors' meeting following the annual shareholders' meeting in May, this claim wasignored until McLain brought it up as Muller was trying to get adjournment. This was roughly stepped on and all efforts by McLain or Hungerford to get action was refused either for McLain or Bruce Burton (CPA). There was an error in May minutes on this and Hungerford wrote 3 or 4 letters to Margolis

and one on expenses of trip and the xeroxing of material on McLain and Burton's claims. Also two months after meeting this part of expenses has not been paid and no error in Minutes has been acknowledged. There were only 2 letters from Margolis, one to McLain and Hungerford jointly answering McLain's letter and acknowledging Hungerford's. The second letter was to Hungerford very shippy still concerning claim and not the error in Minutes. Other letter for expenses on Xeroxing on Hungerford's expenses and one meal on McLain's was by Joyce Harris saying she had already been admonished by Muller for paying one way train instead of airfare. This was about $54.00 total for 2 persons in spite of one dinner for 10 after May meeting in which Presidents dinner was about $14 - $15 plus his share of dinner wine, taxes, and tip (probably at least $20.00). We were only members not invited to this dinner until we just happened to be with Strom and Gablin when others called for them.

31. In June Hungerford was the only member of NECO Board at ANS meeting in Boston but at her own expense. Here she attended a session on Waste Management and NECO was not even represented at such any invited session when they are the largest company in Waste Handling and Disposal and almost all of one paper was on their business including out of date material. This indicates NECO's lack of reputation.

32. After returning to Lafayette there was a letter from N.L. Ind to Muller referring to Muller's statement that NECO Board had been polled. We know three who were not.

33. One of the other great crimes of 1971 was McLain and Hungerford went to Kentucky (Morehead) site in January and by phone were ordered to be told nothing and to leave site. This in spite of news article saying public is welcome for tours. This has been argued at every meeting or in hotel before or after meetings since that time."

In September 1971 Lugene was fed up with Harvey and Joyce Harris and so she decided to go to Walnut Creek and review the company's books. This she did. She also wrote to Margolis demanding her previous travel expenses or a suit. Margolis paid her expenses. As noted elsewhere we should have given away enough stock to have forced Nuclear Engineering to become a "Reporting Company". Harvey always paid my expenses.

On 1 February Beierle called. He said he had heard that Teledyne had bought Nuclear Engineering. I told him that he could sell his stock for about $24.50 but I did not admit that I knew anything about Teledyne. Fred stated that Chem-Nuclear had the South Carolina site. He was in Business College in Seattle.

As noted under the Sale of Nuclear Engineering to Teledyne, in Section VI. F. 1, I talked to Federman on 7 February 1972 about the sale of CARCO to Teledyne.

In October 1973 both Whit Lee and the people at San Francisco stated the Kentucky site had been closed. But this was not true. Lugene also reported that Nuclear Engineering stock was down to $13 bid. Bruce stated that Harvey was at Kentucky for only one week; so the rumor that he had been demoted probably was not true.

During September 1973 Mr. Hertz, Secretary of Nuclear Engineering, approved the sale of 2,120 shares of our and Lugene's stock. Due to the price being only $16 per share, we made no effort to sell.

The 30 June 1973 report indicated that losses for the first six months were $0.48 per share compared with a profit of $0.58 in 1972 for the equivalent period.

On 7 October 1973 Bruce Harris called. He stated Harvey had been demoted and was working in Kentucky. The State of Kentucky was trying to find further deviations from good practice in order to cancel NECO's contract. Further, they have found that NECO has dumped liquid wastes into trenches. This we knew. I didn't think Harvey was demoted.

About 21 October I called Bruce. He stated that while Nuclear Engineering was still operating the Kentucky site, only now and then a single truck entered the site. He stated that he had talked to the State of Kentucky people. While they are reluctant to continue with Nuclear Engineering, they have not yet decided to award the contract to Nuclear Management.

Lugene had been at a Chemtree meeting at the Bechtel Company and also talked to Whit Lee, a broker in San Francisco. All told stories about Nuclear Engineering. The last we heard was in May 1974. At that time the drivers were still on strike at Kentucky. Some progress apparently has been made on the chemical waste sites in Texas but we know little about this.

A. Growth of the Business

We do not have detailed data on sales and amounts of low level wastes which were buried for the entire period of interest here. The table below lists the cubic feet of low level wastes buried at various sites as reported by the Atomic Energy Commission for 1963-1969. So far as I know there are no statistics available beyond 1969 on quantities buried.

Thousands of Cubic Feet of Low Level Radioactive Wastes Buried

Year	Nevada	Kentucky	Washington	Illinois	Total	Combined Sales, $
1963	138	78	---	---	216	664,000
1964	99	137	---	---	236	763,000
1965	85	203	23	---	311	1,064,000
1966	152	196	84	---	432	1,310,000
1967	118	276	27	89	510	1,750,000
1968					653	2,860,000

There was also a burial site in New York and a site was opened in South Carolina in 1971, I think. We have no data on these sites.

The actual growth of Nuclear Engineering's total business and the net income per share is indicated below:

Year	Sales, in Thousands	Income/Share
1964	$ 476	$ 0.22
1965	659	0.47
1966	678	0.54
1967	781	0.70
1968	1,077	0.56
1969	1,426	0.59
1970	1,783	0.52
1971	2,776	1.73
1972	3,534	(0.39)
1973	4,573	0.22

In 1968 California Nuclear joined Nuclear Engineering and in 1970 Protective Packaging also joined. Both of these were purchased by issuance of stock. Then in 1972 the company started in the chemical waste business and this operated at a loss the first year. In 1973 and 1974 there was a truck drivers' strike at the Morehead site. We had made projections of growth which were reasonably accurate except for the losses incurred with the chemical wastes.

B. Board

The first action of Nuclear Engineering after sale of California Nuclear was that their President Harvey ordered the people in Illinois to pick up all the furniture in Lafayette and to close the Lafayette office. After some argument it was agreed that we should pay Nuclear Engineering the depreciated value of the furniture. But this had to be cash and paid immediately. Even Federman was mad when he heard about it.

Then Harvey and Margolis took great exception to every bill that was outstanding and consequently we carried on a long correspondence for nearly a year about payment of bills. Finally, Mr. N. William Muller, who was Board Chairman, acted as moderator and ruled that most of those bills in dispute should be paid by Nuclear Engineering.

Of course, the above arguments involved attorney fees which we also had to pay.

Our contract with Central States Small Business Investment Company stated that James Toy, their President, was to spend two days per month in Lafayette assisting us in the business end of California Nuclear. Admittedly, in a contract of this kind it is impossible to spell out the actual relationships between the two parties in respect to who is helping who when all parties should be attempting to develop a business. But our contract was specific in that Toy was to consult with California Nuclear in respect to the business and spend two days per month in the Lafayette office. We interpreted this to mean Toy was to help us whether or not the questions involved directly affected Central States' loan. But Toy never came into the office more than a few times and then only to ask how we were doing. We interpreted such action as looking after Central States' interest and not consulting. So when Toy submitted a bill for his two days per month plus many expenses for the period from the loan to merger dates, we squirmed. Admittedly, too, Toy was a very sick man as noted above.

We argued for several hours and finally paid him about half of his claim; Nuclear Engineering refused this even though it was listed in the contract. Several of his expenses such as travel of Professor Haeberle from Bloomington to Fort Wayne was not a direct expense of California Nuclear. Haeberle also charged $300 consulting per day. He was a consultant of Central States but never did a thing for us, at least anything that got reported to us. We always considered Central States as a bunch of grafters.

As a result we stuck to the letter of our contract in the final showdown. I believe some of the other men were reasonable and we could have worked with them.

On 9 July 1968 Paul Cash talked to Eugene. He had just read our report on "Status of Expansion Programs". This dealt with the nuclear field. Cash stated that this was the only report he had ever seen that gave a review of the potential business, prospects, and work that should be done by Nuclear Engineering. This speaks much for Harvey.

Cash also tried to get Harvey and Margolis to keep the Lafayette office open. Of course, Harvey wanted no one to know anything about the business. As noted, Cash was soon pushed out by Muller and Federman.

We also got into arguments about vacation policy. We had had three weeks while Nuclear Engineering had two weeks. Actually, on the merger, Nuclear Engineering policies were in effect but our people had earned the three weeks. Finally, it was compromised and our people took the three weeks I believe in all cases in 1968.

Toy called on 27 September and stated he had talked to Federman and Federman had told him that Nuclear Engineering was not going to pay off Central States as planned. Toy then demanded I send him a letter stating I would pay him $7400 expenses and $3000 for consulting fees. (We had not yet settled with him.) He stated if I did not, he would go to court and take all the McLains' stock. Both Bennett and Williams recommended that I not answer Toy. Later it turned out that Cash had talked to Federman and the latter had talked to Rothberg of Central States. Rothberg had agreed to an extension of the payments to 18 months at 8%.

Then on 1 October Toy called back and demanded to know why I had not sent him the letter he demanded. I replied that counsel told me not to do so. He became quite upset. While Toy was a Deacon or something of the Fort Wayne Methodist Church, he could swear better than any sailor. This he did to me on the phone. He had also done so to Eugene once when he got mad. I always forgave him as I realized how he was suffering with his cancer of the face. Then I asked about his face. He stated that it was under control except that there were several small granular spots. He seemed hopeful.

In October 1968 Eugene and I attended a week's meeting at Oak Ridge on packaging and shipping of radioactive materials. It is interesting to note that Harvey showed up

for about two hours on Monday. He has the reputation of attendance of other meetings in this way but presumably he submits high expense accounts for the full time. Interesting stories about his actions are heard frequently.

In October Margolis sent Eugene $2,000 and me $3,000 on what they owed us. (This is also referred to in Muller's suit.)

Bennett and Toy talked on 10 October. Toy again insisted that I immediately send him a letter stating that we will pay him the full $7,700 for expenses. Toy again claimed title to all the California Nuclear stock and insisted that we had to settle on his terms. Then on 11 October I sent Toy $3,000 to pay for his consulting and on 12 October, a note for $7,408.

Eugene was a bit upset when she was not immediately put on Nuclear Engineering's Board. I think she blamed me. Actually, I think Harvey was just outright jealous and resented anyone on the Board that had any knowledge of radioactive wastes. He knew he had very little knowledge of the business. We could have sued Nuclear Engineering but, as noted above, by the time anything would have happened, she was on the Board by our and others votes.

In October 1968 we had not yet paid Muller anything. So Margolis said I should call Muller and settle with him before I could be paid any expenses, etc. I told him Muller owed us not us him.

Fred Beierle called on 8 December 1968. We still owed him money for some stock but we had not received what we expected from NECO. He had strained his back and was down in pain. We were able to help him. He quickly recovered enough to work but he still has to be careful.

On 31 January 1969 Margolis sent Eugene Hungerford a telegram terminating her contract at the end of July 1969. Why she didn't sue Nuclear Engineering, I don't know.

On 31 January 1969 I attended a Nuclear Engineering Board meeting in San Francisco. Several things are of interest:

1. Harvey stated Nuclear Engineering "emphatically does not need Mrs. Hungerford". Later Federman and I talked to her by phone. She was quite unhappy.

2. Harvey reported on business but too general to

have meaning.

3. Harvey had dismantled the Whole Body Counter. He probably didn't even know what it was for.

4. Young from Donner's law firm in New York reviewed the Long Island Nuclear case. Too bad that LaGrua and Harvey could not have gotten together. They were so much alike. LaGrua had approached Nuclear Engineering after we had merged with them. He claimed that he had an agreement to buy California Nuclear.

5. After the meeting Federman and Young tried to get Muller to settle with me. I also talked to Williams and he laughed at Muller's claim. I should never have settled even though the court tied up our stock.

On 14 February we had another Board meeting. The merger with CARCO was the main topic and we tried to get Muller to settle his suit. Then Margolis brought up two bills that Huth and Burton had been mixed up with and Margolis said Huth Associates were not competent, etc. Later they threatened to sue Nuclear Engineering. The company agreed to purchase the Mills stock for about $42,000.

After the meeting in San Francisco we went to Carlsbad to visit the potash mine.

On 27 March Lugene, Winnie, and I drove to Morehead to look at the Nuclear Engineering disposal area. We were escorted by Bruce Harris, the Manager. Things were shipshape. Bruce had been a Forestry Engineer. So he had reforested a large part of the site. Facilities and equipment were substandard. This site was one of the first ones opened. We knew that the geology was questionable as there was some underground water movement. This became important when Bruce was fired as Roberts who came in knew little about the area. Roberts had worked for Teledyne but was fired and immediately hired by Harvey and made Manager of the Kentucky site. Harvey and Roberts were old "buddies" and stories circulate about their doings.

Actually, in 1972 due to Roberts' carelessness and lack of knowledge, several things happened which are listed below. Part of this may be classed as "hearsay" but I was told by a man who had talked to the drivers and he reported what they declared was true.

1. Several truckloads of liquid radioactive wastes

were dumped into an open trench. Such discharge is in violation of AEC rules.

2. A trench was dug in an area that was known to have springs present. Of course, Bruce Harris, who had been Manager, had been fired to make room for Roberts.

As a result of the above, Nuclear Engineering had to build an evaporator and clean up the liquid wastes. The 1973 Annual Report is quoted in part as follows:

"The problem which developed late in 1972 resulted from the level of rainwater in the burial trenches at Morehead, was attacked vigorously during 1973. Facilities were installed for the collection, storage, and processing of this water. As part of these facilities, an evaporator system was constructed and placed in operation on an experimental basis. Full-time operation of this unit is expected in 1974. A major impact has been made on the problem as the new facilities have made their effects felt."

I heard that William Johnson was rehired to build the evaporator. To return to the story, on 5 May 1969 Lugene and I issued a short report which was really intended for our own use and it was never distributed as far as I remember or as far as the Journal indicates. This was essentially a record of the poor accounting systems used by Nuclear Engineering. About the same time Lugene wrote a memo objecting to Muller's actions on the Board. She claimed that he should not have been able to vote. However, whatever we did was not only ignored but an attempt was made to discredit the ideas we had.

The Accounting Principles Board changed the rules of Accounting Practices relative to accounting for acquisitions and combined companies in 1969. This could have been helpful to us had we needed more earnings to have our stock released. Actually the earnings were great enough that all our stock was quickly released.

On 5 May 1969 Lugene and I sent to the Directors of Nuclear Engineering a report entitled "Financial Prospects of Nuclear Engineering Company". This report indicated that with intelligent management rapid growth of the radioactive waste business was possible. We included our estimates of volumes of wastes that Nuclear Engineering could handle as:

Year	Volume, ft^3
1968	653,000
1975	1,120,000
1980	1,500,000

We estimated Nuclear Engineering's sales for wastes alone could be as high as the following:

Year	Estimated Sales, $
1970	250,000
1975	2,400,000
1980	4,300,000

On 12 May 1969 we had a shareholders meeting in San Francisco. Lugene and I were both elected to the Board. Later the Board met but nothing was done except reelect all officers. We indicated that Muller should not be on Nuclear Engineering's Board due to the merger negotiations between Nuclear Engineering and CARCO.

On 12 May Lugene sent Federman a long letter pointing out that we could do some of the design that Nuclear Engineering hired others for. But nothing came of this.

During 21-24 May 1969 Lugene attended conferences on "Financing of Emerging High Technology Industries" at Oak Ridge. On the way to Oak Ridge one of the two engines on the plane konked out near London, Kentucky. So after landing successfully she went on by car. In the same car was Professor Daniel Eppelsheimer of the University of Missouri--an old friend of Schumar and me.

At the meeting Lugene talked to the South Carolina and Alabama people. Both were interested in our possibly opening waste disposal sites. Beierle went ahead with South Carolina but at the moment we have a proposal in to Alabama. Virginia was also interested but, as discussed below, this has not worked out. Everyone had very poor remarks to make about the Nuclear Engineering management.

On 9 June 1969 I sent Max Margolis a letter stating the objections to Nuclear Engineering's operations of the Illinois site. Max did nothing and the reputation of the company in Illinois has remained poor. The Manager has been their "best man" except Bruce Harris and he has gotten by.

One item that always bothered us was the notes of the Nuclear Engineering Board meetings. These were written to give the best impression of the management, that is,

Harvey and Margolis. We sent in corrections but these were always ignored.

On 5 September 1969 Eugene and I attended another Board meeting in San Francisco. We had requested approval to sell some stock but this was turned down. Anyway Harvey was still running the company in any way he saw fit. They had bought a lot of shipping containers from Protective Packaging. Hy Federman complained about profits and stated that they should sell California Nuclear back. But Chem-Nuclear had taken even the Bremerton Navy contract from Nuclear Engineering, thanks to Bill Johnson. There were many complaints about the Illinois site but these were all denied by Margolis and Harvey.

Then on 11 September I sent Harvey a letter relative to casks which we had designed but he ignored it. On 17 September 1969 both the Hungerfords and me applied to the Securities and Exchange Commission for approval to sell some Nuclear Engineering stock. Later these requests were disapproved since the Nuclear Engineering Board objected.

On 18 September 1969 we agreed to pay Muller $7,500 to settle his claim. We should not have done so. On 5 December 1969 we had another Board meeting in San Francisco. On 2 December Wally Zinn had been given a dinner and token for his part in the 2 December 1942 first criticality of a nuclear reactor. While I had been invited, I did not go. Both the Atomic Industrial Forum and Nuclear Society were meeting there.

At the Board meeting we had the usual hassles. First it was proposed to buy Protective Packaging for 40,000 shares which was far too much. We argued against it. All we gained was a promise from NECO's lawyer, Mr. Olson, to get a release from the California Commissioner of Corporations that the purchase could not hold up the release of the California Nuclear purchase stock.

As a part of our evaluation of the proposed merger between NECO and CARCO, Eugene visited the Nuclear Engineering office in Walnut Creek to obtain some information. She certainly did not receive the "welcome mat" treatment.

On 9 January 1970 Eugene wrote to Max, explaining her remarks at the Board meeting and accepting Max's apology. She explained that she had been offered a high salary and money for capitalization to enter the waste disposal business in competition with Nuclear Engineering. Salary was to be over $40,000 and $1,000,000 capital. She would have run NECO out of business.

We continued our arguments with Harvey and Hargolis as we could not get them to move on anything new. Then on 11 February 1970 we sent a letter to Harvey objecting to the date of the February Board meeting. We had received notice on such a short time that we could not study the items to be discussed. The meeting was to discuss the purchase of Protective Packaging. We were ignored.

We kept up a regular series of letters relative to the Board minutes as the minutes were never accurate but only reported what Max and Harvey wanted reported. Lugene frequently objected to the minutes and accounting but only court action would have had any effect.

On 6 March 1970 there was another Board meeting in San Francisco. This was most interesting. On 5 March we talked to Hargolis. He was in favor of the Protective Packaging merger and opposed to the CARCO merger. Suddenly both sides, i.e., Federman-Muller and Hargolis-Harvey were courting us as we had the controlling votes. We indicated we could duplicate anything Protective Packaging had. Then on 6 March we had the Board meeting. We talked about purchase of Protective Packaging and mergers with Plasticos Rex and CARCO. There was also a long discussion about the accounting practices and the release of the escrowed stock. Soon after this meeting all the escrowed stock was released so that we had all the stock issued for California Nuclear.

On 7 April 1970 we had another Board meeting in San Francisco. The main topic was the purchase of Protective Packaging. One item that always amazed me was the trouble of obtaining travel reimbursements from the Nuclear Engineering Board. In April 1970 Lugene and I went to Mexico City to evaluate Plasticos Rex and some members of the Board objected to our expenses. Federman always backed us. Finally, they also paid us $100 each, to attend a Board meeting. On 4 December 1970 we wrote to Hargolis asking about several items but received no answer.

At the Board meeting on 14 December 1970 the question of the excessive expenses was raised. We had heard that at the end of the October Board meeting Harvey had stated, "We have to fire Bruce Harris and get rid of $200,000 as soon as possible." Bruce had voted with us to join Plasticos Rex while Harvey and Hargolis opposed the purchase as they knew they would lose their jobs. Also Harvey started to spend money on new roads at Kentucky, building expansion, and equipment, including a whole lot of paper tigers. We believed that Harvey and Hargolis voted against Plasticos Rex because they would not have been on the top Board. We should have put them on and

praised their ability until the purchase or merger was completed.

Bruce Harris called me and we talked for quite a bit. Max had sent Bruce a resignation from the Board for him to sign and told him there would be no Board meeting in December. I told Bruce that Harvey said he fired him because he was spending too much time at his farm and was using Nuclear Engineering tools. Actually, Bruce had borrowed some Nuclear Engineering tools but he had loaned a chain saw several times to the company.

Bruce stated that he believed Harvey thought Bruce would be made President and Harvey would be fired. Actually, Bruce was by far the best man.

On 29 December 1970 Eugene and I went to Morehead to talk to Bruce Harris. Some of the things Bruce stated are listed below. I believe Bruce told the truth while Harvey never did.

a. Bruce believed he was framed by Harvey because he voted with the other faction of the Board for Plasticos Rex.

b. Bruce had just built an expensive barn and was raising horses, so he was caught in a cash bind.

c. Bruce pointed out some of the things we know about Harvey. Harvey's deals were questionable.

d. Bruce stated Hargolis followed Harvey's advice on everything.

e. Harvey always criticized Bruce for not attending technical meetings. These meetings always degenerated in evenings spent in bar hopping. Barney Roberts, who Harvey placed in charge of the Kentucky site, indulged in the various evenings activities, including women. This is widely known.

f. Bruce was replaced by Roberts and Hopper. Neither of these men were any good in the waste field.

g. Harvey resented being pushed by Muller and Federman.

h. Harvey is absent from his office 75% of the afternoons. He confirmed this. Bruce believes

Harvey is drunk a good part of the time.

i. Harvey always was critical of everything Bruce did.

j. Once Harvey called Bruce to California and upbraided him but was too drunk to remember his being there.

k. Bruce says the suggested Board of Directors for the combined Plasticos Rex--Nuclear Engineering Company was "the straw that broke the camel's back". Harvey knew he would be fired. Bruce said Harvey asked him to harass Hungerford and McLain.

l. Bruce stated Harvey on travel always padded the expense accounts and frequently included costs of entertaining non existent guests.

m. Bruce stated he objected to the advertising, "Buried Alive" before we did.

On 7 January we visited Morehead. In general they had wasted a lot of rock, housekeeping was very poor, etc. There were three managers--two of these Harvey's buddies. Both have very poor reputations, especially Barney Roberts.

On 11 January 1971 we met Federman in Chicago and gave him a "report" covering some of our ideas for Nuclear Engineering. Federman, of course, objected to everything but at the end summed up the discussion by saying that we had presented a lot of good ideas--but he never did anything. We recommended that Nuclear Engineering take the following action:

1. Divest itself of Protective Packaging.

2. Replace the management.

3. Reduce the supervisory staff and replace the Eastern Area Manager.

4. Move the headquarters to Lafayette or Chicago.

5. Reduce travel and expenses.

6. Capitalize special costs in accordance with normal accounting procedures.

7. Prepare a proposal for Salt Vault.

8. Move on Plasticos Rex.

In addition we discussed several other items. But nothing was done. My also had stated our report was subjective (whatever that means) and we were acting childish. In toto we got nowhere.

On 16 March 1971 Eugene wrote to Harvey about the justification of Moon's expenses. We never got a reply. Apparently Harvey was approving anything for his buddy Moon. In fact, he was probably letting Moon pay some of his own expenses, then approving Moon's bills.

Also on 16 March Eugene wrote Margolis questioning several factors in the Financial Statements. But Max never replied. I continued having trouble collecting the bills due me. Nearly two years after the sale of California Nuclear to Nuclear Engineering I was still trying to collect bills due me.

On 30 April 1971 almost three years after we joined Nuclear Engineering, Eugene wrote two long letters to Margolis explaining some of the unpaid bills. Max just stalled, I think. Why, I don't know. We believe it was due to Harvey's jealousy and his desire to hold us up in every possible way.

After the May 1971 Board meeting Eugene and I flew to Indianapolis. As we arrived about 1900 we stopped for dinner before driving to Lafayette. But Joyce Harris disallowed the cost of the dinner on our expense accounts. Also Joyce rejected the costs of preparation of letters, etc. Just plain stupid and jealous on her and Harvey's part.

On 21 June I called Muller about a loan on stock and possibly getting some of my three year old claims settled. Muller promised to check into the situation--I assume he never did.

Eugene threatened to refer the whole thing to the Office of Equal Opportunity. But I never understood why she did not do so.

On 30 June 1971 Muller indicated that he was worried about NECO's license as it had not been renewed. We told him we were also worried. Later Harvey got it straightened out. Earnings were also low probably due to Harvey's trying to stop the Plasticos Rex deal.

The next Board meeting was held on 17 September in San Francisco. So Eugene and I met with Muller and Thielan on 16 September in Muller's office. Muller had received a

letter from David Shaw, President of United Nuclear. He did not show us the letter but he did state that United Nuclear had offered lettered stock with no immediate registration. He stated that the CARCO Board disagreed with the offer. Then Muller swore us to secrecy. He then said that CARCO was planning to reverse split of 15 for 1 new stock and this would be registered. They would then exchange 1 NECO for 1 CARCO and the stock would go to $40 per share in a few years. Muller then stated that Harvey and Margolis held up the Plasticos Rex deal by not getting the information together. This was the only time we were told this although we knew it. Our thoughts were that the organization would lack leadership under Muller; Federman might fire Muller and hire someone honest; and profits and growth potential were excellent.

Then on 17 September we had a Board meeting in San Francisco to consider the United Nuclear offer, see VI. F. 7. At that same meeting there were the usual reports and Muller proposed an Executive Committee which was to be Muller, Harvey, and Gablin, I believe. We objected; so they included me. We again objected and Federman yelled out, "I want to be on that Committee." So they named Muller, Harvey, and Federman--all very illegal, as it was not approved by a vote. The idea of the Executive Committee, I believe, was a strike by Muller for more power. With Federman he did not succeed. Actually, the Committee was made up of CARCO people plus Harvey, who didn't count and would have represented CARCO's interests. Anyway, Muller and Federman were no longer working together. So the Committee was not important. Federman didn't like the move to bypass him and Gablin was unhappy. Barney Roberts was named Vice President in charge of Eastern Operations. Roberts was a friend of Harvey's and a complete failure as he was no manager.

On 1 October 1971 Eugene sent Margolis a letter objecting to the minutes of the Board of Directors meeting held on 17 September 1971. The meeting had been called to consider the Proposal of United Nuclear, see Section VI, F. 7. After that meeting was held, a second meeting was called by the Chairman, Mr. Muller, but Eugene would not agree. Nevertheless, the Board authorized Harvey to spend $50,000, to which both Eugene and I objected. Such shenanigans! Further, the minutes never reported the actual actions taken at the Board meetings.

Early in January 1972 we requested a Board meeting. This was called at Federman's request for 20 January. So on 19 January I met Federman and Muller in Chicago and flew to San Francisco with Federman. Federman stated that

Teledyne wanted to buy 51% of Nuclear Engineering. The McLains and Hungerfords had agreed to make up the stock for sale in addition to CARCO's to provide the 51%. Federman then asked me to visit several other companies to aid in evaluating them but he did not offer to pay me for doing so. So I never went.

At the Board meeting on January 20 we agreed to move ahead with Teledyne but at something over $20. But after the Board meeting the Secretary of Teledyne, Thiems, stated they would buy control at not over $20 per share. This was a threat and I believe under SEC rules illegal. Federman and one other man from Teledyne were present. At the Board meeting on 20 January we set up a Pension Plan. Federman also insisted on raising Harvey's salary which was $30,000 and at least 10 times too high. Then Muller stated he was fed up with acting as Chairman without salary and that he was resigning immediately. I nearly yelled "hooray". Anyway, Federman talked him out of it. As President of CARCO he was simply carrying out part of his duties for that company. No action was taken on dividends even though 1971 earnings were 1.75 to 1.80 per share. I recommended a 10% stock dividend.

In respect to the Texas wastes, options were announced on three parcels of land for a total of $5,000. This is discussed under Chemical Wastes.

Since the meeting was called by the officers and Lugene was sick and she could not go, she refused to sign a waiver. This made the actions illegal but they paid absolutely no attention. Legal action by us only could have broken into their heads. Further the notes which I took at the meeting and the official notes differed radically. The argument was over authorization of $400,000 to buy the proposed Dallas site. We estimated that the three sites would cost $1,800,000. On return to Lafayette I talked to Joe Lieberman but never went to Washington to the EPA about the Texas jobs as other action noted below occurred.

On 8 February we talked to Hargolis about licenses, insurance, title to chemical wastes, etc. He was concerned about the Calvert Cliffs decision (which ordered the constructors of nuclear facilities, etc to hold public hearings and to submit environmental studies).

On 9 February Federman suggested that we do one or more of the following things:

1. Split Nuclear Engineering stock and go on the market for $10,000,000 stock sale.

2. Combine CARCO and NECO, see VI. C. below.

3. Hy stated that he had an offer for 10,000 shares of unlettered stock at $300,000. I suggested that we pay the registration fee and sell but Hy countered with the capitalization plan mentioned above.

On 14 February 1972 the Board met in San Francisco. We first approved a Retirement Plan, a Stock Option Plan, and raised Harvey's and Margolis' salaries. These actions were taken to pat Harvey and Margolis on the back as we expected the company to be sold. I objected.

The next shareholders meeting was discussed as it was known that a man named Siverson had bought about 25,000 shares of stock and wanted to be placed on the Board. After the Board meeting we discussed the situation with Bob Williams. He advised against our attending the hearings in Dallas or Austin on the chemical waste sites.

About the first of March 1972 the business was moving ahead very profitably and the chemical waste sites had not put a heavy drain on the profits; so several people offered to buy our stock.

On 6 March John Gruber of Roberts, Colman, and Siebel, of San Francisco, called about our stock. He indicated he would try to find someone interested. Siverson was buying and his reputation was such that others seemed to think that they should follow. Later the same day a Peter Wardle from Henry F. Swift, a banking firm, called. He had talked to Harvey. He said he would try to get someone to pay $24 per share. Then on the 7th Wardle called and offered $450,000 of a closed end mutual fund stock. I indicated a great lack of interest. Later he called and offered $20 cash. Then about 10 March Federman called about the stock and the sale of CARCO to Teledyne.

On 14 March Federman called from Israel where he was at a Board meeting. He stated they were interested in Nuclear Management. We never did anything about this. Then on 15 March Peter Wardle called and wanted a firm price for our stock. I refused to give him one. Also on 15 March Walter Gorey called and requested that Eugene and I meet Roger Mertz, a representative of a prospective buyer, Walter Siverson. Later we agreed to accept $23 per share.

Then I called Federman again, see Teledyne, Section VI, F. 1, and told him about the Siverson bid. Then on 16 I received a telegram from Fred Hittman offering

$30 of Hittman stock. I don't know what it is worth now but the company is still alive.

On 19 March Eugene and I flew to San Francisco. We had dinner with Margolis, his wife, Gablin, Harvey and Joyce Harris. On 20 March we had a regular Board meeting. First, the Board forced through an incentive plan and raises for Harvey and a retirement pay for Margolis. We reviewed the chemical wastes in Texas, etc. The most significant argument was over the Board size. It was voted over our objection to reduce the Board to four members and thus disenfranchise Eugene and me as the Board nominees for the next shareholders meeting would have been Harvey, Margolis, Gablin, and Federman. Eugene requested a list of the shareholders so that we could fight the reduction in the Board. Then I stated the reduction in the Board disenfranchises the small shareholders. Max then claimed that this was unsupported. Federman then stated that the Board has hampered management as they are scared of us. We claimed that the larger Board with minimum management would more properly represent the shareholders. Max stated that the smaller Board would give an upward thrust to management as management had been hampered in going ahead to build up the business of the company. Eugene then stated that the lower Board size appears to be a step to close the opportunity for open discussions. Then Muller suddenly stated he was resigning as Chairman and got up and walked out. Eugene raised the question of sex discrimination against her. Gablin was the only one that replied and he stated he has "no attitude toward sex". I admit I do have.

On 21 March we met with Federman for breakfast. He offered to buy our stock for

1.00	immediately
6.00	1 December 1972
8.00	3 January 1973
9.00	3 January 1974

We stated we would think about it. We then talked to Hertz who was representing Siverson. Later we talked to Corey and agreed to sell 25,000 shares at $22.75 or a total of $568,750. This included some of Eugene's stock. Later on the 21st we flew to Chicago only to find a severe snow storm and we could not drive to Lafayette until the next day.

On 22 March as soon as we got home Wardle called and stated he had a buyer for our stock. When he found we had sold, he said he could have gotten $25; which I didn't believe.

Then on 30 March 1972 Muller called Eugene. He had been in San Salvador and got caught in a revolution. Muller at one time was a college roommate of the Nicaraguan dictator. So he and Federman developed a stock ranch in Nicaragua. Muller stated that he would not vote any of CARCO's votes for Federman at the next shareholders meeting. He stated CARCO could work with Siverson but not Teledyne. He stated he and Siverson would get Federman off the Board of Nuclear Engineering.

There was a Board meeting on 24 April 1972. At that meeting there were several items of interest. By that time the Siverson group had purchased most of our stock. Their lawyer, Mr. Roger Hertz, talked to Eugene about the stock. Winnie and I had been in Mexico and I flew to San Francisco from Merida and Winnie stayed at the hotel there.

At the Board meeting the following subjects were discussed:

Board size.
Chemical wastes.
Bank loans for chemical wastes.

Later we talked to Gorey and Hertz about the future. We expected that we would be off the Board at the shareholders meeting in May; nevertheless, we continued to fight for a good company. We also agreed to contact several old California Nuclear shareholders to see if they would vote for Siverson's group. Then the Board was adjourned. We believed this was done to disenfranchise Eugene and me and that the others would get together and decide "informally" what they wanted to do.

Later that day we called on Mr. Gorey. He stated that Siverson was a responsible man; so Eugene and I signed over the proxies we had to Gorey and Siverson. Afterwards I flew to Merida and Eugene to Lafayette. One thing amusing happened. When I asked for a ticket to Merida, the sales-girl at the airport just looked at me. Apparently one never just goes to Merida. After I repeated my request she started to stutter and finally said that I would need a passport or other papers, etc. When I said, "I know and I have them," she finally asked when I wanted to go. I said, "Right now, at 915." She then started to ask about baggage and reservations. I said, "Please check the reservations. I have carryon baggage." She looked dubious but did sell me the ticket and I walked out to the plane and got on.

Then on 26 April Mr. Gorey asked Eugene if she would serve on the Nuclear Engineering Board for another

year. He also requested that she act as consultant to Siverson's group. Finally this idea was dropped, as discussed below. The plot continued to thicken. I was in Mexico and did not realize that Eugene was having so many interesting discussions.

On 4 May 1972 William Muller called Eugene. He reviewed Federman's activities in San Francisco but I never knew more about them than this statement. He then gave Eugene the slate proposed by Siverson's group as follows:

Walter Siverson, Dallas attorney
Louis Alder, Spring City Bank (near Dallas)
---- Friedenback, Faron Electric Co., Los Angeles
Norman Strom, President Mechanics Research, Seattle
Nathan Burke, attorney, partner of Siverson
James L. Harvey, President Nuclear Engineering
Max H. Margolis, Secretary-Treasurer
Kenneth A. Gablin, Protective Packaging

Eugene stated that Muller thought that Louis Adler is a brother-in-law of one of the Farfelds, who bought part of the McLain--Hungerford stock and who owned the land that Nuclear Engineering planned to purchase near Houston. More crooked or borderline legal deals. Our report on this area was extremely adverse, see IX. F below. Moon insisted that there was a special way Nuclear Engineering had to deal in Texas and that was through the local Commissioners. It was stated that the Commissioners both at Alice and Dallas designated the particular farms that we had to buy. In other words, he admitted that Nuclear Engineering was being taken.

It appears that the Directors did not know who owned the land areas except the Directors who were also officers. It appeared that Federman found out and wanted to use this bit of information against the slate of Directors nominated by Siverson's group.

Muller did not want to support either Federman or Siverson or so he told Eugene. He stated that if Eugene and I would stay on the Board he would vote CARCO's stock for us. This was the greatest surprise ever since I had finally paid off his claim to keep out of court. Muller expected Teledyne to purchase CARCO and fire him.

Later on 4 May Mertz, Siverson's lawyer, called Eugene. He stated that they wanted Federman off the Board. Eugene told him Muller wanted Eugene on the Board. Mertz was surprised. He wanted CARCO to support their slate, not to vote, or, as a very poor third choice, vote for Eugene

or me. This irritated Lugene. When I talked to Lugene that night (Winnie and I were in Yuma), I refused to support Siverson due to the Dallas land deal mentioned later. I asked that she try to find out actual facts. Lugene then called Whitfield Lee to check on Siverson's group. He agreed to try to find out about them.

Then on 5 May Lugene checked with some "potential clients" to make sure that if she should be elected to the Board, there would be no conflict of interest. Then Muller called Lugene and agreed to meet us at the Clift Hotel in San Francisco. Mertz had called Muller on 4 May and even Muller was irritated--one questionable character irritating another. Lugene also called Gorey and stated she could not support the people on the Siverson slate due to the allegations relative to the Texas land. She then stated she did not like the idea of a completely legal minded Board. Gorey stated that Siverson and our views were the same regardless of Mertz' ideas.

Muller and Gorey both stated that Federman had been in San Francisco meeting with the Margolis--Harvey group and "threatening injunctions to discredit the whole shareholders meeting", or anything which might prevent transfer of control until after Teledyne acquired CARCO. It was reported that he had threatened four types of injunctions.

Then on 7 May Lugene, Winnie, and I all arrived in San Francisco. We spent the evening with the CARCO people: Muller, Rosenfelt, and Thielan. I never knew anything about Rosenfelt but Thielan, I believe, was conscientious and honest. I stated that Teledyne had threatened to force the stock price down to $20 and to Olson's letter, which stated 80% must vote for the 4 member Board to obtain approval. This letter effectively killed the 4 member Board and no further discussion was held about it.

Gorey had told Lugene that they wanted Federman off the Board and that "Federman is a crook". I indicated Gorey was being modest. Anyway, we indicated that only Harvey had any knowledge of the business and he knew practically nothing about it except trucking. Anyway, they proposed

Siverson
Forfelt
Adler, Vice President Spring City Bank
(he is a son-in-law of Forfelt)

We believed Gorey was honest but now (1974) I have my doubts. We were told definitely that the Houston land to be purchased had been owned by Forfelt. Apparently the

Spring City Bank handled the deal. We estimated that the land was 100 to 200 thousand dollars overpriced, based on Moon's statement of its value. No wonder Siverson's group wanted to buy our stock! Later Siverson stated that Forfelt had called him and stated that by "coincidence" he owned the land Nuclear Engineering wished to buy. Possibly neither Siverson nor Forfelt knew this at first as Moon may have arranged the deal as a clever plan for him and Harvey to keep their jobs.

When we found out the above shenanigans, we told Gorey. He indicated it was a "coincidence and of no possible harm". I lost confidence immediately in Gorey and Siverson's group.

The shareholders meeting which started at 1515 on 8 May, lasted until 0200 on 9 May. It was a mixed up mess. Since Lugene had her and Gorey's name placed on proxies, she asked that all her proxies (which were nearly enough to elect her) be thrown out due to Gorey's deal with Siverson on the Houston land deal. This was very creditable of Lugene. The actual voting was:

Federman	222,076	elected
Muller	220,136	
Thieland	220,136	
Freidenback	176,750	
Siverson	176,750	
Adler	176,750	
Strom	176,750	
Harvey	155,752	
Hungerford	18,752	not elected
Margolis	1,940	
Gablin	1,940	

So Lugene was not elected but all the others except possibly Harvey, were ignorant of the business. What happened after this meeting we know little about. What we heard is listed below:

1. Federman was elected Chairman at the start. But later we heard that Siverson was Chairman.

2. Siverson, due partly we are pleased to think, to our ruckus, told Nuclear Engineering not to purchase the Forfelt land. Later we found that the site had been moved north we think to the hills where we had suggested it be built.

3. Since Bruce Harris had been fired and the other men knew nothing about the business, troubles

occurred at Kentucky. These require a longer explanation as given later. We, as Nuclear Management, hired Harris as a consultant and we tried to get Kentucky to cancel the HEMCO contract and give it to us.

4. Apparently, Federman continued to work with Muller.

5. Hertz sort of started to run the business. Harvey was soon shipped off to Kentucky and as far as I know is still working there but carries no responsibility. (He has been fired, added later - April 1975.)

6. The headquarters has gradually been moved to Louisville.

In respect to the Kentucky site the area never was satisfactory in all respects. There was some underground water. Harris knew this and avoided the area. But when he was fired the new Harvey men dug a trench near the water and contaminated a whole lot of water. Then the drivers told Harris that they had been ordered to dump some liquids into a trench.

Finally the drivers formed a union and struck. The last I knew the site had been closed for months but probably is working again. Harvey or the others hired Bill Johnson to design and build some evaporation equipment and clean up the mess. The last I knew this was being accomplished (now August 1974).

C. Proposed Merger with Continental American Royalty

Since HEMCO Associates headed by Hyman Federman, owned the controlling block of stock in Nuclear Engineering and a good part of Continental American Royalty Company, Federman wanted to put them together. This might have had certain advantages. So we discussed and rediscussed this possibility over a period of years. Nothing came of it directly but indirectly there was a change in ownership of Continental American Royalty. The story is long and complex and only parts of it are mentioned here and these only briefly.

On 13 August 1968 Federman told me that CARCO had just bought a potash company for $4,000,000. He stated profits for 1969 were expected to be $700,000.

On 9 September 1968 Paul Cash of Dallas and President of CARCO, stated that William Muller was to be President

of the Potash Company and Paul was to take over the oil and gas properties which CARCO bought with the Potash Company. These properties appeared to be small. Then on 14 September we were told that Cash and others had bought the oil and gas properties. Also that CARCO had spent $3,000,000 on the Potash Company and NECO was trying to borrow $200,000 for its operations.

On 8 January 1969 Hyman Federman called me. While this is not a part of CARCO directly, it was so close that I have included it here. First, he stated he had been to Israel and wanted to invest up to $250,000 or $500,000 in their nuclear and scientific fields. He stated he wanted me to act as General Manager! Then he stated he wanted to merge CARCO and NECO. This would include Beckwith Carbon, which was being run by Joe Handwerk. I had known Joe at Argonne for several years. Joe is a good man. He also stated he wanted me to go to Israel to talk to the university people. I stated that I would be happy to go but I could not evaluate instruments as that is a job for a specialist in that area.

Hy then stated that the Potash Company had made $1.1 x 10^6 and NECO $200,000 last year. The latter I was happy to hear. I did go to New York and talked to Federman. However, nothing came of his request to go to Israel. Probably because Hy was overextended. While in New York I talked to Mr. Housman, who had been working with Muller, and both had gone to Israel together. Anyway, according to Muller a joint 60% U.S. 40% Israel company would be set up. Their idea was to obtain U.S. rights to Israel developments. Things mentioned were:

Waterproof plywood
Medicines
Instruments
Chemicals
Drugs

Federman stated Chiswick from Argonne had visited Israel. I also knew Chiswick and he also is an excellent man. They had all kinds of ideas. Some even good; and others sounded good until analyzed. I agreed to go along with them but things did not develop. Probably it was a Muller scheme and Federman was getting set to act if something did develop and Federman was overextended.

On 14 February 1969 we had a Nuclear Engineering Board meeting in San Francisco. The main topic discussed was the merger with Continental American Royalty. Cash, Muller, Margolis, Federman, Harvey, and Young were present. The next day we visited the potash mine at Carlsbad.

We first agreed to hire Robert H. Dreyer as a geologist to assist Blyth and Company who were hired for $10,000 to $20,000 to make the merger evaluation. In the afternoon we flew to El Paso and drove to Carlsbad.

On 15 February we visited the mine and discussed what should be done. Briefly, the equipment and buildings were old but working. My guess was that the original cost was about 45 million but I was told that it had been about 40.

Later at a meeting Muller wanted to spin off the oil and gas properties. When I asked who would get the stock he just stuttered. Federman then stated that he wanted the record to show this stock would provide a proportional share for the new shareholders. Muller apparently thought that he and Federman could work out a deal by which they could steal this stock.

The potash mine was the original one opened in the Carlsbad area and it was the mine that broke the German Cartel. There were reported to be 50,000,000 tons of high grade potash and much more lower grade. The mine is connected to the refinery by a 15 mile narrow gauge railroad.

Then the latter part of February Eugene went to a 3 day conference in New York on merger evaluations. This turned out to have been a big help as she learned what questions to ask.

On 27 February 1969 I met Paul Cash in Chicago at the office of Duff, Anderson, and Clark. Blyth and Company had dropped out. First, I checked with Mr. George Daniels, Vice President of Continental Bank, and he assured me that they used Duff, Anderson, and Clark and that they were "impeccable, very competent, national standing, very high grade, very able, source of testimony if required". Later I got the same recommendation from Commonwealth Edison Company. The list of Duff, Anderson, and Clark clients sounded like the National Register. So the following people met:

Walter A. Stringfellow, V.P. Duff, Anderson, and Clark
Alfred T. Hansen, V.P. Duff, Anderson, and Clark
Paul Cash, Continental American Royalty
---- Snyder, Continental American Royalty
and me.

We described both companies and agreed to contract terms with Duff, Anderson, and Clark. They wanted $15,000 to $20,000.

On 31 March Mr. Stringfellow and Mr. Bissell came to

Lafayette to discuss the nublear industry. We talked most of the day. Then on 1 April we met them at Sheffield. Along with Arvil Krase the four of us walked over the site and spent most the day talking about Nuclear Engineering's business and prospects. Duff, Anderson, and Clark made a complete evaluation. Also Eugene and I decided because of our large stock holdings in Nuclear Engineering to make our own independent evaluation of the two companies. As one part of this we decided that Eugene and Winnie should visit the potash mine at Carlsbad. The only difficulty was that only one woman had ever visited the mine and that on a Sunday. Nevertheless, after the threat of court action we went to Carlsbad and were taken through the mine while it was in operation. They had put on their entrance sign, "Ladies Day. Welcome, Mrs. Eugene Hungerford and Dr. and Mrs. Stuart McLain." Anyway, we were given the full tour.

On our visit to the mine we were accompanied by Don Libby, a geologist. Later we had dinner with Mr. and Mrs. Miller. He was the Superintendent of the mine. Data given us was interesting. The potash reserves were huge but we were told there was 60,000,000 tons of high grade ore in 12 square miles. On calculation, it turned out that the area was 12 miles square--a lot different in mining costs.

On 7 April Paul Cash called. He had returned to his office only to find the CARCO books had been packed for removal to Chicago. This was the first that Paul knew he was being kicked out. He and we tried to call Federman but he could not be reached. Cash wanted Muller off both Boards but Federman had the votes. And Federman backed Muller and Harvey.

Copies of the full reports are available, the Duff, Anderson, and Clark one was dated 8 August and ours 10 October 1969. Both reports are lengthy, 55 and 30 pages respectively. Both reached about the same results as follows:

Company	McLain, Hungerford	Duff, Anderson, and Clark
NECO	1/3	33%
CARCO	2/3	67%

Muller and the CARCO people expected, I think, about 80% for their company, so they immediately rejected the evaluations. At a Nuclear Engineering Board meeting on 5 September 1969, Muller stated he had sent Duff, Anderson, and Clark a revised earnings statement, apparently trying to get a better percentage.

Muller claimed that CARCO had made $1,000,000 so far in 1971. Then on 8 July 1971 Federman called and stated that Muller wanted to merge CARCO and NECO. Nothing was said about terms.

On 10 January 1972 as Federman was trying to sell CARCO and NECO to Teledyne, we reevaluated the two companies. At that time NECO was $21.50 and CARCO $0.85 per share. Actually we ended up with a second merger evaluation of the two companies. We concluded that NECO had done substantially better and CARCO poorer than our first evaluation on 6 January 1972. This report was never issued to others.

Then on 18 January 1972 Federman called from Chicago where he was at a CARCO Board meeting. He stated the CARCO Board was considering a proposal from Teledyne. As noted under Teledyne, Kulp called about 12 January and stated that Teledyne was considering an offer of $20, which I stated we would accept. But to Hy I asked if Eugene's stock was included and Hy said that it was. Hy then asked how I would vote as a Board member and I stated I did not know but that it would probably be different than as a shareholder. We believed the stock should be about $23 per share tax free. I then tried to check on the legal questions but could not locate either Williams or Porter in San Francisco.

At that time Harvey had forced the earnings down to 1.60 per share, he was expanding into chemical wastes, the press statements were overstated and we had no faith in Harvey and the others.

Teledyne and CARCO did not get together at that time. On 7 February 1972 Federman again proposed a merger of CARCO and NECO. I suggested a 50-50 or even 45-55 split. But Eugene later suggested 62 to 38, which was nearer our older assessment. This was due to the 1.6 million convertible debentures which had been issued.

Later I asked Norman Strom, who owned most of the stock paid for Protective Packaging, if he would approve a purchase of CARCO by NECO which would be

5,000,000 for CARCO
2,000,000 for NECO
10,000,000 for Debentures

We came to no decision on this. Gorey said he could get $22 for our stock on 22 February. Meanwhile Federman was making various lower offers.

After Teledyne took over Muller and Federman continued

their stock farm in Nicaragua or so they reported. Also Muller heard of or located some potash deposits in the Sergepi area on the East Coast of Brazil. We warned the Brazillian government about Muller. At one meeting in Rio, Pullen stated everyone ignored Muller. Later Muller told Schumar that he was paying income taxes of $100,000 per year due to his income in Brazil. We have concluded that we were lucky that the merger with CARCO and NECO was killed by CARCO.

D. Purchase of Protective Packaging

Early in 1970 it was proposed by Jim Harvey, President of Nuclear Engineering, that the company purchase Protective Packaging. This company had been put together in May 1969 by three men in Seattle--Simchuk, Gablin, and Hansen--apparently with money provided by Norman Strom. The company had developed some paper based overpacks which they named Paper Tigers. These have been used as outer protective containers for shipment of 55 gallon drums. They had also developed a truck mounted container some 8 ft square by 20 ft long with sufficient walls and materials to "pass" the AEC requirements. This was called the Super Tiger.

On discussion at a Board meeting in late 1969 it was proposed that Nuclear Engineering purchase Protective Packaging. In a memo dated 9 January 1970 Lugene questioned the value of the "Paper Tiger". She agreed that it was a good product but that it was not good enough to be accepted by the industry over a long period.

At the American Nuclear Society Meeting in February, 1970, she saw the cutaway "Paper Tiger". It was her opinion and that of several others that it would not pass the fire test of the AEC. Nevertheless, later the AEC approved the Paper Tiger on the basis of calculations and not actual tests. Raymond Ashley, of Battelle Northwest, and Dave Lawson, of Argonne, stated at a meeting of the American Nuclear Society, that they believed that the Paper Tiger would not pass the fire test.

In February we received notice that Nuclear Engineering proposed to purchase Protective Packaging for 15,000 shares of NECO stock plus 25,000 additional shares based on earnings. We thought this was outrageous. So we objected. We maintained that we could develop a better container in a few weeks.

On 23 February 1970 Lugene wrote a memo questioning the proposed purchase price asked by Protective Packaging which

was then said to be 25,000 shares. Since we had designed similar devices, she offered to give these to Nuclear Engineering, which Harvey ignored. We were quite upset.

At the 6 March 1970 Board meeting Gablin presented a sales talk on the Super Tiger along with a movie of the drop tests. The drop test, as specified by the AEC, is a free fall of 30 feet on to an essentially unyielding surface. Actually, as shown in the motion picture, the test was carried out by dropping on to 0.5 in. steel plate on a thin layer of asphalt. Neither Lugene nor I believed that the test was satisfactory. Nevertheless, the AEC licensed the container. We believed that this approval was based on calculations. Also Gablin stated that "NECO is buying a corner on the threshold of a great market". He also stated N L Industries had tried to buy Protective Packaging and they had asked $600,000. After some discussion, Federman asked for detailed financial information to be presented at the next Board meeting.

The NECO people had promised Protective Packaging three Board members--apparently planning to reduce the California Nuclear members to one.

On 13 March 1970 we met with Gablin and Ted (Thurber) Bierce, Treasurer of CARCO, in CARCO's office at Oak Brook to review the cash flow needs of PPI. Gablin reported that he expected to sell 3,000 to 5,000 Super Tigers in 1970 plus several thousand Paper Tigers. We were skeptical. Actual sales are not known but were only a few Super Tigers and not over a tenth of the Paper Tigers planned. We took a dim view of their prospects. Actually, they have, I think, made some profits over the years since then.

After the 13 March meeting we came to the conclusion that we could not trust Gablin. He was the typical high pressure salesman. Now, I believe, he was honest but did not trust us as a result of having been fed all kinds of tales by Harvey.

On 19 March 1970 we stated to Federman that we wanted no part of Protective Packaging as Gablin made too many misstatements.

On 24 March Lugene issued a merger evaluation of Nuclear Engineering and Protective Packaging. She stated that the assets of Protective Packaging fell far short of the value of 25,000 shares of NECO. She suggested 5,000 shares. Then on 30 March I issued a memo which recommended that Protective Packaging not be purchased.

Then on 7 April 1970 the Board sans McLain and Hungerford, had an "informal meeting" with Howard Klein present with the Protective Packaging people prior to the regular Board meeting. They used Eugene's writeup about the merger. Protective Packaging people asked for 40,000 shares but Federman finally stuck to his guns and got them to agree to 20,000 shares. He thought this was excessive but better than the 40,000.

Then at the Board meeting Eugene and I objected to the purchase but the Board proceeded to approve the 20,000 shares.

On 11 January 1971 Thurber (Ted) Biorce called. He was the BusinessAssistant to Muller at CARCO. Actually he seemed to be a reasonable sort of character completely out of place working with Muller. Later he left and about 1970 or 1971 died. Anyway, Ted stated Federman had called about Protective Packaging. We referred to the business projection that the Protective Packaging people had made in Muller's office about one year previously. We had stated and Ted said he had told Muller their projections of sales were impossible. Ted suggested that NECO cancel the Protective Packaging contract and stock and let them sue NECO. He agreed to testify for us. Of course, Hy did nothing beyond talk.

On 15 January 1971 Muller stated that PPI had $100,000 of back orders. He stated PPI will make money or we will get rid of it. I asked who is going to make up the losses.

At the Board meeting on 17 September 1971 Gablin reported that a Super Tiger had been delivered to United Nuclear and that Union Carbide had purchased an UF_6 overpack for $37,000 and they had bid on a large number. He also reported that their solidification of power plant resins was moving as Westinghouse was enthusiastic.

Since then Gablin has sold several reactor resin solidification systems. These were based on Muller's suggestion of a cheap plastic material that could be added to absorb the water and solidify the resins.

E. Proposed Purchase of Plasticos Rex

In February 1970 Federman and Muller started a discussion about combining Plasticos Rex of Mexico City with Nuclear Engineering. On 22 February Federman called and wanted me to go to Mexico City to see the Plasticos Rex plant. It was stated that they made polyvinyl chloride.

Then on 6 March Mr. Howard Klein, President of Plasticos

Rex, attended a Nuclear Engineering Board meeting in San Francisco and discussed Plasticos Rex. The company buys polyethylene and polyvinylchloride and makes piping and various fixtures. They had a license for manufacture of a Hebrew developed irrigation system known as "drip irrigation" in which a small plastic valve in a small plastic pipe is used to irrigate a single tomato plant or tree. The system is self cleaning.

It was agreed that Eugene and I would go to Mexico City to review the prospects. On 16 March 1970 Eugene and I flew to Mexico City to see Howard Klein and review Plasticos Rex. Howard was supposed to meet us at the airport. When we failed to find him, we asked for messages etc without avail. Actually he was a World War II pilot in the Navy and was visiting with some of his friends and watching for the baggage. Since we both had carry on, he failed to see us on arrival. He said he couldn't imagine a woman visiting a foreign country for a few days with only a briefcase. Howard was very interesting. He came from a well to do American family. He had gone to Germany before World War II to take Aeronautical Engineering because he said he could not do so in the U.S. (There was a department at Ann Arbor.) He studied under Folker. He then became a navy Test Pilot but was discharged after an injury in an accident. He tested American planes in the Spanish Civil War.

He had organized several companies in his 30 years in Mexico, had married a Mexican woman, but he had retained his American citizenship. His son was in a Mexican bank.

He stated the problem with Plasticos Rex was simply one of money. He needed large amounts for working capital and expansion. We were impressed. The company should have been moved and a streamlined setup built. The company that made the raw material for Plasticos Rex was called Plasticos Omega and it was proposed to join it also.

Klein did not quite know why we were there; so finally he asked us. I told him that basically we wanted to know what kind of people we were dealing with and what were their life objectives. Immediately we became friends.

Since we were talking of a merger, his impressions of the Nuclear Engineering Board were interesting. His impression of Muller was that Muller claims to know everything but doesn't and that he lacks common sense. Klein then asked about the future of Nuclear Engineering. We indicated we did not know but we indicated what we thought should be done. Klein indicated that neither Harvey nor Muller seemed to know what was going on.

We indicated we thought Federman was trying to put several companies together. Federman had talked to Chauncey Starr and was impressed with him. More than I ever was. Chauncy Starr had ideas and a brilliant mind but no sense of management.

A couple of side remarks are of interest. Mexico has had its fill of radicals. Klein stated 16% had been shot. Some Brazilians had been released from jail as a payoff on release of a kidnapped Japanese officer. Klein indicated the released Brazilians would just disappear into unmarked graves. One of Klein's partners was Bunloc, who is mentioned later and the third was Echivarria, now President of Mexico.

On 17 March we had breakfast with Klein and his business associate, Robert Babb, an accountant. We discussed moving Plasticos Rex from the south side of Mexico City to the northeast next door to Plasticos Omega, the supplier of raw material. The growth potential of the irrigating system from 2,000 to millions of acres was discussed. Also it could replace $40,000,000 per year of asbestos pipes in Mexico. Also there should be a USA market.

Muller had visited the Plasticos Rex plant and had made a poor impression; so we did not visit it on the first trip. Our overall impression of the prospects was excellent.

On 19 March Federman called to ask what we had learned. We reported we were greatly impressed by Klein, the quality of goods, and the operations. We stated they needed $750,000 cash. We stated that if there was not too much capital dilution, we would vote for the acquisition.

On 24 March 1970 we issued a report on the possible merger of Nuclear Engineering and Plasticos Rex. We recommended proceeding with detailed merger studies. The Nuclear Engineering Board at the meeting on 7 April 1970, approved a trip for Lugene and me to visit Plasticos Rex again and to prepare a detailed report relative to the merger. Lugene proceeded to write an outline of the information needed. A copy was sent to Federman. He called back to congratulate her and stated he would like to use it as a check list for other evaluations. He was most impressed and bountiful in his praise.

Then Margolis raised the Mexican nationalization problem. Since many American companies were expanding in Mexico, we did not fear interference. Then from 26 April to 2 May Lugene and I were in Mexico City visiting the plant. We were shown all their secret papers, patents, etc and the contracts for the Israeli drip irrigation system as well

as their detailed financial reports. Eugene worked with Mr. Babb and I worked with Howard Klein. As a result we prepared a detailed "Merger Valuation" report which strongly recommended combining the companies. We believed that it was an excellent opportunity for Nuclear Engineering. We also suggested combination with Plasticos Omega, although this was not studied in detail.

During our visit to Mexico City the Kleins entertained us and we visited at the home of Mr. Munloc. It was an enjoyable trip. We also were in a minor earthquake.

Mr. Klein recommended a Board of

Federman
Klein
Munloc
Hungerford
McLain

One personal item is of interest. Minnie and I had driven West on a vacation. We stopped at the University of New Mexico to give a Seminar but got there late since we went off the main road "birding", and got into a snowstorm in the mountains. Also going around a corner, slowly, we had a headon collision with a truck. Since both were going about 5 miles per hour on the curve, damage was nearly zero.

Then on 11 May 1970 we had a Nuclear Engineering Board meeting in San Francisco. The Board consisted of 8 people and on the first round of voting the Board split 4 to 4 on the Plasticos Rex deal. The resolution included Plasticos Omega. Federman then pointed out to the Board that the four Directors voting for the acquisition represented the majority of the stock. After some discussion Bruce Harris voted for the acquisition. The officers were directed to prepare the legal papers.

What happened should have been expected. First, Harvey immediately fired Harris. Then he and Margolis set to work on the legal papers and raised so many delays that the Plasticos Rex people got tired and made so much money that they did not need any outside money. So the whole project fell through. We never could get Federman to push Margolis.

During this latter phase CARCO, in the form of Muller, raised some objection to Plasticos Rex. Muller had various objectives and none of them appeared to be honest. Anyway, Eugene wrote Muller a long letter in July 1970 breaking down the various costs and pointing out that Plasticos Rex was

probably a better bet than NECO, as it proved to be.

Just before the August Board meeting Hy Federman called about Plasticos Rex. He had not received all the data he wanted--or so he claimed. Hy stated he wanted to go ahead with the Plasticos Rex deal as he wanted Kunloc in management. I agreed.

At the August NECO Board meeting all kinds of objections to the purchase of Plasticos Rex were raised. It was stated that there would be suits, etc. Nothing was accomplished as Harvey and Margolis were doing nothing in spite of the Board's orders. A Mr. Rapport had objected. Apparently he owned some NECO stock.

On 13 October 1970 Eugene and I visited Muller. Muller stated he believed the Plasticos Rex deal was being sabotaged by management. Further, the merger papers would cost $30,000 and the deal would be held for 90 days by the proposed suit by Rapport as he was threatening a class action suit. I never figured out what was smoke and what was fire. Apparently Muller was only interested in his CARCO stock and options. We stuck to our offer of about $22 per share for our stock. We never know what happened except that the Plasticos Rex deal simply died. By this time Klein was tired of the deal and they were making too much money to be interested.

Later we found Plasticos Rex were selling many of their irrigation systems in the Southwest of the USA. My final conclusion about the whole deal was that Muller and Harvey, working together, killed the Plasticos Rex contract because they were not to be on the overriding Board. We should have been wiser and put them on for one meeting and then dropped them.

Nevertheless, at the December 1970 Board meeting Federman stated that Plasticos Rex would accept $200,000 of Nuclear Engineering stock at 90% of market and that Kunloc had stated he would match other funds. The Board approved the purchase but neither Harvey nor Margolis did a thing about it. If either had anything, we might have sued them.

On 22 December 1970 Federman called and wanted to know the progress on Plasticos Rex among other things. He said he would try to get Muller to go to Mexico right away. He stated he would talk to Muller and call back.

On 31 December 1970 Federman called and stated Muller wants to buy Plasticos Rex as CARCO's earnings are way down. But Muller on 16 September 1971 stated that Harvey and

Margolis killed the Plasticos Rex deal by not getting the information together, see VI B.

F. Proposed Sale of Nuclear Engineering

Over the years there were several companies that were interested in buying all or a controlling interest in Nuclear Engineering. Some of these are discussed below. Muller got the sale of Nuclear Engineering mixed up with the purchase of Plasticos Rex.

1. Teledyne

The first company that tried to buy control of Nuclear Engineering after we joined them was Isotopes, a subsidiary of Teledyne. The first contact was on 7 October 1968. Grant Jeffries called Eugene and asked about her contract. He stated that Isotopes was interested in buying Nuclear Engineering. Nothing more was heard from Teledyne until Muller on 9 November 1970 stated that Teledyne was interested in buying Nuclear Engineering and that Teledyne had offered $15 per share.

In September 1970 Muller called Teledyne and offered stock, I think at $22. Later about 1 October Muller apparently talked to Teledyne again. Muller reported 18 November 1970 that Dr. Kulp of Isotopes, part of Teledyne, had met with Federman and Isotopes offered $13 cash and $4 on notes. Muller had agreed to sell the CARCO stock for $13 cash plus $7 of notes. Nothing came of this.

On 31 December 1970 Federman called. He stated Dr. Lawrence Kulp of Isotopes and he were going to Tacoma and Walnut Creek to see the Protective Packaging and Nuclear Engineering facilities. Hy stated Teledyne had offered $17/share plus 50% of a new company to start Salt Vault. I suggested Isotopes put up $350,000.

On 8 January 1971 Federman called. He and Kulp had visited Protective Packaging and Nuclear Engineering. PPI lost $75,000 in 1970 while NECO earned $152,000, with a net after taxes of $116,000 (Hy's numbers). Teledyne offered $2,740,000 or $14.30 per share on 13 January 1971. Later we told Hy the $14.30 was unsatisfactory. We agreed to meet Hy in Chicago on 11 January, as discussed in Section VI B.

On 11 January Hy tried to talk us into the Teledyne deal. When we refused he agreed to meet us in Chicago.

Then on 15 January Muller stated that Teledyne had offered $2,750,000 for all the NECO stock. This was about market price or about $13 per share. Muller said CARCO would not sell but Federman said CARCO would sell!

On 19 January Federman called and stated Teledyne had made a formal bid of $2,750,000. He stated he wanted a Board meeting soon. He said Max Margolis was trying to hold up the meeting. On 26 January 1971 we held a Board meeting in San Francisco to consider the Teledyne offer of $2,750,000 or $10.22 per share. Dr. Kulp, President of Isotopes, was at the meeting. Kulp tried to get the Teledyne Board to raise their bid but was unsuccessful. Then on 21 June Muller reported that he wanted to know if we would sell for $16 per share and I said no again. Bill indicated that CARCO would not sell.

On 24 June Muller called again to report that Teledyne had offered $16/share. We agreed that this was too low. On 30 June Muller called again. He stated Federman was still pushing for the Teledyne deal at $16/ share. Both Eugene and I indicated we would not go along. And on 8 July Federman stated Teledyne was sending through a firm offer for $16/share. They want 80% for acceptance.

On 14 July 1971 we told Hy we had decided to accept the $16 offer but Hy said the deal was held up as Mapco was trying to buy CARCO. Norm Strom had told us Teledyne would go ahead with 51% of the stock. How Strom knew this I don't know. We tried to get Hy's approval to negotiate with N L Industries but he refused. Finally we threatened court action. Then Hy said Muller was mad as he did not want to sell CARCO. Net result: more static.

On 10 January 1972 Federman called and tried to talk me into selling our stock for $19. He had had another offer from Teledyne apparently combined with sale of CARCO to them. Probably he would have gotten $20. Anyway, we decided later to sell but we could not locate Federman and so we did not sell. Then Hy wrote asking for a definite sale price.

We also were worried about taxes. We believed there might be a special tax on the Teledyne stock as it might be ruled as a sale of assets. Hy Federman said, "No". But he did not agree to pay the tax if it was assessed later.

On 28 January 1972 Dr. Kulp called and stated Teledyne people would meet the CARCO Board the next day as they planned to buy CARCO. He then stated he wanted to sign a definite contract to buy our stock at $20.00. Kulp

stated they would buy the stock as soon as the CARCO deal was approved. I referred him to Federman. Later Lugene and I agreed to sell our stock for $20.00. Later that day we talked to Norman Strom about the stock.

Then on 7 February 1972 Federman called late in the evening. He stated that Singleton, President of Teledyle, had been riding Bob Klein, President of Isotopes, about completing the deal to purchase CARCO.

On 9 February Norman Strom called and stated Kulp had offered him $20 per share for 10,000 shares and he had refused to sell. Singleton, President of Teledyne, was pushing the purchase of CARCO. Federman told him that the McLains would need $25,000 to $35,000 for a commitment of their stock.

We had previously given Federman a 30 day option on our stock at $20. But he had not sold it. On 13 February 1972 Lugene and I met Kenneth Gablin and Norman Strom in San Francisco. Norm agreed to sell for about $22 or to combine NECO and CARCO. About 22 February Federman called several times. He was worried about our stock as he was still trying to sell CARCO to Teledyne. Muller stated that he wasto be in New York on 29 February to sign the sale of CARCO papers. But he was in Austin with us on that date. He claimed that he was helping the small shareholders. Muller then stated he was then going to Mexico for a couple of weeks.

On 28 February 1972 Muller told us the papers for sale of CARCO to Teledyne would be signed in about two weeks. Then about 10 March Federman told us he was in Chicago at a CARCO Board meeting and they plan to sell CARCO to Teledyne. He said we should not accept Teledyne's offer for our stock. This is covered in the Section VI B on the Board.

On 14 March Federman stated Robert Kleinert of Teledyne had called. Hy told him that Teledyne was too late and too low. He requested that we call Kleinert as they have signed a letter of intent with CARCO. Then he suggested that we let him sweat lead bullets. Hy suggested that we should get $30 of Teledyne stock per share.

In the evening Dr. Kulp called. He stated that they would pay $1 immediately for an option for $20. The deal would be completed as soon as the CARCO was completed. I stated we were not interested. He then stated he wanted us as consultants to which I agreed to talk about the subject. As yet he has never called us or asked us to be consultants.

Then on 18 March Lugene and I met Dr. Kulp at the Indianapolis airport. We stated we were free to sell. He wanted to know what we planned for the future and we told him practically nothing. Finally he asked our price and we asked for $24 per share. Kulp stated they could not pay that but we gathered they might pay as high as $22. Kulp then stated they would get control and reduce the price to $20 or so. I regarded this as a threat and it is frowned on by the Securities and Exchange Commission. Kulp asked about NECO's business, including the chemical sites in Texas, oil, and he indicated great interest in Salt Vault.

Later we found that Federman had told Kleinert that we had refused $23, which we had not and also had refused the Hittman $30 offer.

2. NUS--Suntac

On 23 July 1970 John Grey, of NUS, called and wanted to know how NUS could buy a large block of NECO stock. John also stated that they would merge with us if that appeared best. Later Grey sent me some data. We then quoted a price of $15 per share for Federman's stock. Later we told John that if he bought 76,000 shares together with us, we would control the company. I think John wanted to pay about $5 per share as we heard nothing more at that time.

NUS again stated they wanted to buy 51% of NECO's stock. Muller talked to us and we agreed to sell at $22 to $25 per share.

On 13 October Lugene and I met with Muller to discuss the sale of NECO stock to NUS. Actually the company buying the stock was Suntac, a subsidiary of Catalytic and NUS. Muller muddied the water when he asked $30 for the NECO stock owned by CARCO.

On 9 November Muller stated that he had talked to Peter Arrowsmith of Suntac. Arrowsmith had been to Walnut Creek to see Harvey and others. Arrowsmith was disturbed by the evaluation placed on Protective Packaging. Muller had told him not to worry as we could sell it to someone else.

Muller stated he and Dean Witter wanted to close the deal before the year end. Witter had offered $15 plus $6 in stock. What happened further I never heard.

3. National Lead

In September 1970 Muller apparently called National

Lead about sale of Nuclear Engineering stock to them. We never got the story straight.

Then in February 1971 Mr. Barberan of National Lead called Lugene and told her National Lead wanted to buy Nuclear Engineering. They had sent a proposal to Harvey on 11 February 1970.

On 18 February Margolis sent us a copy of the letter he had received from National Lead. It was an offer to buy Nuclear Engineering Company for $3,200,000. At the same time we were considering an offer from United Nuclear for $3,700,000 as discussed in Subsection 7 below. Also National Lead wanted to issue lettered stock. We called Muller and reported no interest. He had already told the National Lead people the same thing but we only found this out later.

Later on 18 February Jay Barberan, Jr. called Lugene. He told her they wanted to buy Nuclear Engineering and she replied that we had no interest particularly in respect to the price and lettered stock. He then stated he wanted to come to Lafayette to talk to us. So on Saturday 20 February Barberan, Whitfield Lee, and Stephen L. Brown came to Lafayette. On Friday we had talked to Bennett in detail to make sure that we could talk to them.

When they arrived we went to lunch. Barberan acted as spokesman but we never heard his title. My notes are quoted: "He never did tell us his title or introduce those of the others. Barberan gave me the impression of the super salesman. National Lead is the best of all worlds. United Nuclear should be thrown to the dogs. His attitude was stretching the truth to the breaking point. Lee was just the opposite. He appeared jovial and completely honest and open. Brown and I had known each other before. He is quiet, open, and knowledgable." Barberan went on to tell us how good National Lead would be. He had talked to Harvey and Margolis and not to Federman; so we suggested he talk to Federman. He knew Gablin. Barberan's analysis of the Board was accurate! Their offer was too low.

We talked most of the afternoon. Then they took off for San Francisco to talk to Margolis and Harvey. Then on 24 February Whit Lee and Steve Brown returned. We talked the rest of the afternoon and nearly until midnight. Bennett had told me I could talk only as a shareholder and to start all my remarks with, "In my opinion." Anyway, later Whit and Lugene talked for an hour and became well acquainted.

One item of general interest was that Brown stated that National Lead was building a Mg plant at Great Salt

Lake as National Lead expects Mg to replace Al in the future. This appears to have been excellent foresight in view of the recent price increases in bauxite (June 1974). Anyway, later Winnie and I bought a block of their stock, or NL Industries, as it is now known. NL has also done much better than United Nuclear since 1971. But in 1974 high water in Great Salt Lake has hindered startup and production.

On 4 March we sent Muller a memo comparing the National Lead and United Nuclear bids. We pointed out that National Lead was a growth company while United Nuclear had not done well in the previous couple of years.

On 8 March Whit Lee and Steve Brown came in. They had assembled some information we wanted. Lee said Eugene and I had been the only ones that asked about the future of National Lead. I refused to talk and told them to talk to Federman.

Later in the day I talked to Muller. He said he had told Barberan that CARCO wanted cash as "we can invest money better than you can!"

On 12 March Whit Lee called and stated they had revised their bid for the Nuclear Engineering stock and had raised their offer to 160,000 shares, which amounted to $3,400,000 versus about $4,000,000 for the United Nuclear bid.

Then on 6 March 1971 we sent Muller a "comparison" of United Nuclear and National Lead. Essentially we wanted more information on both companies before we sold to either. We pointed out that the earnings of United Nuclear were way down.

On 5 May 1971 Muller claimed that Jane Harris had sent a letter to National Lead stating that we would welcome a new proposal. I suppose on Harvey's order. On 21 June Muller stated that a Mr. Stewart of NL Industries (they changed their name about this time) had been in to see him. He asked for an extension of time to study. Bill agreed to keep their proposal but refused an exclusive one.

On 23 June I talked to Steve Brown and they indicated NL Industries was still interested. And on 28 June Eugene and I talked to Whit Lee. Whit stated that their offer of $3,200,000 was still available. Meanwhile their stock had gone down to under $20 per share, so this was a fair offer. Whit stated he would prepare a proposal and come to see Muller and us.

On 30 June Gablin called about the merger with NL Industries. Stewart had told Ken that Muller had agreed to poll the Board but Ken stated he had not been polled and neither had Lugene or I, in other words, Muller was saying "I'm the Board." Perhaps some of our talks with Muller could have been construed that way but Muller had never so stated. We told him that Stewart wanted to see future trends.

Also on 30 June Muller called. He stated that he thought the NL deal was off due to NECO's low earnings.

On 14 July 1971 we tried to get Federman's approval to negotiate with NL Industries but Mapco and Teledyne were both interested. By this time we were quite certain that NL Industries were losing interest. We knew that one of the reasons was that they wanted either Lugene or me to move East and work in New York with their headquarters people and neither of us were willing to do so.

On 14 July 1971 we talked to Whit Lee re Mapco's offer. Whit said NL Industries was still interested. Whit agreed to talk to Mr. Stewart. On 14 October 1971 Whitfield Lee called. He said that he had pushed for purchase of Nuclear Engineering but when NL Industries did not do so, he resigned and got a position with ITEL leasing in San Francisco. We discussedpossible future work with him.

Then on 18 October Steve Brown called and stated they had finally gone to see Federman and "learned that he was the only one that can negotiate". We had told them that several times. But Hy asked 5.8 million or about $27.50 per share. He also wanted them to buy CARCO. They then evaluated CARCO, we believe. Anyway nothing came from the negotiations.

4. ICN

In September 1970 Muller talked to someone in ICN about buying the Nuclear Engineering stock. Muller knew that they had tried to buy California Nuclear stock. He told Lugene he would not do business with ICN but Lugene agreed to do business with ICN for cash only. We did offer to sell at $22 per share. ICN people, in my opinion, were no more dishonest than Muller.

5. Diversified Earth Sciences

In September 1970 Muller apparently called Diversified Earth Sciences and tried to sell the Nuclear Engineering stock to them. Apparently the man Muller was dealing with wanted a big fee as Muller probably did also.

At the Board meeting on 26 January 1971 it was reported that an offer of $20/share for 51% of the stock had been made but it was stated they could not raise the money readily.

6. Hittman Associates

On 9 November 1970 Muller asked if I knew Hittman. I admitted I had known Fred for a number of years. Muller then said Hittman had called and wanted to buy Nuclear Engineering. What Hittman offered was not stated. In a memo dated 18 November 1970 Muller reported that Hittman had offered $15 cash and $6 on a payout. CARCO apparently objected. Muller stated CARCO would accept $600,000, $400,000 bank notes, and $400,000 payout or $21 per share. I never knew why Hittman did not agree.

On 26 June 1974 I talked to Fred Hittman in Philadelphia at the American Nuclear Society meeting. Fred stated he was still interested in the purchase of Nuclear Engineering. Fred stated he would be willing to pay $3,000,000 for Nuclear Engineering. I did not tell him he could probably buy control for less than half that amount as he would make the company become more competitive with Nuclear Management.

7. United Nuclear

On 15 January 1971 Muller told me by telephone that he had been talking to David Shaw and John Lundberg of United Nuclear, about sale of NECO to them. They claimed to have had a high tax loss. Muller stated he expected a firm offer about 20 January for 50% cash and 50% stock, with a total near $20/share.

On 26 January 1971, following the rejection of the Teledyne bid, we considered the United Nuclear bid of $3,700,000, or $13.60 per share. We accepted this bid on the basis that it was taxfree.

On 6 March 1971 we sent a comparison report of United Nuclear and National Lead to Muller. In this we pointed out that the earnings of United Nuclear were way down.

As noted previously, Bruce Harris told us on 6 April 1971 that the United Nuclear deal was off since Harvey and others had demanded five year contracts in order to vote for the proposed sale.

On 5 May 1971 I called Muller relative to the next Board meeting. He claimed he had heard nothing from United Nuclear but that he believed they were anxious to go ahead.

On 21 June Muller indicated that United Nuclear was still interested in buying Nuclear Engineering. On 3 September 1971 United Nuclear made a formal proposal which was considered at a Board meeting on 17 September. Actually David Shaw and Lindberg attended our meeting and made an unsolicited offer to buy Nuclear Engineering stock for 270,000 shares, or on the basis of the United Nuclear price of 15 about $19.18 per share. They proposed lettered stock and, due to the wording of the offer, a tax of $256 might have been required. A simple wording change on their proposal would have eliminated this tax.

Shaw reviewed their prospects and how we could work together. But we voted it down on the basis of the tax. They did offer not to letter the stock.

It should be noted that Shaw was Area Manager at Hanford when I was in the AEC. I visited his office once and told him that I wanted the power levels of the Production Reactors raised to double the plutonium production. Shaw explained that the operator, General Electric, would not permit increases as this might result in damage to the reactors and they would be responsible for the damage--which they would have been. I then suggested that the Atomic Energy Commission should accept that responsibility only to be told by Shaw that he would not accept that responsibility. I then told him that if the contract was not changed in a few days that we would have a new Area Manager. The contract got changed and the power levels were raised as discussed elsewhere.

I always thought Shaw refused to change the United Nuclear proposal because of the above incident.

8. Chem-Nuclear

On 8 March 1971 Fred Beierle called and stated Chem- Nuclear wanted to buy Nuclear Engineering. Fred stated that the Great Columbia Corporation had the money. He had talked to Harvey and Moon and they had told him that the deal with United Nuclear had been finalized. I told Fred that the proxy material had not gone to the shareholders and that in my opinion an unsolicited bid could be made at any time. He stated he would talk to the Great Columbia people further.

9. Mapco

On 14 July 1971 Federman told us Mapco was trying to buy CARCO and wanted to make a bid for Nuclear Engineering. Later that day we discussed this with Norm Strom. We also talked to Whit Lee of N L Industries. We were never told much about Mapco's offer. Actually their stock has gained in value since then.

Mapco offered $1 per share for CARCO and the CARCO Board approved the sale over Muller's objection. Muller got mad at Federman and apparently threatened a suit and then Mapco withdrew their offer. We agreed to make up the 15% required to give Mapco the 50% over and above 35% owned by CARCO. Our price was $17.00. Mapco then withdrew.

10. Jersey Nuclear

On 11 August 1971 L. G. Coop from Jersey Nuclear called me about AlNi alloys. We talked for two hours. During the conversation he suggested that I contact one of their management people, Mr. Kokkinakis. This I tried to do only to find that he was out of town.

On 26 August Mr. Allan Ferris of Esso Research called me about CARCO and Nuclear Engineering. He thought Humble might be interested in CARCO and Esso in Nuclear Engineering. But they took no further action so far as I ever knew.

11. Gulf Atomics

On 18 October 1971 John Landis, President of Gulf Atomics, told Eugene that now United Nuclear was out of the picture that Gulf Atomics wanted to buy Nuclear Engineering. Nothing more was heard from him.

12. Anonymous

On 1 December 1971 Hy Federman called and stated he could get $19 per share for our block of stock. We agreed to sell at $19.50 net, to be paid in cash in December and March of 1972 and January 1973 in order to reduce our tax losses at 6.5% interest. Hy stated he could not meet our requirements.

G. Salt Vault

In 1955, I think, the National Academy of Sciences set up a Committee at the suggestion of the Rockefeller Institute, to look into the permanent storage of the high level radioactive wastes. Floyd Culler and I represented Oak Ridge and Argonne. Almost all of the people were scientists and most had little concept of the engineering problems. This was discussed earlier.

After a few months they issued a report of which I contributed about 25%. But my part was so edited down and the rest so blah that I became disgusted and resigned.

The Committee recommended that the high level wastes be solidified and buried in a salt bed. Subsequently I objected in that the wastes contain too many valuable metals and these should be recovered. But, nevertheless, an abandoned mine in Kansas was found and Oak Ridge developed techniques for placing the solidified wastes in the salt beds. Later objections were raised by the people in Kansas; so the wastes are being solidified and stored.

But it was suggested that Nuclear Engineering make a bid to operate the Kansas burial site. So this was an important item for discussion for several months. So at the Board meeting on 14 December 1970 it was reported that Gablin and Harvey had been traveling a lot relative to Project Salt Vault. But I was made Chairman of a Committee to look into Salt Vault. It was agreed that our proposal would be combined with CARCO so as to have the experience of both companies.

It then developed that Harvey and Gablin had visited a Mr. Chandler of the Chandler National Bank near the proposed site and Jack Lacey of the Kansas State Development Board. James Moon, who had just been hired by Harvey, was asked to write a report about what should be done.

It turned out that Moon was an old "buddy" of Harvey. At the December Board meeting a Salt Vault Committee was appointed with me as Chairman. But when I asked for travel funds Harvey never replied and he and Moon went ahead as if the Committee did not exist. They got nowhere except in respect to the travel.

So on 7 January 1971 I sent a letter to Muller. But also I never got a reply--I never really expected one.

On 18 January 1971 Muller reported that Harvey and

Moon had visited the AEC and Erlewine had stated that the AEC planned to award the Salt Vault contract, including operation, before the end of the year. Muller stated he was thinking of a joint venture, including a study of mining methods. I never heard what Erlewine thought of those two characters. Neither knew much about Salt Vault. Of course, I was on record as opposing Salt Vault but favored storage and eventual recovery of the metals.

Then on 3 October 1971 after a meeting in Muller's office relative to Chemical Wastes, Muller asked me what should be done about Project Salt Vault since nothing had been done except Kansas people were objecting to it. I asked why CARCO didn't pick up the ball and run with it. I had wondered why Carlsbad with its very thick salt beds above and below the potash beds, would not be better than Kansas. There are 600 ft above and 800 below so Muller said. Actually, there are beds several thousands of feet thick. But the CARCO number 1 shaft was excellent and the potash was practically mined out. So it was agreed that Nuclear Engineering would push it. Michau, I think, pointed out that 70% of New Mexico's income was from nuclear facilities; so the word nuclear was not new to their people. This was the first step towards involvement of the Atomic Energy Commission in New Mexico's potash area.

In October 1971 the AEC announced that they had contracted with the Kansas Geological Survey for a review of alternative sites for Salt Vault in Kansas.

Frank Pittman, at that time Director of Waste Management and Transportation in the AEC, gave a talk at the Atomic Industrial Forum meeting in Florida in October 1971. He stated the new policy of the AEC would be to store the high level wastes for up to five years, solidify, and store up to another five years, and then ship to a Federal Repository for long term storage. To date (mid 1974) no such Repository has been designated.

At the 20 January 1972 Board meeting there was a long discussion re Salt Vault in New Mexico. Muller had talked to a Mr. Campbell who was a lawyer, I believe, in New Mexico. He had also contacted Joe Gart, the local State Senator from Carlsbad, who had been a potash miner. He was on the Governor's Committee to bring new industries to the state. Muller reported he had gotten both U.S. Senators and the Governor on the Band Wagon to place Project Salt Vault in the U.S. Potash Shaft No. 3. A Don Baker, the Head of the New Mexico Bureau of Mines, wasopposed at first but later came out strongly in favor. Presumably he would have been responsible for the geologic studies. It was also reported

G. Savannah River

The Savannah River Reactors were designed on ideas developed mainly by Walter Zinn and Samuel Untermyer. But I suggested many of the details. And I pushed the development work toward higher power levels for the Savannah River Reactors as well as the Richland Reactors. This work certainly increased the numbers of nuclear explosives and has tended to keep world peace but how much I cannot say.

H. Materials Testing Reactor

As Project Manager of the Materials Testing Reactor, I held costs down and held construction to a tight schedule. I had little to do with the basic design which was suggested by Eugene Wigner. I believe Samuel Untermyer also contributed many ideas.

As an adjunct to the Materials Testing Reactor, I did some design of the U 233 and U 235 Recovery Plants.

I. Committees

The various Committees I have worked on were mentioned. I contributed a considerable number of ideas to the ASME Committee. These included the change of the welding efficiency factor. I was one of the few that recommended the facilities in the Nuclear Power Plants to be constructed under the Nuclear Vessel Code. The change in the welding efficiency factor resulted perhaps in the greatest cost savings. But I believe that someone else would have soon made the recommendation had I not done so.

I also contributed to the Education and other Committees.

J. Low Level Radioactive Waste Sites

Lugene Hungerford and I, in cooperation with the Department of Public Health of Illinois, developed the criteria used for the Illinois Low Level Radioactive Waste Burial Site. These criteria are now in general use for nuclear facilities all over the world. With Beierle and Johnson we developed the initial packaging procedure for the radioactive resins discharged from nuclear power plants.

K. Books and Reports

Perhaps my greatest contribution was in publication