

Rudd. LBB of

Script Link

2 31st

lots of "both sides"

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Common laymen - citizens?

future generations of humankind's

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standing

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Congress, TX

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impenetrable

Univ of TX

Harrison Schmitt

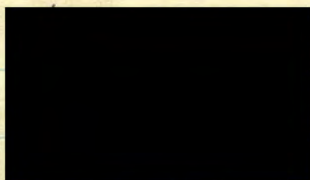
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10 Sonny Keese & Joe Hame

1983

1961

Roy's T.
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The Conflict Over Nuclear Waste
Produced by
The League Of Women Voters

Video

Woman addressing town
meeting in Carlsbad

audio up

audio down

fade to narrator--in front
of map showing proposed
sites
(Primer-46)

Man addressing meeting
audio up

Narrator in front of
split screen/ freeze-frame
of both speakers

Audio

Narrator voice over--

This meeting is taking place in Carlsbad,
New Mexico. It is typical of meetings that have
been held in Texas and in dozens of other cities
across America

"The forum also objects to the classification
of the Carlsbad site as a test facility. The
scale of the project indicates that it is intended
as a full-scale repository for both low and high
level nuclear waste. The five hundred million
dollar price tag would support this conclusion.
In no sense is this a "pilot" plant. We, the
undersigned, are opposed to the importation and
dumping of radioactive waste in New Mexico. To
date we have collected the names of approximately
1500 residents who have been eager to express
themselves in this fashion...."

The topic under discussion is whether or not
the salt beds near THEIR town should be used by
the Federal Government for the deep level burial
and geologic isolation of nuclear wastes . . .

..."Preferable to widely scattered shallow
burial pits which we presently have all over this
nation. We are in favor of WIPP. Now, speaking
for myself, I am appalled; absolutely appalled, to
think that some 23 years have gone by since the
burial in salt was first proposed, and we are no
farther than we are here today; we are still
bickering; we are still fighting. I am convinced
that a waste storage facility without the
capability of storing high level wastes is no
facility at all. For Pete's sake; get on with it
and do provide for storage of high level wastes.

"Finally, I have heard objections here today
that this is not to be a pilot plant at all--that
it will be a semi-permanent or a permanent
facility. I sincerely hope that whenever we spend
five hundred million dollars that it will be
permanent. Thank you."

This scene is typical of confrontations taking

place in Texas and New Mexico. Both individuals are sincere; both are endeavoring to further the philosophical position they believe will provide the greatest benefit to mankind.

The confrontation is being repeated across the nation with great intensity--and often with hostility.

series of news clips, photos
stills or silent tape

This intensity--this anger--exists on both sides of the issue. On both sides of the issue, the anger grows from the fear that profound human values will be lost if their adversaries prevail.

Learned, sincere individuals stand on both sides of this issue: physicists, engineers, chemists, physicians, environmentalists, industrialists. As common laymen, who are we to believe? How are we to decide what would be best for future generations of man? There is no clear-cut line dividing those with a short-term, financial gain from those desiring the continued, long-term progress of the human race. There are, however, people who would try to make you believe such a line exists in order to simplify your decision and win your support.

In producing this documentary, the League of Women Voters hopes to reinforce its viewers against such oversimplifications. We hope that every human being will become informed about this issue and will contribute to its resolution. The problem of nuclear waste disposal has no answer in precedent but will have consequences for centuries to come.

Let us begin our discussion with the realization that the problem of nuclear waste MUST be addressed. If no more uranium were ever mined; if no more electricity were ever generated by nuclear plants; if no more nuclear weapons were ever manufactured or no more nuclear medicine ever practiced--there would still be a problem of nuclear waste disposal.

As the 1980s began, there already existed some 75 million gallons of highly radioactive liquid waste; 5,900 metric tons of spent nuclear reactor fuel; 66 million cubic feet of low-level radioactive items such as contaminated work

graphic w/illustrative
comparatives, i.e. bldgs,
etc. to show volume

Chart--/quantities of
waste, 1979, p. 18
Primer

gloves, tools, and medical isotopes; and 140 million tons of radioactive tailings left over from uranium mining and processing.

The most dangerous or high-level wastes come from weapons manufacture and from the spent fuel rods used in commercial power generation. While the search for a management system continues, these are being kept in "temporary" storage.

Some radioactive wastes have leaked from government holding tanks and shallow burial sites, and abandoned uranium tailings have been dispersed by wind and water. As a result, many public officials and scientists have concluded that continuing "temporary" storage could cause serious environmental and health problems.

It isn't just nuclear foes who are calling for waste management decisions. Joining in the call for reliable solutions are those who see nuclear-generated electrical power as part of our near-term energy mix, those who have confidence in the viability of nuclear energy for the long term, and those who simply want a safe disposal of nuclear wastes.

The future of nuclear power is also at stake. Society cannot continue creating wastes for which there is no demonstrably safe and permanent system of disposal.

Dr. Terry Lash of the Natural Resources Defense Council in Los Angeles predicts, "The two major issues concerning radioactive wastes that will involve the public very heavily are future licensing of nuclear power plants and the siting of a geological repository for permanent disposal of wastes created at nuclear power plants. So far, we have not tied the licensing of nuclear power plants to the development of the means for disposing of the waste. I think that situation should and will change in the near future. There should be no more nuclear power plants unless there is an adequate guarantee that we will be able to dispose of those wastes safely. Those are the wastes which are created in nuclear power plants. We have had nuclear power in one form or another for over 30 years now and it is time that we say we can produce no more of those wastes

unless we have a repository available in the near term. The second area has to do with the siting of such repositories themselves. There has been inadequate solicitation of the views of state governments, local governments, and the general citizenry in areas where the Federal Government has proposed federal repositories. I think the Congress will pass legislation giving the states essentially a veto over the siting of any federal repository within their borders unless the state is fully satisfied that the public's health will be protected by the design and location of that repository."

The power generated by releasing the energy of the nucleus staggers the imagination--one ounce of uranium 235 produces as much heat as 100 TONS of coal. One pound of plutonium--a by-product of fission--equals the energy in more than 5,000 barrels of oil.

Proponents of nuclear energy say that we are just beginning to know its resources for advancing the security and comfort of mankind. Adversaries believe that we may not survive the consequences of a nuclear accident or major leaks into the biosphere and that NO BENEFIT is worth the risk we run in developing it. Advocates of nuclear energy AGREE with antagonists on the POTENTIAL destructiveness to mankind and the biosphere. Yet they believe these dangers can be and ARE BEING controlled well enough that this power source is WORTH developing.

To explore the issues for ourselves, we need to begin with a few facts about radiation.

Uranium is the raw material of nuclear energy. It occurs in nature in two forms: U-235 and U-238. U-235 is fissionable. This means that its nucleus can be bombarded with neutrons and will split or

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fissure, releasing its own neutrons to split other atoms. In this way, a chain reaction is begun which produces both heat and energy. U-235 and a like companion, U-234--make up .7 % of all uranium found in nature.

U-238 makes up 99.3 % of the natural supply and is NOT fissionable. It must be enriched with plutonium to produce a chain reaction and thereby become a power source.

All elements with an atomic number of 83 or more are unstable, or radioactive. Atoms spontaneously eject or radiate particles and energy. This is a DECAYING process during which the elements change into another nuclear form. The rate at which radioactive decay takes place is calculated in terms of half-life.

Half-life does NOT mean that an element is radioactively benign--rather, that it is only half so lethal. During decay, atoms give off three major forms of radiation: Alpha, Beta, and Gamma rays. All three are different, yet equally lethal. Alpha rays, for example, are large in size and weight and can be stopped by a piece of paper. They are easily absorbed by our food and water supplies and harm us when they are eaten or inhaled---alpha rays have the most devastating biological effect of all forms of radiation. Gamma rays are electromagnetic. They have the greatest penetrating power; they can go through thick barriers like X-rays can, and harm us from the exterior. Beta rays are 2000 times smaller than alpha rays; are also eaten and inhaled, but can penetrate further.

Radiation harms us by ionizing--that is, by altering the electrical charge of our body cells. The effects are cumulative: small amounts over time can produce biological effects similar to large doses all at once.

Radiation causes cancer, leukemia or genetic injury and mutation, depending on the type of isotope and where it is attracted within the body. Iodine goes to the thyroid, , to and to . This affinity can kill or cure. Physicians use these same affinities to do nuclear scans of different body areas. The

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difference is that diagnostic radiation is eliminated, and natural radiation is not.

Most people lump all forms of nuclear waste together and fear it in an undifferentiated way. Critics of nuclear power recognize this and use unanswered questions about safe disposal and past flaws in waste management as arguments for shutting down all commercial and military nuclear operations.

Radioactive wastes are divided into five categories: mill tailings, high level, low-level, spent fuel and transuranic wastes. Each has different properties.

MILL TAILINGS are residues from uranium mining and milling operations containing low concentrations of naturally occurring radioactive materials. It is the very large volume of tailings, which are in the form of a fine sand, and their long lifetimes that make them the object of scrutiny.

HIGH LEVEL WASTES are generated in the reprocessing of spent fuel. They have high-intensity, penetrating radioactivity and generate intense heat.

LOW LEVEL WASTES are generated by activities involving radioactive materials. They include cleaning and decontamination solutions; gaseous effluents; contaminated rags; protective clothing; and instruments like vials, test tubes, and other medical and research materials. They have low and sometimes potentially hazardous concentrations of radioisotopes.

SPENT FUEL is made up of fuel assemblies that are discarded intact after serving their useful life in a nuclear reactor. Under present U.S. policy, spent fuel from commercial reactors is NOT being re-processed. It is being stored in cylinders in large pools of water on reactor sites until the government decides whether to re-process it or to dispose of it permanently. It is a high-level waste containing substantial amounts of fission products and transuranics.

TRANSURANIC WASTES come mostly from the re-processing of spent fuel and the fabrication of plutonium to produce nuclear weapons. Transuranics are artificially produced by

bombarding uranium within a reactor and have atomic numbers higher than uranium. Most are less intensely radioactive and thus generate less heat than fission products, but take far longer to decay. For example, Plutonium -239 has a half-life of 24,000 years.

In discussions of nuclear waste disposal, you will hear some say that an isolation time of 300 to 500 years for high level wastes is adequate. Others will refer to the "million year" waste disposal problem.

One of the reasons for this wide discrepancy lies in the difference of half-lives among different types of wastes. The largest percentage of fission waste is made up of Strontium-90 and Cesium -137. These have a half-life of 30 years.

The often-mentioned fission product with the mind-boggling half-life of 24,000 years is Plutonium -239. Plutonium has great potential value as a nuclear fuel because it will fission, like U-235, when bombarded with neutrons. The chemical recovery process whereby plutonium could be separated from spent fuel has not been perfected and the re-processing plant which has been built in Barnwell, South Carolina has not been licensed by the Nuclear Regulatory Commission. The process is not new, however, and has been used for over three decades in the management of nuclear wastes from military reactors.

All nuclear wastes are NOT the same. Different types have different properties and present different problems for disposal.

Dr. Graham Foster, nuclear physicist at Los Alamos Scientific Laboratories in Los Alamos, New Mexico, feels that the sheer volume of mill tailings make them the most significant disposal problem.

"The tailings are still on the surface; to add to that, the tailings are ..; have traces of other chemical toxins; things like selenium, which is the one we hear most about in New Mexico, or molybdenum, which is one of the things you hear most about in Texas. These produce poisoning of

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cattle, and things like that. The volume of tailings is enormous, compared to the volume of the high level waste that would correspond to them. That is why I say the tailings are our big problem.

"Most people in New Mexico and Texas probably recognize this is a silk mantle for a gasoline lantern. This mantle is approximately as radioactive as mill tailings; that is, it has about the same number of disintegrations per second per gram of material. Why is this radioactive? Because the element that produces the bright white light in those gasoline lanterns is thorium; and thorium often occurs in the same ores as uranium--and it is radioactive. Now if you had acres and acres piled 30 feet high of gasoline lantern mantles, you would in fact have a significant radioactivity problem. They--those tailings piles are enormous. Most industrial problems are big. The problem is to cover them over in some way so that they don't blow around and don't get into streams. It is a manageable problem; it is one that nobody has paid enough attention to so far. It is an international problem and it is being considered on an international scale...but the real problem is to do it as cheaply as possible with the maximum safety to the public.

Bernie Cohen discusses why he feels a 500-year-isolation for radwastes is acceptable: "The point is that after about 500 years, this material won't be very toxic. For example, if we consider the material generated by an all-nuclear power system in the United States, the toxicity of 500-year-old waste is 1000 times less than the toxicity of arsenic that we import into this country, every year; and another comparison is that when you burn coal, there is a certain amount of radioactivity released because coal contains small amounts of uranium and the ..when you burn coal, this uranium is released and radioactive waste from burning coal then turns out to be quite comparable to the nuclear waste after about 500 years. Another example is, there is a lot of uranium in phosphorous and so when you mine phosphorous, there is a lot of uranium released into the environment. This is again, a radioactive waste from mining phosphorous. And it turns out

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that this again is quite comparable in toxicity to the toxicity of the 500-year-old nuclear waste. So my point of view is that it is really only a 500 year problem; that after 500 years or so, we don't have to be terribly worried about this."

Should permanent storage be judged feasible; stringent safeguards would be imperative. Dr. Thomas Cochran of the Natural Resources Defense Council in Washington, D.C., discusses some of them:

"The idea is that you don't want a single failure of one component of a system to lead to the failure of the entire system. So, in order to prevent that and provide for some backup reliability, one introduces some sort of multiple barrier system, so that the failure of any one barrier will not lead to the failure of the system, and you will have these other backups. As applied to the waste management activities, the barriers would be: one barrier would be the matrix in which the waste is contained, such as a glass block; the second barrier would be a canister that contains the glass; the third, the packing around the canister; the fourth barrier the geological formation within which the waste is placed; and the fifth, the overlying geologic strata over the repository. The problem or concern is how the Nuclear Regulatory Commission will implement this multiple barrier concept. Will they require stringent performance criteria for each of the barriers separately be met, or will they take the position that is closer to what I call the multiple sieve approach and that is--these are not considered independent, but you line up a series of sieves in order that the overall leakage through them is less than some overall systems performance objective."

show map of Ogallala

Preventing a "multiple sieve" approach would be mandatory because of the consequences should nuclear waste leach into underground water systems. Canyon attorney Rick Wilcox explains, "In this part of the world, our public health, public water supplies come from the Ogallala Aquifer and some deeper aquifers. Those would, if the DOE goes ahead with their waste dump plans as outlined, would be above the waste dump; and there is a very serious possibility, I think, with the

kind of heat buildup they are talking about in the waste dumps, something in the order of 300 degrees Celsius. You could have fissures open up from the heat and pressure and either get the public water supply contaminated or possibly even worse, have them seep into the burial chamber or turn to steam and give you some kind of significant cataclysm.

Scientists from the University of Texas Bureau of Economic Geology are researching the issue. Drs. Fisher and Jerry Wermund say:

"Our problem is one in which we have got these materials, now already, we have a legacy, whether we like it, we can't stick our heads in the sand and say, 'Go Away'. There is ..what..., 9 1/2 million cubic feet of high level radioactive waste that is sitting out in the containers above ground. That is not a very secure place for it, to be sure. So it is really not tied necessarily to the issue of the developed nuclear power--eventually, we may or we may not; that is aside from this particular issue.

"Now, at the present time, it would appear, based on the conventional wisdom that we have at this moment, as we understand it, this is subject to change as half a million dollars worth of research is going on in the country each year. There are going to be changes all the way. Right now, it isn't a question of salt being necessarily viable, the presumption that it's going to be salt; it is that salt seems a little more feasible at this point than some other things. The other alternative you have got is to put it in very, very deep wells, 40,000 feet. That is one possibility; there are some problems with that, of course. Another is to shoot it into space in the face of the sun. Obviously, there are some problems with that. There are options that have been mentioned about deep oceanic burial, when you go into very deep portions of the ocean and dropping to this penetration. That kind of isolation and the other possibilities from a geologic standpoint are in massive granites. This is what primarily the Canadians, the approach they're taking, largely because they have lots of granite, and not much in the way of salt. So they have predicated most of their research efforts around granites. Some other parts of the world that don't have granite or salt have such things as shale, very massive, impermeable shales."

Pg 25-29

"The principal reason for being in salt is that it is an unpermeable substance. Salt is very soluble, obviously, it has been out there for many, many millions of years. So that suggests that where we have massive salts maintained, they have not been subject to solution by ground water and so on. If they had, they'd long since have been gone. So that kind of security is from a hydrologic standpoint.

"Other factors of salt is its insulation of heat, the generation of heat. And so, it is primarily those two factors about salt that we know that lend some of the ideas how that salt may be our best possibility here. But we are a long way from proving the case.

(Wermund) "Another appeal for salt is that we know that it is inclined to heal itself. In geologic times, we actually see fractures in salt that have healed themselves over a long period of time, and we don't see this in other rocks as often. Usually a fracture in other kinds of rocks will continue to transmit fluid whereas in salt, it won't."

UT is studying several aspects of salt storage: "The first presumption of this particular study is aerial feasibility studies. The basic criteria in terms of thickness of salt, purity of salt, depths at which it occurs, size of the salt body, that would have to be met before you can make any kind of judgements as to whether it was even feasible to pursue for site work. So there it is, at this particular point, we are not down to any kind of site recommendation at all. That may come later on or it may come or be our conclusion fairly early on in the game, that there is not the presence of salt in ample thickness, the kinds of depth, the kinds of general hydrologic security, that would even warrant any additional site investigation so this kind of program can abort at any one particular point."



{Wermund}"We are looking for something called a Field Confirmation Study Area. Now what that basically means is that we are not looking for sites; we are looking for areas first in which in might be feasible."

Similar studies are being conducted by Don Schueler of the Sandia Laboratories in Albuquerque on geologic characteristics in the Carlsbad area. "The brine migration consideration is being closely evaluated by ourselves and the USGS at the present time. We are going to start some "in situ" experiments down in the Carlsbad area that are going to be specifically addressing the brine migration in that type of an area. The moisture in ...the rock, in the salt, is not adequate enough to collect and bring in aquifers and pools. It..and we do not believe that you are ever going to end up with the problem of overheating of a specific area, because of that."

This has been a cursory overview, yet we must conclude that nuclear waste disposal is a major problem which must be addressed. The technical magnitude is well summarized by Rick Piltz of the Mobilization for Survival--

"I don't have, you know, a technical solution to the waste disposal problem and from our understanding, neither does anybody else. Obviously you would have to put them in some kind of permanently stable formation and in containers that would not leak, and somehow guarded in perpetuity such that radioactive waste could not leak out and get into the atmosphere, water supply, food chain, etc., people or living things directly.

"Then, what are we, as citizens, to do? ..Obviously, we have to make some kind of democratic decisions about the energy situation. Some things that just can't be decided by a small number of experts, but when I see the scientific community divided like this, I think, as a citizen, the best thing that we should do is err on the side of caution.

In America, human well-being is guarded by the political system. Weart of Sandia Laboratories believes the first arena for decision must be the political system.

"Most of the literature and the anti-WIPP campaign does appeal to people's emotions and their lack of understanding rather than to the technical facts.

"I personally think the main issues today are political, and that is not to berate or belittle the political problem. It is a serious political problem in this country to find good, sound, sites for disposal of nuclear waste which are also acceptable to the states and to the people surrounding the sites and states involved."

Consensus seems to be growing among regulatory agencies and state legislatures that states and their citizens deserve a significant voice in where disposal sites are located, what is placed in them, and how it is done.

{Senator Harrison Schmidt, D-N.M.}"Based on my review of the situation, if a state takes appropriate legislative means either within the legislature or the legislature establishes a referendum process for the people of the state to approve or disapprove a waste depository, then I think they have that right. "I don't see any way you can deny them that right.

"State regulatory commissions have within their borders a great deal of autonomy; that is the way the federal system was established. We have to be very careful, if we start to erode the federal system as we have been, but I don't think we want to erode it any more. As a matter of fact, we need to strengthen it...that is strengthen the authority and responsibility of the state because the federal government obviously cannot handle all the things it has been trying to handle over the past couple of decades. The states are going to have to do more, and the rights of the states to regulate various activities are almost certainly going to have to be strengthened."

Texans Sonny Keese and Joe Hanna reflect a cautious approach to decision making..

{Keese} "I feel that Texas is in quite a unique position. I think we might be trading our natural gas in return for being named the nuclear waste storage facility of the country.

"I feel that Texas is in a unique position and I don't think it is a fair trade. I don't believe that is what people say to Texas and people in the country really envision." ??

(Hanna) "There is a lot of education to be done. My main concern is that we don't do something hastily as prohibit all waste to be disposed in Texas. I don't think that is a very responsible position to take and yet I am not at the point that I want to say any and everything can be deposited at any particular place.

{Hanna} "I think nuclear itself is a very technical thing, and I am certainly not going to stand here and tell you that I am a nuclear expert or anything like that. We have to listen to the experts tell us, the Legislature, what in their opinions, would be the best thing to do, and we have to rely on those kinds of people. We rely on the nuclear people in our colleges and universities in Texas to educate us."

Resolving the problem of nuclear waste disposal will not be simple but may well prove to be the most far-reaching decision of the 20th century, with the most lasting consequences. If we make a mistake, it could well be one that our children and grandchildren can NOT reverse.

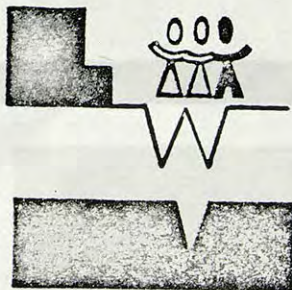
A poorly conceived solution could lead to contamination of the only planet on which we have to live---

An emotionally conceived solution could lead to the loss of a nuclear energy program with the potential it offers for a better life and incredible progress for all the races of mankind.

It is a decision which a well-informed public MUST make. Here are some resources for further information with the best wishes of the League of Women Voters as you consider your position.

Roll resources

-End-



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League of Women Voters of Lubbock

Lubbock, Texas

AUG 25 1980

August 21, 1980

Florence Chichester
Energy Department Specialist
League of Women Voters Education Fund
1730 M Street, NW
Washington, D.C. 20036

Dear Florence:

Although this is more smoke than fire, it is an update on the project. I have this week talked with both Halcyon Baggett and Pat Bruno.

Halcyon has "begged" free production time at KMCC-TV studios here in Lubbock. Editing must, of course, be done during their down time, which means very early morning; late, late nights; or weekends. Halcyon has lined up two young men (known only to me as Doug and Stash) to do the editing; she will pay Doug \$200 and Stash \$150, and considers both as donating their services.

Halcyon intends to write the script, and has offered John Krieger, an announcer for KSEL-Radio here, \$50 to do voice-over. He said for the League of Women Voters, he'd do it free. I would have preferred a woman, but both Halcyon and Pat Bruno believe a woman's voice has no "authority". Old habits die hard. Halcyon estimates studio time, for which we must pay, will run \$60 for this.

According to Pat Bruno, she has around \$500, but owes Cat Xander \$248. Halcyon's tab, so far, is either \$410 or \$460, depending. Halcyon does not want any money at this time.

Time has become a problem for Halcyon, because she feels that she must view all the video tapes, and she is intimidated by the sheer bulk of the material. I (graciously) offered to tape the tapes to the free video-tape player at the public library, rate them in order of content, quality, and subject matter, and give them back to her. I use a stop-watch, so she won't have to listen to a mass of extraneous material. I have already viewed three, and enclosed my brief notes in the tape cases. Halcyon says this will be very helpful.

While I still feel confident, optimistic, etc. about the outcome of this; reality forces me to face problems which may or may not arise:

- (1) Halcyon and Pat both intend to decide on content (have the last word)
- (2) Halcyon says she will "barrel through" once she gets going, and I believe she will, and I don't think Pat can accept that easily
- (3) It has dawned on me that what constitutes non-advocacy to one person may not to another
- (4) Both Halcyon and Pat are deeply concerned with making it interesting to the viewing public, and this subject is SO easy to distort.

It is possible that I am concerned over nothing, and that all the wrinkles will iron themselves right out. I intend to hover over Halycon like a mother eagle, making sure that she does not get too discouraged, and helping if I can. I hope to keep Pat informed, but at arm's length. If this can be done, I am a genius.

I answered my League phone recently, and a very gloomy female voice said, "I was just wondering how our president was doing." and I responded cheerfully, "Oh, I'm just fine." (She was talking about Jimmy Carter)

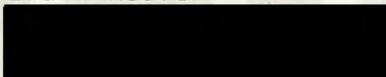
If you have any questions, suggestions, etc., please call.

Hopefully yours,



Pat Nickell

copies: Laura Keever



Isabel Miller
League of Women Voters of Texas
1212 Guadalupe, Suite 109
Austin, Texas 78701

November 1977

LEAGUE OF WOMEN VOTERS EDUCATION FUND
ENERGY EDUCATION PROGRAM

Florence Chichester, Manager, LWVEF Energy Education Project
Isabelle P. Weber, LWVEF Energy Coordinator
Betty N. MacDonald, Chairman, LWVUS Energy Committee

Guidelines for Administering the
State League Energy Education Projects

I. General Instructions

A. Project Manager

By agreeing to and signing the letter of agreement sent to you by the LWVEF, you become the official Project Manager for your state League Energy Education Project. Unless a project treasurer is appointed by the League or yourself, you will personally receive and administer all funds. In any case, the project manager bears the ultimate responsibility to the LWVEF for the proper safekeeping, distribution and use of those funds. We will correspond directly with you on all project matters from now on; copies of our correspondence will be sent to your state League president. Be sure that you keep your president informed of all project activities and that you consult with your president on policy decisions.

Stipend

To compensate you for your duties and responsibilities, you will receive a stipend in the amount specified in your project budget. Although the stipend is a line item in your budget, the two payments will come directly from the LWVEF on December 1, 1977 and April 1, 1978.

Reports

You will be responsible for submitting three project reports, the last of which will be your final report. These are due January 15, 1978, April 1, 1978, and May 30, 1978. (Note: This is a slightly different reporting schedule than previously outlined in the letters of agreement sent to project managers.) Please submit your reports on time because we need your information in order to complete our reports to the Department of Energy (DOE.) The January and April reports should include: 1) a description of the activities your League has carried out during the reporting period; 2) a detailed outline of the upcoming period's planned activities; 3) your assessment of the effectiveness of the activities to date; and 4) a brief accounting of grant funds spent to date. Also include samples of media coverage and other information produced for or pertinent to the energy education project. (See Section on Printed and Visual Materials.)

The final report must be submitted no later than May 30, 1978, earlier if possible. This must include an overall description and evaluation of the project. As soon as possible following the end of the project, but no later than July 31st, please send in a final financial report on the use of your project funds.

B. Permissible Use of Project Funds

FIRST AND FOREMOST: UNDER IRS REGULATIONS, ANY GRANT COMING THROUGH THE LWVEF MUST BE USED FOR EDUCATION PURPOSES ONLY. You cannot spend money for legislative action--lobbying or urging support for or against a particular program or bill. Nor can grant money be used to reach positions upon which action will be based (that is, not for an energy consensus meeting!). LWVEF money can be used, however, for explaining the differences among bills or issues raised by a bill, if handled in a careful and impartial way.

The federal government has strict guidelines on use of federal funds. These are spelled out in detail in the DOE grant for energy education to the LWVEF, but we are outlining pertinent information here. In general, all reasonable costs for planning or carrying out the grant activity are allowable, including the following:

- project planning costs
- actual project costs
- rental of office space, typewriter, etc. (NOTE: you cannot purchase a typewriter or other office equipment. Technically, anything purchased with federal funds belongs to the federal government.)
- supplies (e.g., paper, typewriter ribbons)
- duplicating, postage, telephone
- printing (see below)
- kit materials
- personnel expenses (including stipend for grant manager, secretarial services, speakers' fees)
- arranging tours or field trips
- travel-related expenses including transportation (tourist or coach class if available,) food and lodging. Room service, phone calls and other personal business conducted while on travel cannot be reimbursed, however. Single room accommodations are not allowed for persons other than speakers. Any other person desiring a single room must pay the difference in rate.
- expenses related to a meeting, including meeting space and equipment rental. Food served at a meeting may only be charged to the project if business is conducted during the snack or meal. Alcoholic beverages cannot be purchased with grant funds.
- promotion for grant activity (e.g., advertising, press releases)

Prizes

Several of the Leagues are planning to award prizes in connection with poster or other contests. Unfortunately, the federal government considers a prize to be a gift, and gifts are not allowable expenses. Therefore, if you are planning to award prizes, they must either be donated (under other grants Leagues have had good luck in finding local businesses willing to donate prizes,) or paid for with other funds (see "Advances" below.)

C. Printed and Visual Materials

Before printing any publication with grant funds, please send us a copy for review. Due to IRS tax regulations, WE MUST REVIEW YOUR DRAFT PUBLICATIONS PRIOR TO PRINTING. We also need to review draft slide-tape show scripts, agendas for public meetings, information on talks or speeches, and, if you have it, an outline of the remarks. We will notify you within 2 weeks of receipt of your draft whether or not you can go to print, or production. Be sure to visibly identify your publication and/or slide-tape show as a publication of your League. Various LWVEF publications from the national office can provide a guide as to the most appropriate space and emphasis for the League identification.

Credit to the LWVEF and the DOE should appear on material produced with federal grant funds. The following wording is recommended: *This publication/ film/ slide show has been financed (in part/entirely) with funds from the League of Women Voters Education Fund and the U.S. Department of Energy (DOE) under contract EC-77-G-01-6097. The contents do not necessarily reflect the views and policies of the DOE nor does mention of trade names or commercial products constitute endorsement or recommendation for use.*

Government regulations place a maximum limit upon the number of copies of a publication you may print without becoming subject to government printing requirements. To avoid these requirements you may not print more than 5,000 copies of any single page and the number of pages in the publication times the number of copies of the publication cannot exceed 25,000 pages. (A page is one side of a sheet of paper.)

For example, you may print 4,000 copies of a six-page publication, because there will be only 4,000 copies of any one page and a total of 24,000 printed pages in total (4,000 copies x 6 pages.) However, you may not print 4,000 copies of an eight-page publication since there would be 32,000 printed pages (4,000 copies x 8 pages.) This would exceed the 25,000 printed page limit. Similarly, you may not print 6,000 copies of any publication regardless of its length since that would exceed the 5,000 copy per page limit. Please include with your final report to the LWVEF or with the interim project reports, if finished, three copies of any publication you have produced with federal grant funds.

D. Media Coverage

The public relations component of your project may vary with the needs of the various activities. However, you are encouraged to include either your League public relations person, or another person with public relations skills on the project's planning committee. Good publicity and good public relations in connection with your grant activities should be pursued whenever possible. With your letter of approval, each project manager was sent a set of 5 public relations factsheets published by the LWVUS to assist you in this aspect of your project. If you would like more factsheets, let Florence know and she can send you a limited quantity.

When you send us your project reports, please include samples of press releases, flyers, publications, newspaper or magazine articles, conference or meeting agendas, and any other materials produced for or information pertinent to the energy education project.

December 11, 1978

V. V. McGrew, Jr.
Texas-Oklahoma Government Relations Coordinator
EXXON U.S.A.
P.O. Box 2180
Houston, Texas 77001

Dear Mr. McGrew:

We appreciate EXXON's contribution to the League of Women Voters of Texas energy education project.

The television documentary on the nuclear waste disposal issue should be ready for distribution in early summer. Directors Pat Bruno and Pat Nickell of Lubbock have interviewed persons in Washington, D.C. and Austin; and plan trips to Denver, Houston, and New Mexico to collect additional material.

The disposal of nuclear wastes in the Carlsbad, New Mexico, area is of particular concern to West Texans, and we believe this will be an opportunity to present a balanced, objective view of the issue. Thank you for your interest in the project; we will keep you posted on the progress of the film.

Sincerely,

Betty Anderson
President

BA:jl

bcc: B. Anderson
Pat Bruno ✓
L. Keever
S.O.





nuclear Regulatory
barber blue sea ^{Corp}

m
①

Energy Ed Proj.

#332

Anne Vining

\$2,000

need to be deposited here?

Special Acct

LWV Ed Fund. Spec
Energy
Project.

Let Ethel S. ^{PRP}

Take care of that.

Carbon Spec Acct ^{paid down}
Please remit to Pat Nichell

JAN. W.

2nd to TEF

newsletter

333

400

14 Dec. 1978

LWV Education Fund Special Energy Project
(Treasurer, Linda James, Lubbock)

12/13/78

Advance for travel for project directors
of energy education project

\$600.00

\$600.00

12/13/78

\$600.00

332

//////// x
Chairperson



COPY



memorandum

December 6, 1978

TO: Betty Anderson, President, LWV of Texas

FROM: Florence M. Chichester, Director, Energy Education Outreach Program.

RE: Final approval of project, funding and miscellaneous.

The League's national energy committee at its November 14-16 meeting gave final approval to the phase II energy education project proposed by your League. Any specific comments made by the committee on your League's project are attached as an addendum to this memorandum.

An advance of \$2,000, half of the funds granted to your League, is being mailed today to the LWV of Texas treasurer. If your board has appointed a separate project treasurer, the state treasurer should enter this check into the state League records before forwarding the funds to the project treasurer. We are sending the project's treasurer (whether the state treasurer or an appointed treasurer) 20 vouchers and a copy of the November 1977 project guidelines to use until the revised guidelines and vouchers are completed and mailed in mid-January. The new guidelines will be similar to the old but will incorporate the changes discussed at the October 18-20, 1978 Training Conference. I do want to emphasize that a record of every project expenditure must be kept and a receipt for every expenditure over \$5.00 must be attached to the voucher on which it is recorded.

Enclosed for your files is a copy of the final report to the Department of Energy of the LWVEF's Phase I Energy Education Program. A copy of that report is also being sent to the phase I LWV of Texas project manager. All those who attended the Training Conference will receive a copy of the final report and the summary minutes of the conference. Finally, we are mailing each of the phase II project managers one of the LWV of Virginia's energy bibliographies developed for its phase I library packet project. Fran Kieffer, Virginia project manager, spoke at the conference and promised copies of the bibliography to the managers.

If you, the project manager, or the treasurer have any questions please call or write me or the program assistant, Ann Weninger, at the League's national office, address and phone number above, extension 229. Best wishes on the success of your League's project. We are pleased to be working with you again.

* * * * *

enclosure: (Phase I final report)

cc: Phase II project Manager (with phase I final report conference minutes,
LWV of Virginia bibliography, and November 1977 phase I guidelines)
Conference coparticipant (with phase I final report, conference minutes)
State treasurer (with advance check)
Project treasurer (with November 1977 Phase I guidelines, 20 vouchers)

EXPENSE VOUCHER

Energy Education Project

(name of project)

LEAGUE OF WOMEN VOTERS EDUCATION FUND

Texas

(sponsoring League)

INSTRUCTIONS: To comply with federal grant and contract requirements, all expenditures of project funds must be recorded on LWVEF expense vouchers. All receipts for expenses claimed on the voucher must be stapled to the voucher. Be certain that the date, item or service purchased, and the amount are clearly shown on each receipt.

The yellow copy should be retained by the person seeking reimbursement. The other four copies should be sent to the state or local project manager or treasurer if there is one.

Travel	Amount		Amount
Air, bus, train	_____	Telephone	_____
Private auto: _____ miles at	_____	Space rental	_____
15¢ a mile	_____	Equipment rental (boat, bus,	_____
origin: _____	_____	typewriter, microphone, etc.)	_____
dest: _____	_____	Printing	_____
Taxi or limousine	_____	Xeroxing and mimeographing	_____
Parking	_____	Postage	_____
Hotel	_____	Supplies	_____
Meals	_____	Research and study materials	14.72
Misc. _____	_____	Other (specify)	_____
Grant manager's stipend	_____		_____
Secretarial services	_____		_____
Other technical or	_____		_____
professional services	_____		_____
Speaker's fees	_____		_____
		TOTAL EXPENDITURES	
		Minus advance, if any, from state	
		or local project manager	
		Balance due payee (OR)	
		Balance owed by payee	14.72

Name and address of person requesting reimbursement:

Betty Anderson

5017 15th

Lubbock, Tex. 79416

Signed: _____

Date: 12 Dec. 1973

Approved by state or local project manager or designee:

Signed: _____

Title: _____

Voucher #: _____

*Date paid: _____ *Check #: _____

*Paid by (initial): _____

Balance remaining in project account: _____

(*Do not complete if voucher is to be sent to LWVEF for reimbursement.)

(for LWVEF use only)

Approved by: _____

Date: _____ Acc't charged: _____

Date paid: _____ Check #: _____

Paid by (initial): _____

Dec. 19, 1978

LWV Education Fund Speical Energy Project
 (Treasurer, Linda Archer (not James) of Lubbock)

12/19/78 Balance of money transferred to Lubbock acct. \$1400.00
 from LWVUS Energy Education project grant

1400.00

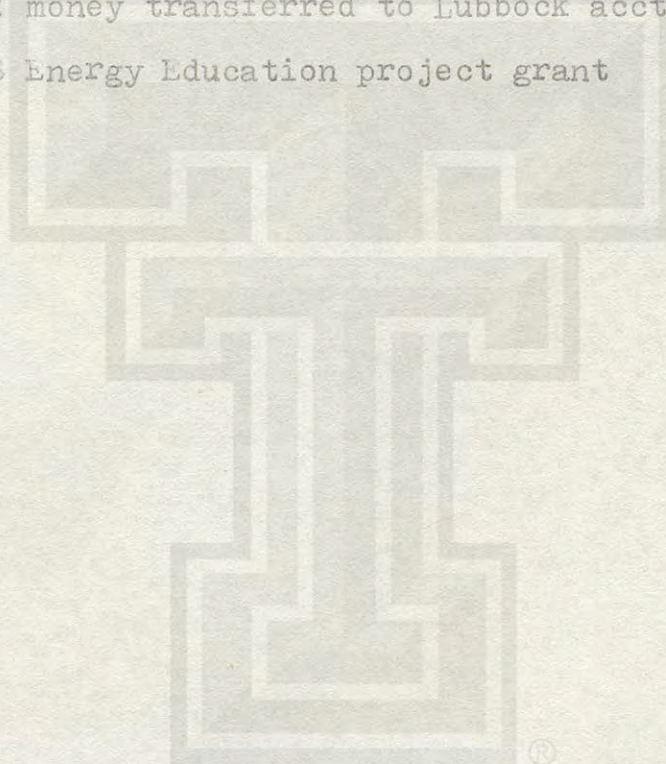
12/19/78

\$1400.00

333

///// x
 Chair

C
O
P
Y





JAN 23 1979

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RUTH J. HINERFELD

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Longboat Key, Florida
Nancy M. Neuman
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STAFF DIRECTOR
Martha T. Mills

January 19, 1979

Ethel Sturgis, Treasurer
LWV of Texas
3613 Wooten Dr.
Fort Worth, TX 76133

Dear Ms. Sturgis:

The enclosed LWVEF check transfers to the LWV of Texas the \$1500.00 supplemental grant awarded to your state's Phase II Energy Education Project by EXXON USA. Notice of this award was made to your state LWV president in a September 29, 1978 letter from Dotty Powers, National Energy Chair.

Since these are not federal funds, we are not asking for the same kind of complete documentation as we do for the DOE grant monies. However, the LWVEF does have an obligation to EXXON to be sure the funds are responsibly managed and used for your energy education project.

Therefore, we ask that the project treasurer keep a separate record of the project's use of the EXXON funds and at the end of the project we will want an itemized, signed statement of how the money was used, the cancelled checks by which the money was paid out and bank statements. The treasurer need not put the EXXON money in a separate bank account but merely keep a separate ledger sheet of transactions made with that money. Nor will we need to see the receipts for use of the EXXON money, but our business manager suggests that the best possible documentation be kept and if your League or we need it, you will have it. If, for some reason, the League does not expend all the EXXON money precisely on the particular project we have approved, it may be used for other energy education activities but not for general Leagues purposes, nor for projects on other issues, nor, most importantly, for action of any kind. We will still want a brief statement of how any remaining EXXON money is used.

If you have any questions, please call or write me at the national office, address and phone above.

enclosure

Sincerely,

Florence Chichester

Florence Chichester, Director
LWVEF Energy Education Program

cc: Pres., LWV of Texas
Pat Bruno
Pat Nickell



memorandum

JUL 29 1978

11:15 AM 8-9-78

July 1978

TO: State League Presidents cc: Jan W., Laura K. (proj. Superfund)

FROM: Dotty Powers, Chair, National Energy Committee

RE: Energy Education Outreach Program--Phase II

proj. DIR. - 18% of money

I am pleased to announce that the Department of Energy (DOE) has awarded the League of Women Voters Education Fund (LWVEF) a grant of \$183,775 to continue our energy education outreach program. As we stated in our proposal to DOE, "The League firmly believes that the understanding, support and cooperation of the American people are essential in dealing with the energy dilemmas that face us and that a public energy education program is the first step to achieving that goal." The aim of the first phase of the LWVEF energy education program was to inform as many League members and as much of the general public as possible about basic energy problems, the nation's energy outlook, and the energy alternatives or options that should be considered. That aim remains the same but the objective in the second year will be to reach a greater number and/or different groups of people.

PROJECT PROPOSALS DUE SEPTEMBER 20, 1978

Included in the new grant are funds for twenty state League energy education projects at about \$4000 each and a project workshop here in Washington, D.C. for representatives of those Leagues. WE ASK THAT INTERESTED STATE LEAGUES SUBMIT A PRELIMINARY PROPOSAL FOR AN ENERGY EDUCATION OUTREACH PROJECT TO THE LWVEF BY SEPTEMBER 20, 1978. Using the attached proposal form, briefly describe your League's plan for an energy education project and include a general budget. We know that you will plan to take advantage of the momentum and interest developed during the first year's efforts and that you will build on the programs and the materials such as conferences, slide shows, publications, brochures, etc., that were developed under the previous project. For example, were the programs and materials effective in design? Were they advertised and distributed as fully as possible? If not, how can you increase their impact and audience?

An integral part of the project proposal is a brief evaluation of the previous state League project under the LWVEF Energy Education Program. Consider the objectives established for that project and its relation to other state League energy education objectives. Was it successful? If not, what things do you think should be done differently in another project? We hope this evaluation will be your starting point in planning a project for the second phase.

In planning, you might want to consider using the print or broadcast media-- short energy programs or films for TV, TV/radio public service announcements (PSAs), newspaper ads, articles or energy supplements. Conferences or meetings can be good ways to inform and educate but also consider what interesting things you can do to attract enough people to make them really

July 25, 1978

effective. You are certainly not limited to any of the above suggestions. Be imaginative! Remember, however, that as we read your proposals we will be looking for three major points--1) that you have carefully considered the first project and have decided "where you should go from there"; 2) that the proposal includes plans to reach a larger or different audience from that which was reached before; and 3) that you consider the best and widest possible distribution of effective audio-visual or printed materials produced for the first project.

To help you in thinking about and planning your project, refer to the February 1978 Report of the LIVEF Energy Education Program, sent to all state Leagues in March. You may also find the enclosed copies of the final report of the LIVEF's Energy Conservation Technology Education Project and the November 1977 Energy Education Project Guidelines useful. (Updated guidelines will be sent when the project is approved.)

A CAVEAT: Remember that any grant coming from the LIVEF must be used for educational purposes only. You may not spend money for legislative action. In other words, LIVEF money cannot be used for lobbying or urging support for or opposition to particular bills.

SELECTION OF STATES

E. Colwell ✓
Details of your proposed project need not be worked out in this preliminary proposal. Since, however, these proposals will be the basis for the selection of the 20 state Leagues to receive grants, you will want to provide as clear an overall plan as possible. The 20 Leagues selected will be asked to send two representatives to the project workshop in mid-October at which time they will receive guidance and information that will enable you with their assistance to refine the proposal for final submission to the LIVEF.

THE FINAL PROJECT PROPOSALS FROM THE 20 SELECTED STATE LEAGUES WILL BE DUE IN THE LIVEF ON NOVEMBER 10, 1978. The proposals will be reviewed by the national energy committee at its November meeting and the committee's comments and suggestions will be sent to you shortly afterward. If at that time the state League and the LIVEF are in agreement, a check for half of the project funds and detailed project guidelines and accounting procedures will be sent to the state League and the project may begin. See the attached tentative project schedule for further project dates.

PROJECT WORKSHOP

The LIVEF will pay all expenses for two representatives of each selected state League to attend the above mentioned energy education outreach workshop, tentatively scheduled to take place October 18-20 here in Washington. Full details of the workshop have not yet been settled but further information will be sent to the selected Leagues and their representatives when arrangements are complete. Among other things, we do plan to discuss outreach methods and grant procedures. The workshop will be similar to others conducted here in October 1977 and January 1978 as part of the LIVEF's Solid Waste and Section 208 Water Quality Management Planning grants. Many of the League members who attended those work-

July 25, 1978

shops participated in the subsequent grant projects and found the workshop experience to be very useful.

CHOOSING YOUR REPRESENTATIVES--ONE THE PROJECT MANAGER

Of the two representatives you select to attend the workshop, one should be the person who will manage the state League's energy education outreach project. To protect the Education Fund's status this person must agree not to lobby on any energy issues and to accept a limitation on other lobbying activities while serving as project manager. It is also important that the project manager not be a current state board member who has many other demands on his or her time and who may be called upon to represent his/her League in a lobbying capacity, particularly now that the LNEUS has a national energy position. As in the first project, a stipend, probably about 10% of the grant, will be offered to every project manager as a small measure of compensation for the duties and responsibilities undertaken. *mgr*

The second national workshop participant could be someone who will assist on the project in some way (as co- or assistant manager, treasurer, etc.) or someone who is assisting in planning the project.

WORKING WITH OTHERS; SEEKING ADDITIONAL FUNDS

Even though the League is known for its ability to get extra "mileage" out of its funds, you may wish to augment your project funds in various ways--"in-kind" contributions, co-sponsorship of activities by other organizations, direct contributions, etc. We encourage you to seek such ways to make your grants go further and to extend your contacts and cooperation in the state. Be sure to let your state energy office know what you are doing and find out if they would be willing to provide assistance or even help finance activities. Many state Leagues were successful in the first phase of our energy education outreach program in garnering additional money and cooperation and we hope that those contacts will continue.

Several state Leagues might decide to work together on a regional project. This approach was suggested for the first phase but no states found it workable at that time. Such proposals would be gladly considered now. (They must, of course, be a joint product of the Leagues to be involved.) The amount of funding to be provided for a regional project, if selected, will be determined later depending on what the proposal intends to accomplish.

If your League solicits contributions and the donor wishes the money to be tax-deductible, remember that unless your League has set up its own 501 (c)(3) organization, the money must be donated to the LNEF and forwarded to the LNEF Office of State and Local Grants, earmarked for your state League. For further information on this procedure, refer to the LNEF publication, Guidelines for State and Local League Use of Tax-deductible Money (pub. #361, 15¢) or write Felice Sorett, Director of State and Local Grants.

July 25, 1978

We are certain that many of you will plan excellent phase II projects and we look forward to receiving your proposals. Three copies of this memo are being sent so that you may give one to each of your chosen representatives, should your state be selected, in addition to keeping one for the state League files. A copy is also being sent to every phase I project manager.

If you have any questions, please do not hesitate to contact the LMVEF energy staff at 1730 M St., N.W., Washington, D.C. 20036 or call Florence M. Chichester, Project Director, or Isabelle P. Weber, Energy Department Coordinator, at (202) 659-2685, extensions 310 or 230 respectively.

cc: Phase I Project Managers
National Board

- enclosures:
1. Proposal Form
 2. Tentative Project Timetable
 3. Final Report of the LMVEF Energy Conservation Technology Education Project
 4. November 1977 Project Guidelines

League of Women Voters Education Fund
1730 M Street, N.W.
Washington, D.C. 20036

(state)

PRELIMINARY PROPOSAL FOR A STATE LEAGUE
ENERGY EDUCATION OUTREACH PROJECT
(PHASE II)

Date:

State President:

League:

Address & Phone:

Address & Phone:

1. Workshop Participant (project manager):

Address & Phone:

2. Workshop Participant:

Address & Phone:

Evaluation of Phase I

1. Briefly, what were the objectives of the first state League energy education project?

2. From the state League's point of view, was the project successful in meeting those objectives?

a. If yes, what aspects contributed significantly to its success?

b. If no, why not? What, if anything, do you think should have been done differently or should be done differently in another project?

Description of Phase II

Describe your overall proposed project, including your plans to make full use of effective materials developed in the first phase and to increase your audience or to target certain groups. (Attach an additional sheet, if necessary.)

Timetable Give a brief outline of goals or activities you would plan to accomplish in each time period.

Nov--Dec

Jan--Feb

March--April

May--June

Budget Attach a general, proposed project budget

SEND THIS PROPOSAL BY SEPTEMBER 20, 1978 TO THE ENERGY DEPARTMENT, LEAGUE OF WOMEN VOTERS EDUCATION FUND, 1730 M ST., N.W, WASHINGTON, D.C. 20036.

July 1978

TENTATIVE PROJECT SCHEDULE

Preliminary proposals due in LWVEF	Wed., Sept. 20, 1978
Selection of 20 state Leagues to be invited to Workshop and to receive funding; Notification of state Leagues immediately afterwards, and Additional workshop information sent to participants.	East week in Sept.
Project Workshop	Wed.-Fri., Oct. 18-20
Final Proposals due in LWVEF	Fri., Nov. 10
Energy Committee Review	Tues.-Fri., Nov. 14-17
Committee comments and checks sent to state Leagues	Week of Nov. 20
Starting date for all state League projects	Mon., Nov. 27
Suggested completion date for all state League projects	Fri., June 1, 1979
Final reports of all state League projects due in LWVEF	Mon., July 2, 1979



Houston Dialogue - 1st Dec.

Laura

1. do nothing
2. West Tx. - nuclear waste disposal prob. -
Carlsbad, N.M.

3.



November 1977

JUL 29 1978

copy for Laura

LEAGUE OF WOMEN VOTERS EDUCATION FUND
ENERGY EDUCATION PROGRAM

Florence Chichester, Manager, LWVEF Energy Education Project
Isabelle P. Weber, LWVEF Energy Coordinator
Betty N. MacDonald, Chairman, LWVUS Energy Committee

Guidelines for Administering the
State League Energy Education Projects

I. General Instructions

A. Project Manager

By agreeing to and signing the letter of agreement sent to you by the LWVEF, you become the official Project Manager for your state League Energy Education Project. Unless a project treasurer is appointed by the League or yourself, you will personally receive and administer all funds. In any case, the project manager bears the ultimate responsibility to the LWVEF for the proper safekeeping, distribution and use of those funds. We will correspond directly with you on all project matters from now on; copies of our correspondence will be sent to your state League president. Be sure that you keep your president informed of all project activities and that you consult with your president on policy decisions.

Stipend

To compensate you for your duties and responsibilities, you will receive a stipend in the amount specified in your project budget. Although the stipend is a line item in your budget, the two payments will come directly from the LWVEF on December 1, 1977 and April 1, 1978.

Reports

You will be responsible for submitting three project reports, the last of which will be your final report. These are due January 15, 1978, April 1, 1978, and May 30, 1978. (Note: This is a slightly different reporting schedule than previously outlined in the letters of agreement sent to project managers.) Please submit your reports on time because we need your information in order to complete our reports to the Department of Energy (DOE.) The January and April reports should include: 1) a description of the activities your League has carried out during the reporting period; 2) a detailed outline of the upcoming period's planned activities; 3) your assessment of the effectiveness of the activities to date; and 4) a brief accounting of grant funds spent to date. Also include samples of media coverage and other information produced for or pertinent to the energy education project. (See Section on Printed and Visual Materials.)

The final report must be submitted no later than May 30, 1978, earlier if possible. This must include an overall description and evaluation of the project. As soon as possible following the end of the project, but no later than July 31st, please send in a final financial report on the use of your project funds.

B. Permissible Use of Project Funds

FIRST AND FOREMOST: UNDER IRS REGULATIONS, ANY GRANT COMING THROUGH THE LWVEF MUST BE USED FOR EDUCATION PURPOSES ONLY. You cannot spend money for legislative action--lobbying or urging support for or against a particular program or bill. Nor can grant money be used to reach positions upon which action will be based (that is, not for an energy consensus meeting!). LWVEF money can be used, however, for explaining the differences among bills or issues raised by a bill, if handled in a careful and impartial way.

The federal government has strict guidelines on use of federal funds. These are spelled out in detail in the DOE grant for energy education to the LWVEF, but we are outlining pertinent information here. In general, all reasonable costs for planning or carrying out the grant activity are allowable, including the following:

- project planning costs
- actual project costs
- rental of office space, typewriter, etc. (NOTE: you cannot purchase a typewriter or other office equipment. Technically, anything purchased with federal funds belongs to the federal government.)
- supplies (e.g., paper, typewriter ribbons)
- duplicating, postage, telephone
- printing (see below)
- kit materials
- personnel expenses (including stipend for grant manager, secretarial services, speakers' fees)
- arranging tours or field trips
- travel-related expenses including transportation (tourist or coach class if available,) food and lodging. Room service, phone calls and other personal business conducted while on travel cannot be reimbursed, however. Single room accommodations are not allowed for persons other than speakers. Any other person desiring a single room must pay the difference in rate.
- expenses related to a meeting, including meeting space and equipment rental. Food served at a meeting may only be charged to the project if business is conducted during the snack or meal. Alcoholic beverages cannot be purchased with grant funds.
- promotion for grant activity (e.g., advertising, press releases)

Prizes

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C. Printed and Visual Materials

Before printing any publication with grant funds, please send us a copy for review. Due to IRS tax regulations, WE MUST REVIEW YOUR DRAFT PUBLICATIONS PRIOR TO PRINTING. We also need to review draft slide-tape show scripts, agendas for public meetings, information on talks or speeches, and, if you have it, an outline of the remarks. We will notify you within 2 weeks of receipt of your draft whether or not you can go to print, or production. Be sure to visibly identify your publication and/or slide-tape show as a publication of your League. Various LWVEF publications from the national office can provide a guide as to the most appropriate space and emphasis for the League identification.

Credit to the LWVEF and the DOE should appear on material produced with federal grant funds. The following wording is recommended: *This publication/ film/ slide show has been financed (in part/entirely) with funds from the League of Women Voters Education Fund and the U.S. Department of Energy (DOE) under contract EC-77-G-01-6097. The contents do not necessarily reflect the views and policies of the DOE nor does mention of trade names or commercial products constitute endorsement or recommendation for use.*

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For example, you may print 4,000 copies of a six-page publication, because there will be only 4,000 copies of any one page and a total of 24,000 printed pages in total (4,000 copies x 6 pages.) However, you may not print 4,000 copies of an eight-page publication since there would be 32,000 printed pages (4,000 copies x 8 pages.) This would exceed the 25,000 printed page limit. Similarly, you may not print 6,000 copies of any publication regardless of its length since that would exceed the 5,000 copy per page limit. Please include with your final report to the LWVEF or with the interim project reports, if finished, three copies of any publication you have produced with federal grant funds.

D. Media Coverage

The public relations component of your project may vary with the needs of the various activities. However, you are encouraged to include either your League public relations person, or another person with public relations skills on the project's planning committee. Good publicity and good public relations in connection with your grant activities should be pursued whenever possible. With your letter of approval, each project manager was sent a set of 5 public relations factsheets published by the LWVUS to assist you in this aspect of your project. If you would like more factsheets, let Florence know and she can send you a limited quantity.

When you send us your project reports, please include samples of press releases, flyers, publications, newspaper or magazine articles, conference or meeting agendas, and any other materials produced for or information pertinent to the energy education project.

August 10

to Betty and Laura

From Donna Green via Joann and the phone

A couple of things Donna wanted the writer of the energy videotaping proposal to be aware of:

1. Put into the budget an amount for transferring the end product taping (which will PROBABLY be on 2" video tape) to 3/4" tape. (videotape).
2. This amount probably will not be much. Check with TV station & George Warmingham.
2. Put into the budget an amount (about \$30.00) to buy another tape -- this will add to the LWV tape library at the grant's expense -- and probably fit easily into the \$4000.

The original tape (the 2" one) will probably belong to the TV station, so League will need to plan for purchase of one.

3. Put into budget an amount to pay travel expenses for the TV crew if this is a regional project.
4. Put into budget an amount for LD phone calls X if this is a regional project.

After Donna talked with both of you here on Wednesday, she spoke with George and he'll be glad to work with you in Lubbock. He'll get in touch with someone in Lubbock after Aug. 28. That's when he goes to Lubbock

Julie - \$50⁰⁰

Wash

Alouq

Carlson

Midland

Amisell

SuperCats -

7 to 1

1835

580 TAPe

10% Proj Finder

®

12-15-78
Pres. copy
Return to Anderson

LEAGUE OF WOMEN VOTERS EDUCATION FUND
ENERGY EDUCATION TRAINING CONFERENCE
OCTOBER 18-20, 1978

Abridged Minutes

Wednesday, October 18

12:30 p.m. Registration began; office tours were conducted for interested parties.

2:00 p.m. Powers opened the conference with remarks and introductions of Hinerfeld, Hentges, Mills, Energy department staff, and Bart McGarry and Richard Stone of DOE.

✓ Marcia McDonough, LWVUS/EF Organization department: "How the Left Hand Knows What the Right Hand is Doing and Thank God for the Ambidexterous."

Detailed what the national office of the LWV does and how the LWVEF and LWVUS differ. Explained that the LWVUS is a 501(c)4 organization because a significant amount of funds are expended on lobbying; therefore it is not a tax-exempt organization and contributions are not tax-deductible. On the other hand, the LWVEF is a 501(c)3 organization, which does no lobbying and presents only impartial information; therefore it is tax-exempt and contributions are tax-deductible.

✓ Metaphorically, the Education Fund (est. 1957) is the "good right hand" and the LWVUS is the "stout left fist."

McDonough then narrated a tour around the national office, describing the departments which are solely LWVEF (Energy, Land Use, Environmental Quality, Education Fund director and her staff, Government/Voters' Service, Human Resources, State and Local Grants, Cities/Urban Crisis and International Relations), those which are solely US (Legislative Action, Litigation, Equal Rights Amendment) and the ambidexterous, i.e. those which work for both US and EF (Editorial, Mailroom, Publication Sales, Accounting, executive offices, Central Files, Organization, Personnel, Research and Development, Reference Service, Public Relations, and Convention).

Powers gave a brief background of the Energy Education Program, outlining the formation of the LWVEF Energy Task Force in 1974 and the three-pronged project, funded by the Energy Consortium, begun in 1976: the publication of Energy Options and Energy Dilemmas, the 1977 National Energy Conference, and the \$500 seed money to all state Leagues, Puerto Rico, the District of Columbia and the Virgin Islands to undertake energy education activities. She described how DOE (then ERDA) piggybacked onto the education activities with the Phase I grant, and how Phase II is a continuation of this cooperation of business, government and citizens to help develop energy awareness. She described the mutual benefits resulting from this cooperation: LWV work is enhanced with funds provided by government and business, while those two see the LWV as a reputable, credible local network. Finally, Powers laid out the goal of the 1978 Training Conference---to build on Phase I experience, and to use it and the new monies in the most effective manner.

- 2:30 p.m. Dr. Lawrence Stewart, Director, Office of Education, Business and Labor Affairs, "Energy Policy and the Importance of Public Awareness Activities in Its Development." Stewart praised the League and similar organizations for their efforts in developing grassroots support for a national energy policy. Dr. Stewart described DOE as facilitators, but said that the government must rely on groups such as the League to carry the energy message to the people. Message to be conveyed is two-fold: first, in order to reduce the amount of oil which the US imports we must all conserve, and second, the future, at this point in time, seems to depend on solar energy.
- Q & A
- 3:15 p.m. Break
- 3:45 p.m. Judy Liersch, Director, Energy Extension Service, "Energy Extension Service: Origins and Programs." The purpose of the EES is outreach. Its focus is on individuals' options in light of the energy dilemma, and their concerns, such as rising costs and shortages. EES plans to offer information and direct technical assistance tailored to need and designed to help citizens make informed energy choices. Works through states and tries for a personalized approach. EES spawned in Congress. Ten states were picked by competitive selection from among fifty solicitations. Each of the ten received \$1.1 million for an 18 month period. The other forty states were given \$10,000 observer grants to hire a "contact person" to monitor the pilot projects.
- Liersch described some of the projects being conducted in the pilot states (Washington, Wyoming, New Mexico, Texas, Michigan, Wisconsin, Alabama, Tennessee, Connecticut, and Pennsylvania) such as workshops, energy audits, conferences and hotlines. She emphasized that the EES program has special features which differentiate it from other government programs:
- 1) the unique federal/state relationship which encourages flexibility and autonomy for each state, enabling it to tailor information and services to its particular needs.
 - 2) the focus on small groups for clients and on small technologies, individualizing services and using existing organizations for outreach efforts.
 - 3) the emphasis on information sharing, not only between the federal administration but also among the pilot and non-pilot states, to allow each to benefit from successful and unsuccessful experiences.
 - 4) the attempts to maximize the effect of the program managerially with personalized service, specific target groups and servicing citizens not reached by other programs.
 - 5) the study of barriers to conservation: analyzing excuses, collecting data and presenting it to decision makers. Examining the reasons behind energy waste, emphasizing that problems exist at local and state levels and should be solved there.
 - 6) the program evaluation--studying 19 projects from the 10 states to gauge how much and what kind of impact there has been on client attitudes and behaviors. Results to be used to aid EES programs in setting up successful outreach projects.

Operational Features of Pilot EESs:

Managerial Techniques--Various projects were administered by state energy offices, by universities, or by a combination of the two.

Client Groups--Some projects focused on the overall population, some on specific target groups (such as citizens in a given geographic area), and some mixed the overall and target approaches.

Services Offered--all states offered audits, hotlines, seminars and workshops. Other services varied by state and included car care clinics, solar greenhouses in New Mexico, collaboration of the Wisconsin EES and Goodwill and the Community Development Assos. to provide free insulation to low-income families, building energy analyses, workshops for engineers in Texas and boiler audits in Alabama. Some programs appear to be self-sustaining on a fee basis.

The EES will not go nationwide until, at the earliest, March 1979, because the congressional appropriations committees stipulated that they see the pilot evaluations before funding the other forty states. Evaluation reports will go to Congress in mid-February, after statistical data is compiled in mid-January. These reports will measure impact but not the reasons why the programs have impacted. The reasons are expected to come out in June 1979.

Preliminary conclusions of EES about the first year: Expect project to take at least eight months to get off the ground. It is important to focus on the individual and on specific topics and needs. Provide technical assistance, consumers are more sophisticated and are asking questions which require technical expertise to answer.

4:40 p.m.

Final messages were given and the group was adjourned.

5:30 p.m.

Groups of eight or so, led by staff or committee person met in lobby of Jefferson and proceeded to dinner.

7:30 p.m.

Mr. King Hubbert, speaker at an Office of Technology Assessment (OTA) seminar on the subject of "Exponential Growth as a Transient Phenomenon in Human History." (An outside activity to which the conference participants had been invited.) Hubbert is a renowned geologist, and gave a lecture on energy based on his geological insight. He emphasized that the world is a closed system--i.e., it has a limited amount of resources and materials which continually circulate in various forms. Using a chart to demonstrate the sources of energy on earth he pointed out that the largest source is solar (five times more than all other forms). Thirty percent of solar energy reflects off the earth and is lost as far as our utilization of it for energy, 47% heats the earth and 23% is used to circulate water and air. Only a small percentage is used for photosynthesis by plants, which become fossil fuels, currently providing 90% of our energy. (Obvious point, we should switch to this more bountiful resource.) He then demonstrated how recently we came to depend on fossil fuels and how rapidly they are being used up (utilization rising exponentially). Projecting from current growth rate it becomes obvious that there is no way earth can yield the amount needed for the future indefinitely; moreover, exhaustion of fossil fuels could be relatively soon. Hubbert claims, however, that our energy demands will not continue to rise at this exponential rate, but will level off to a new plateau--"the optimal level under favorable conditions." He makes this prediction based on population studies which show that a plateau is reached when reproduction is occurring at exponential rates of growth. Ergo, exponential growth is only a transient phenomenon.

Hubbert's point, therefore, was two-fold: that we should start relying on solar energy, and that we need to think about and plan for a gradual decrease in energy demand so that it can be a transition by rational and orderly means, creating a new social order of peace, not one which is brought about by crisis and catastrophe.

Thursday, October 19

9:00 a.m. Announcements

9:15 a.m. Panel on Energy Education: Liliane Webb, Alliance to Save Energy
Helen Carey, National Science Teachers Assn.
Sherry Saunders, Americans for Energy Independence
Judi Hampton, Mobil Oil

(Each panelist discussed her organization's energy education efforts.)

Webb--Alliance has suffered from lack of people power, defined objectives and funding since its meteoric inception. Staff (6) and budget are small. Only committee on residential conservation has been active. Efforts have been concentrated on public education: producing a booklet, 101 Ways to Save Energy, developing a feature service for papers on conservation activities for individuals (15 million readers), conferences and workshops.

Carey--reviewed NSTA's Energy Enriched Curriculum Project which is funded by DOE and involves interdisciplinary student/teacher materials on energy, the environment and the economy covering grades K-12. They are developed by teams of teachers, usually two science and two social science, and cover overarching energy concepts that students should know by the 12th grade. These units or packets are infused into other classroom subjects and are activity-oriented. Example: for civics, an energy packet, "How a bill becomes a law to conserve energy", has been developed. She also mentioned some of NSTA's other energy-related publications--the Sourcebook, an Energy and Education Newsletter and the Factsheets. She gave two addresses for those wanting the publications:

(for teacher's kits)
Technical Information Center
US Department of Energy
Box 62
Oak Ridge, TN 37830
(no charge)

(other materials)
National Science Teachers Assn.
1742 Connecticut Ave. NW
Washington, DC 20009

Saunders, Americans for Energy Independence, spoke of the work that Project Pacesetter is doing in Allegheny County, Pa. That project is trying to involve the entire county in energy conservation through workshops, newsletters, symposia, publications, and so on. Funds for this effort have come from a variety of sources including many in-kind contributions. AFEI now has a DOE grant to develop a pilot energy conservation program for union members in Massachusetts. Saunders also discussed their publications, particularly the newest, Farm to Table: the Food-Energy Link.

Hampton, Mobil Oil, demonstrated the company's model weatherized house and gave the corporate perspective towards energy education. She said that citizen groups such as the League are necessary because they are the ones who really come in contact with people and show them the "why" and "how to" of energy conservation. Her tips for convincing the public included: emphasizing the economic gains that would accrue from energy conservation for them personally; practical, "hands-on" information about insulation, caulking, etc.; looking to industry for free publications and speakers on both the general and specific energy issues. She stressed that we would find industry very helpful for it is in their interest to cooperate in this effort.

10:30 .m. Break

11:00 a.m. "Energy Education--What We Have Learned," brought together three Phase I project managers to discuss successes and problems of the first year. Before the panel discussion the Wake County, NC slide show was shown and the Pennsylvania PSA viewed.

Fran Keiffer, LWV of Virginia project manager:

Project: library kits containing selected energy materials and a bibliography donated to all Virginia public libraries.
Good contacts made, public relations enhanced for LWV generally.
Contingency funds important for unanticipated expenses.
Ask to see rules and regulations of a bureaucracy (e.g. post office) before you deal with them.
Check with sheltered workshops for inexpensive help in assembling materials.

Carol Holm, LWV of Ohio project manager:

Project: five regional workshops and local League passthrough projects.
Passthrough used so that projects could be tailored to the community's needs.
Project reached rural and urban in different ways.
Fairs useful in large population centers (Cleveland four-day fair drew 16,000).
Timing/location of fairs important in order to attract maximum audience.

Jenny Younger, LWV of Montana project manager:

Project: energy puppet show.
Frustrations of success, not enough womanpower to meet all requests.
Easier to change children's habits than adults'.
Designed classroom puppet kit which is more manageable than large show--if she had known they would be so popular she would not have bothered with the large show.

12:00 p.m. Break for lunch.

2:00 p.m. David Bartlett, WRC Radio News, "What Makes a Project Newsworthy?"

Definition of news: new information of interest to a large number of people.

Five basic suggestions:

- 1) Know the format and market of media you are approaching--who you want to address and how best to do it. Be sensitive to what the paper/station does, who 'its' audience is. Will allow you to speak credibly to manager.
- 2) Know your people. Get media contacts. Know who handles hard news, PSAs, etc. at the paper/station. Watch big stations, they break up responsibility, go to the right person. News Director rarely handles PSAs.
- 3) Know your media, i.e. which is large/small. Go to big stations first, better use of time and reaches a larger audience.
- 4) Know your material--design it for the media you are using. Find out what kind of mechanical or physical requirements the outlet you are using has. News releases should contain information, hard facts; do not spend time on writing style for a large station because it will undoubtedly be rewritten. Small stations will appreciate prepared copy. Know the rules of a station--taped or written, time format (small stations may want taped, large rarely do). Know that your goal is to get your message on the air, whatever way you can.
- 5) KEEP IT INTERESTING--intrigue the contact person with an angle, put it in human terms. Address inquiry, tape, etc. to someone in particular--not just "News Director", make it look personal, hand-typed. Craft copy in terms of what information will be interesting to the ordinary person and the media specialist.

Recommended reading--The Responsive Chord.

If you hold a press conference make sure it is newsworthy; anticipate news deadlines and plan for a convenient time and place for reporters.

Consider market, size and type of media, packaging of product.

Madelyn Bonsignore, LWV Editorial department and Nancy Thompson, LWV Public Relations department, talked about publicity from different perspectives. They echoed many of Bartlett's themes, emphasizing the need for planning and marketing publications.

- | | |
|-----------|--|
| 3:15 p.m. | Break |
| 3:30 p.m. | Participants broke into three workshops-- <ol style="list-style-type: none"> 1) Developing and producing publications. 2) Developing and producing slide shows, films, and PSAs. 3) Planning and managing a conference. |
| 5:00 p.m. | Adjourned for wine and cheese. Evening free. |

Friday, October 20

- | | |
|-----------|--|
| 8:45 a.m. | Announcements. |
| 9:00 a.m. | Lloyd Leonard, LWVUS Legislative Action Department, "Briefing on Energy Legislation." Reviewed the five bills and conference reports that make up the National Energy Act (NEA) package: |

Natural Gas Policy Act of 1978
 Power Plant and Industrial Fuel Use Act of 1978 (Coal Conversion)
 Energy Tax Act of 1978
 National Energy Conservation Policy Act (NECPA)
 Public Utility Regulatory Policies Act of 1978

In addition, he discussed and answered questions on a number of other energy bills: the Solar Energy Bank, solar satellites, Clinch River Breeder Reactor, nuclear waste disposal and power plant siting and licensing.

10:15 a.m. Break

10:30 a.m. "Grant Management."

Powers--"Grant Guidelines and Restrictions."

State League and Project Manager Responsibilities: Close communication and cooperation essential; project is overall responsibility of state LWV with the operational authority generally vested in manager; manager should regularly report to state board or state president; LWVEF prefers that board appoint one member to be board liaison with project and thus be the person to whom the manager reports.

Project Funds: will be sent to the state LWV in care of the state treasurer; state board and treasurer determine who will handle funds; discreet records of project money must be maintained--perhaps even a separate bank account should be established.

Overhead Line Item: LWVEF recognizes that projects of this size generate administrative costs which are intangible in nature; therefore, LWVEF would like to establish a fair overhead figure (percentage of project funds to be paid to state LWV without need for line item accounting; percentage amount not established at workshop, will be sent to Leagues ASAP (approximate figure--8%).

Final Proposal Form--reviewed the form which project leaders will complete and discuss with state board.

Miscellaneous: LWVEF asks that project manager not be a lobbyist in energy or other area; LWVEF must review materials prepared by project before publication.

Chichester--"Grant Guidelines and Accounting Procedures."

Explained basic need for accurate and complete records of all project expenditures and supporting documentation; reviewed draft of project expense vouchers; explained basic accounting procedures; covered major DOE restrictions--prohibition against DOE-funded prizes and limitations on project printing.

Chichester and Powers answered questions and discussed in more detail the guidelines which participants need in order to submit their final project budgets.

12:00 a.m. Final wrap-up and review, farewell.



barber blue sea

3-13-79

Ils. Chichester -

Sat - Mar - 25 -

26th

← ~~Sally~~ →

Frank Schantz - Melendy
Tex. Util.

Marjorie Wilson Wesson

Homes Industrial Forum

Trade
Assn.

pearl user -
Util. Reg. Co.

Audio/Visual Serv.

Produced

Productions - Area

← →

Barknell, Jim Smith

Out Ridge - Proj Salt Vault

Energy Ed Stationery - Project I



barber blue sea

Sampler -

Sardin

Jeff Nathanson - SW

John Gordon - FEAC

opposition hideous

Sardin - Robert Johnson -

(trump PRG)

✓ Containment

Shielding

herding

prevention of accidents

Los Alamos - dumping

low level -

Los Alamos - sludge - storage

in csg H₂O

water treatment - treat

our plutonium

Low Level Waste[®]

Don Schuler - WBP Steel

Long Issue Coherent

Cozy 7ers.

Graben Foster Los Alamos

nuclear physicist

Healthy worker syndrome

Melby ^{at} ^{on} Survival - Austin
Piltz nuclear Moderator
Radiation Review group

Reese - Austin

Bennie Cohen, Denver

Jerry Lase

what is game

Hamilton, others Gary
Wash DC.

Tom Cochran - ~~at~~

multi Barrier concept

Farriss Schmidt, N.M. Enrich

* state issue - forcing state
into making that decision

TRAC

Com. Kennedy reg. con NRC.

Bar of Eng Geology - UT Austin
Bill Fisher
Lundall Co.

Martinez Woulch
Radiation Safety - TX.
Source

Trump
Vito Farnes -
Integrity of Site (Host)
get in bro)

NOV 10 1978

Anderson

DESCRIPTION OF PHASE II PROJECT
Nuclear Waste Disposal Documentary
League of Women Voters of Texas

The purpose of this project is to produce a 60 minute video tape documentary in cooperation with KLBK-TV, Lubbock's CBS affiliate, in order to examine the questions and controversies surrounding nuclear waste disposal as it affects Texas and New Mexico.

This documentary will examine three prongs of the nuclear waste issue: public fears, emerging policy and legislation, and proposed methods and costs of waste disposal/storage.

The program format will include interviews with Carter nuclear policy architects, regional nuclear energy advocates, representatives from the energy industry, environmentalists, and area consumer protest groups or their representative views. It will also include the impact of recent proceedings from public hearings conducted in Midland, Amarillo, and El Paso, Texas, over proposed nuclear disposal sites in Texas and a major Waste Isolation Pilot Project (WIPP) site in New Mexico. The documentary will further examine the risks and safeguards being considered in the transportation, temporary storage, and long-term disposal of nuclear waste material.

The project will include cooperative activities with the state of New Mexico, which is planning a nuclear waste publication and conference. Our joint efforts would involve shared consultant resources, review and contributions to the publication draft, participation in a nuclear energy conference with New Mexico resulting in potential raw video footage and increased distribution outlets for both states.

Documentary production will be under the supervision of production director Victor Palit and the program will air on Channel 13, KLBK-TV, in the spring of 1979. Video copies will be made available to local Leagues through the state offices. Information on the documentary for local TV promotion will be available

to Leagues in Abilene, El Paso, Midland, Odessa, Amarillo, and all cities within the proposed transportation routes of nuclear waste to Carlsbad. Copies of the tape will be offered to the Public Broadcast Service with its 200+ stations in the national network; a print of the program will also be available to any broadcast station to air on a non-commercial basis and to educational and cultural institutions in Texas and New Mexico.



BUDGET FOR NUCLEAR WASTE DISPOSAL DOCUMENTARY

<u>STIPENDS</u> for project managers (10%)	\$ 550.00	
		\$ 550.00
<u>TRAVEL</u> (includes low air fares, food, lodging, and car rental)		
Houston --three days, three people	475.00	
Austin--(2 trips) 3 people, 3 days total includes air fare & mileage @ 17¢ mile	330.00	
Midland--150 miles @ 17¢ mile, one day, three people	50.00	
Amarillo--125 miles @ 17¢ mile, one day, three people	50.00	
Carlsbad, N.M. --three people, two days 215 miles @ 17¢ mile	320.00	
Albuquerque, N.M.--three people, two days, includes air fare at \$174 for all	410.00	
Washington, D.C. # 1 (completed)	110.00	
Washington, D.C. # 2 two people, three days	940.00	
Consultant conference with state energy chair Laura Keever: air fare, Houston/Lubbock/Houston	100.00	
		2,785.00
<u>OVERHEAD</u> (postage-\$25; Xerox-\$25; phone calls incl, long distance-\$500; and supplies-\$25)	575.00	
		575.00
<u>PRODUCTION COSTS</u> letter contract with KLBK-TV for 25 % of grant as costs for:		
Graphics	100.00	
Tape costs, editing, dubbing	580.00	
Equipment rental	520.00	
Promotion & publicity	200.00	
		1,400.00
<u>HANDLING COSTS</u> in State League Office and tape distribution costs	190.00	
		190.00
TOTAL		\$5,500.00



Project Schedule/Timetetable
LEAGUE OF WOMEN VOTERS OF TEXAS
NUCLEAR WASTE DISPOSAL PROJECT

Project Description	November	December	January	February	March	April	May	June
RESEARCH & DEVELOPMENT								
-Review of literature								
-Request & collect stock film video clips								
-Arrange raw footage shoots								
-Establish periodic consultant review								
-Script outline and development								
TRAVEL								
-Intvs., consult, public hearings Austin								
-Intvs., conslt., seminars, site video--Houston & Carlsbad								
-Intvs., gen. video, nukes cover-Albuquerque								
-Cover, consult, site video--Midland & Amarillo								
-Intvs.--W.D.C.(tentative)								
PRODUCTION								
-Raw Video, major footage								
-Transfers, working print, re-shoots, first edits								
-Scripting, narration, musical score, graphics production								
-Final edits, master edit,								
-Release print, dubbing								
PROMOTION & DISTRIBUTION								
-News coverage of grant init.								
-Develop promo. channels in Abilene, El Paso, Amarillo, Midland, Odessa, Carlsbad, Clovis, (and all transportation route sites)								
-News coverage of documentary completion and availability								
-Dubbing & distribution of release print								
LEAGUE EDUCATION FUND PROJECT REPORTS								

MAR 2 1979

League of Women Voters of the United States 1730 M Street, N.W., Washington, D. C. 20036 Tel. (202) 296-1770



memorandum

February 27, 1979

TO: State EQ or NR Chairs (Memo only to State Presidents)
FROM: Hester McNulty, Natural Resources Coordinator
RE: LWVUS Comments on EPA's Proposed Hazardous Waste Regulations

Enclosed is a copy of the LWVUS comments on EPA's Proposed Hazardous Waste Guidelines and Regulations, as well as a copy of the Regulations. We regard EPA's proposed Hazardous Waste Regulations as a high priority item. I will present the LWVUS statement at EPA's public hearing on March 7 in Denver.

Our comments principally address the exemption of generators that produce less than 100 kilograms (220 lbs.) per month of hazardous waste and the standards for siting hazardous waste disposal facilities. A number of other issues are also examined, but in less detail.

The deadline for comments is March 16, so there is still time for your state League to develop a statement if you have not already begun working on one. You may want to focus on specific state concerns that are in line with state and national positions. If you do comment, you should send your letter to: John Lehman, Director, Solid Waste Management Division, Office of Solid Waste (WH-565), EPA, Washington, D.C. 20460. We also would appreciate receiving a copy of your comments, sent in care of the EQ department. If you have any questions, please contact Connie Weis O'Mara at (202) 296-1770, ext. 284.

A Congratulatory Note:

I was a panelist at a Water Quality Conference in Denver two weeks ago, attended by most of the state 208 Directors. The number of compliments expressed for the water quality work of the state and local Leagues was nothing short of impressive. I knew all the time you were out there, but it was really brought home to me how much you are accomplishing. I believe the League has been one of the most influential forces in water quality planning and management.



Texas

League of Women Voters
Education Fund
1730 M STREET, N.W., WASHINGTON, D. C. 20036

MAR 12 1979

March 9, 1979

Linda Archer, Treasurer
LWVTX Energy Education Project
Rt. 4, Box 16257
Subbock, TX 79413

Dear Ms. Archer:

As the administrative assistant for the LWVEF Energy Education Program I check the vouchers received from state League projects for accuracy and correct documentation of expenses. I can sympathize with your problem of educating Pat Bruno and Pat Nickell to ~~keep~~ track of and retain receipts for their project expenses. However, it is necessary that expenses be documented according to the accounting procedures guidelines (November 1977), sent to Pat Bruno in the project start-up mailing of December 6, 1978 (copy enclosed). Please supply original receipts for all expenses of \$5.00 or more, except automobile mileage. If receipts are unavailable, or several small expenses accumulate, then an itemization of the expenses, on official stationery, dated, signed by the payee and authorized by you or the project manager, is acceptable. LWVTX vouchers 1-10a are exempted from the standards outlined above because they have already been submitted to the LWVEF.

In the batch of vouchers I received from you there were no vouchers numbered 6 or 9 and two that were numbered 10. Please advise me of the whereabouts of 6 and 9, if any. To distinguish between the two number 10s I changed the one for \$206.55 to "10a".

I am returning the green and yellow copies of vouchers 10 and 10a; they were still attached to the LWVEF copies, the pink and white. The payee should retain the yellow copy; the green is for the state LWV project records (see Nov. 1977 guidelines enclosed). Thank you for your assistance in clearing up these matters. If I can assist you please feel free to contact me.

Sincerely yours,

Ann Weninger, Assistant
Energy Education Program

enclosure

cc: P. Bruno
Pres., LWVTX

C
O
P
Y

Texas
MAR 9 1979

March 6, 1979

Ethel Sturgis, Treasurer
LWV of Texas
3613 Wooten Dr.
Fort Worth, TX 76133

Dear Ethel:

C
O
P
Y

Enclosed is a check for \$2,000, the final advance to the LWV of Texas for the Energy Education Outreach Project. Pat Bruno, the project manager, urgently requested the final advance in a phone conversation I had with her earlier this week. Please process the check through your books and send the funds on to Pat Bruno as soon as you possibly can. Pat impressed upon me the need to have the funds quickly and I ask you to do what you can to expedite the matter.

Thank you.

Sincerely,

Florence Chichester
Director
Energy Education Outreach Program

enclosure

cc: P. Bruno
Pres, KWV TX



2.28/79

- June Neely -

In your hearings, the term "concurrence of the state" is used in reference to the Carlsbad WIPP site. We would like to know your definition of "concurrence" and the steps by which this concurrence will be reached. We would also like to know your definition of "the state"; does it refer solely to New Mexico, or to New Mexico and Texas which in the instance of the Carlsbad WIPP site are geologically one unit.

League of Women Voters, Odessa, Texas

Would you please identify the sources for your answer/answers. Also, the name of the person making the response.

Concurrence - Don't disagree violently

VM

®

14 hrs. raw footage -
Script -

Need anti-nuclear
SW Res < Jerry Lee -
Tom Cochran -
+ Ingo Center Dr. Pahl -
Albuquerque.

Sun. night - then Wed.

N.Y. { Freak Shants - TV ^{politics} _{Sci. fic.}
Marge A-V Consultant
Atomic Industrial Forum
S.C. - spent fuel rods
Richland - Wash next day - Hanford
↓
for fuel waste.

Lennis Harph -
Ch. 3 - Media -
Script Maud
Start editing in April -

bcc: Catherine and Laura,

June wrote asking what was wrong with their 3rd point. She said she thought the League had agreed that the Tx. water plan was a good idea--or desalination of water for use was a good idea. She also said that Catherine's only comment was to ask if they had the Water Resources of Ward County pub. She indicated that noone else had even acknowledged receiving her letter, and that it felt like talking into a vacuum. BA

[REDACTED]
Lubbock, Tx. 79416
5 February 1979

June Maylor
[REDACTED]

Dear June,

Since my last letter was penned at the beauty shop while I was having my hair cut, I decided I should be "leaguelike" and send everyone a carbon with this one.

When I said that your third point was not necessarily within League policy, it was based on these 3 water and land use positions found in "the support", the state program flyer:

- . development of adequate water supplies to be achieved by ecologically and financially sound means and as a result of a long-range water plan for Texas, and to be accomplished through such measures as conservation, re-use, and increased research into the wise and efficient use of the state's land and water resources;

- . use of present water supplies to afford protection for the land and fragile ecosystems;

- . growth and development of an area to be compatible with the degree of availability of essential natural resources in that area.

Since importation of water has not yet been found to be ecologically and financially sound, we have not endorsed the idea. Although we have commented on the Texas Water Plan and the 1973 Contingent Water Resources Planning and Development for Texas (the latter blue books), we have not taken official actions of support or opposition on the entire documents. Good luck in your efforts.

Sincerely,
Betty Anderson

cc: Ferrine
Keever
Wilbur
Gaubatz
State Office

®

FEB 5 1979

9 February 1979

Dear Betty,

It was good to hear from you.

You say number three doesn't agree with league policy?

Sorry, we were trying to stay within league policy.

What is wrong with it? We thought the league had agreed that the Texas water plan was a good idea--or desalination of water for use was a good idea.

Or is that what is wrong with number 3?

Catherine Perrine's only comment was to ask if we had the book "Water Resources of Ward County, Texas. No one else has even acknowledged receiving the letter. It begins to feel like talking into a vacuum.

Talked to Don Schuller (WIPP Project Foreman in Albuquerque, New Mexico) today. He said that he had no satisfactory answer from Washington and that their legal council was still working on an answer.

Schuller did volunteer to send Mark White copies of the file to the New Mexico Attorney General concerning all their discussion about liability.

We finally identified the legislative committee we're after--The Texas Energy Advisory Council. The governor's office gave us a partial list this morning and are going to send us the complete list of the membership next week.

Thanks for writing,

Jane Naylor

N
CP
JW
LK
PK
SO
mw

®

[REDACTED]
26 January 1979

Laura Keever
[REDACTED]

Dear Laura Keever,

The LWV of Odessa is currently trying to identify the Texas legislative committee that we were asked about in Hobbs 4 January 1979. Collin Heath, a member of the DOE, asked us if we were aware of the committee of the Texas legislature that "is being kept aware of the WIPP site". We asked him if he knew who was on it and he did not know. We have asked our state representatives--Jay Gibson and Richard Slack to find this information for us, but neither of them have been successful to date. Also John Hostenbach, our former representative, was unaware of the identity of this committee.

Could you illuminate this mystery?

What legislation concerning nuclear waste disposal is being discussed?

I suppose by now you are aware of our concern for the water aquifers of southeast New Mexico and southwest Texas posed by the WIPP site proposed for Carlsbad, New Mexico.

With the hope that I am not repeating information you have already heard or read. I will send you the materials and information we have been providing our Texas and United States legislators.

Enclosed you will find a draft of the statement the League of Women Voters of Odessa entered into the records of the DOE meeting held in Hobbs, New Mexico, 4 January 1979.

In the statement we asked for two safety measures and one guarantee:

1. Nuclear wastes be isolated in as retrievable a manner as possible, pending future technology when the waste could be more safely disposed of.
2. Constant monitoring of water supplies in the Delaware Basin for a period of at least 1,000 years.
3. Importation of a pure water supply for the area affected if pollution should occur.

(We would want some sort of plan such as the Texas Water Plan for bringing water from the Mississippi or desalination of ocean water from the Gulf as there really isn't another water supply close to here which is not already in use

*Done
Cath
Laura
50
DW
mm*

andfwhich has the potential of furnishing water for almost ¼ million people.)

Also enclosed is a small map based on the maps of the Texas Water Department which you have, I suppose, from "Continuing Water Resources Planning and Development for Texas" Volume 2. I have drawn the Delaware Basin and some of the pertinent details over their maps.

The DOE is planning another meeting after the Environmental Impact Statement is ready. The next meeting is currently expected to be March sometime--the exact place and time to be announced.

Also we have posed a question to DOE headquarters in Albuquerque which may be of interest to you:

In your hearings, the term "concurrence of the state" is used in reference to the Carlsbad WIPP site. We would like to know your definition of "concurrence" and the steps wby which this concurrence will be reached.

We would also like to know your definition of "the state" does it refer solely to New Mexico, or to New Mexico and Texas which in the instance of the Carlsbad WIPP site are geologically one unit.

mak Further, would you please identify the sources for your answer/answers. Also, the name of the person making the response.

(In the July 1978 meeting held in Midland, the term used was "veto power of the state". Veto has become concurrence in the current language. We are trying to get them to state in black and white just what their policy is or will be. We understand--but do not have copies of--that New Mexico now has three state bills before their legislature trying to stop or slow down WIPP and that there are two bills in the US Senate trying to make them state just what are the rights of the state concerning WIPP. So far, as I can find out, DOE has remained very vague on any of this.)

Also we have written the Director of the EPA, Region 6 in Dallas with the following questions:

1. What are the agreed safety limits of radio nuclides in drinking water?
2. What tests are there for radionuclides in water?
3. What test do you consider best?
4. Could you estimate the cost of such a testing program?

If you want some further information concerning this water problem, there are two documents available from DOE which are pertinent:

1. Hydrologic Investigations of the Los Medanos Area, Southeastern New Mexico, 1977
2. Deep Dissolution of Salt, Northern Delaware Basin New Mexico by Roger Y. Anderson
(I would particularly have you note Figure 1.

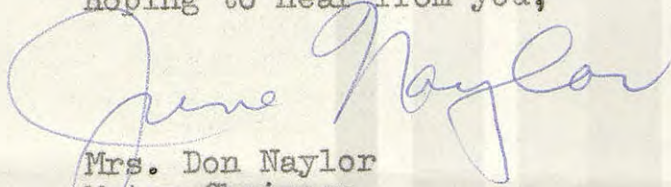
We would welcome input from you concerning these questions we have.

14 February 1979 we are scheduled to speak to the Permian Basin Regional Planning Commission which will include all the County Judges of the area. I hope to be objective concerning the need for a disposal site, but at the same time realistic about the problems we face concerning selection of the Carlsbad site.

Also in the works is a Junior League meeting when we will present this entire problem. Our area is particularly hungry about this topic as they have not had a meeting here and the newspaper has carried very little concerning it. The local radio and television stations have had more than the paper to date.

I have told Governor Clements that I believe this will be a VERY hot political issue by the end of the year at least, and am hoping he can help Texas find a solution which we can live.

Hoping to hear from you,



Mrs. Don Naylor
Water Chairman
League of Women Voters of Odessa, Tx

CC
Catherine Perrine
Betty Anderson
Pat Bruno and Pat Nickoll

Hi,
Would you like to a room on
August Library meeting?

Presented at the Department of Energy meeting held in Hobbs, New Mexico, 4 January 1979 by the League of Women Voters of Odessa, Texas.

As a result of the League of Women Voters of Texas state water study and because of our concern for our fragile ecosystem with its dependence on a limited supply of water, the League of Women Voters of Odessa, Texas, would like to enter the following statement into the record.

The Delaware Basin is a contained geological area with limited supplies of water. This basin includes portions of Lea and Eddy Counties in New Mexico; all of Loving and Reeves Counties in Texas and portions of Winkler, Ward, Pecos, Culberson and Jeff Davis Counties in Texas. The Delaware Basin is bounded by an ancient reef formation called the Capitan Reef which is visible in the Carlsbad area near Carlsbad Caverns and the Guadalupe and Glass Mountain areas of Texas. The water movement in this area is generally in the direction of the Pecos River which drains in a southeasterly direction.

The proposed WIPP site is in the northeast sector of this basin. Any water pollution resulting from leakage of the WIPP site could effect large portions of the Delaware Basin water supply. If the polluted water escaped this area it could extend pollution into the Pecos River Valley that feeds into the Rio Grande River near Del Rio and Ciudad Acuna. (Thus a national problem could conceivably become an international problem.)

The water in this basin is utilized by farmers and ranchers living in the area as well as the municipal areas of Jal, New Mexico; Kermit, Wink, Mentone, Pecos and Monahans, Texas, as well as the industrialized counties directly to the east of the area.

Midland, Texas, in Midland County owns water rights in western Winkler and eastern Loving Counties within the Delaware Basin. Currently the water is only for future need, although two wells are now utilized by oil companies for petroleum production.

Odessa, Texas, in Ector County received 2,277,380,000 gallons of water from Ward County wells in the Delaware Basin in 1978. This is from wells owned and operated by the Colorado River Municipal Water District with offices in Big Spring, Texas. This two billion plus gallons of Delaware Basin water represented 41% of the total water utilized in the municipal area of Odessa, Texas, in 1978.

Oil companies routinely utilize water from the Capitan Reef in the recovery of petroleum from producing wells, as well as use in refineries and petrochemical complexes where raw petroleum products are readied for market.

If WIPP should become a reality, we the League of Women Voters of Odessa, Texas, would like to recommend the following precautions and guarantees:

1. Nuclear wastes be isolated in as retrievable a manner as possible, pending future technology when the waste could be safely disposed of.

2. Constant monitoring of water supplies in the Delaware Basin for a period of at least 1,000 years. If pollution should escape the confines of the Delaware Basin, the areas downstream should also be monitored.

The United States government could let the U.S. Environmental Protection Agency monitor these water supplies or the government could give the Texas and New Mexico Legislatures authority and funds to see that it was properly monitored.

3. Importation of a pure water supply for the area affected if pollution should occur. This importation of water should be at the expense of the entire United States tax base, as the entire tax base would be receiving the benefits of the use of the WIPP site.

We, the League of Women Voters of Odessa, Texas, urge the above precautions and guarantees be adopted as part of the implementing legislation for WIPP.

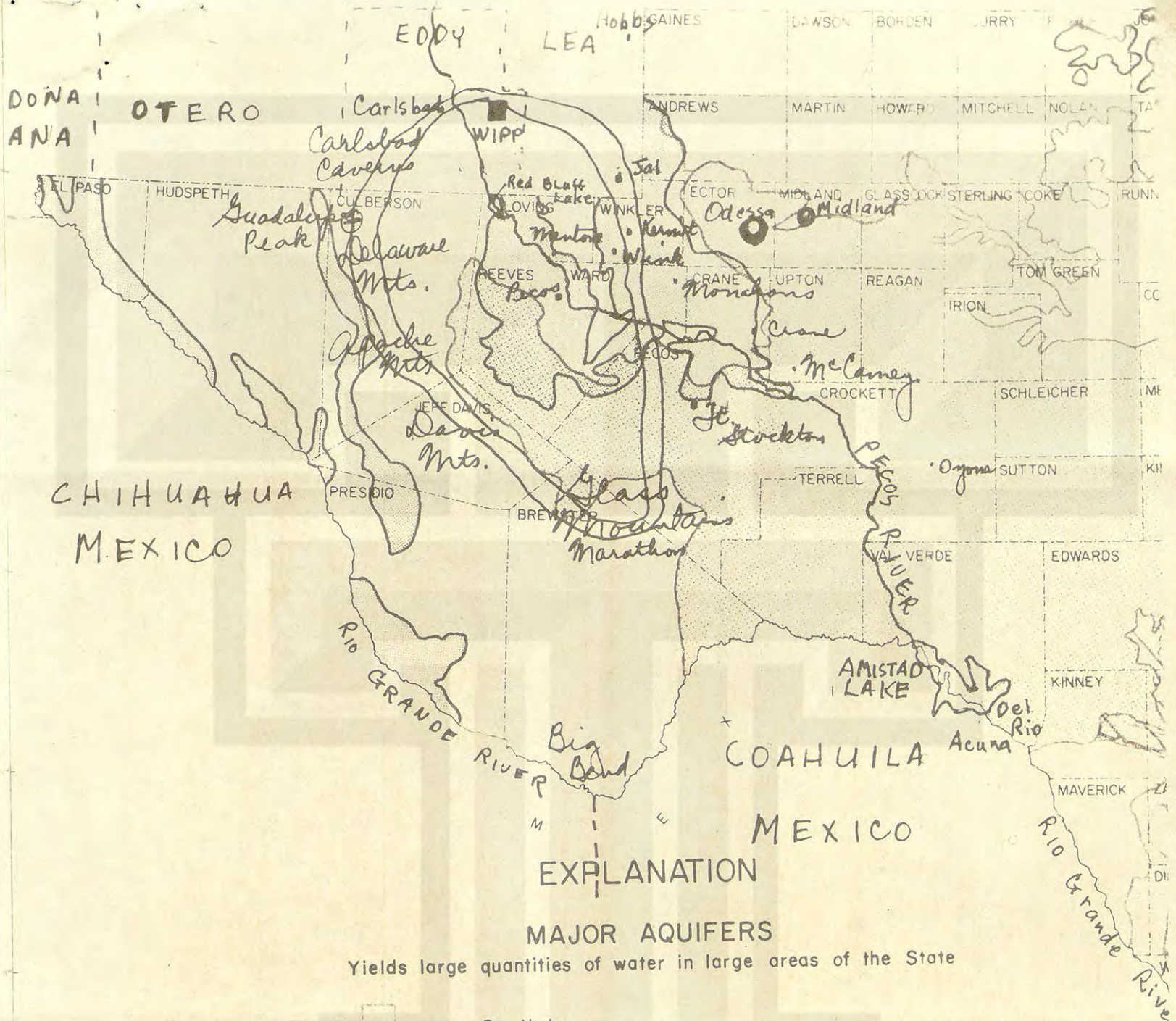
If as we have been told, our fears of future water pollution are unfounded, these safety measures and guarantees will cost very little, but would give the people of Southeast New Mexico and Southwest Texas much peace of mind.

Information from the Texas Department of Water Resources.

Ground-water is monitored in Texas for the following items: silica, calcium, magnesium, sodium, potassium, carbonate, bicarbonate, sulfate, chloride, fluoride, nitrate, pH, dissolved solids, specific conductance, phenolphthalein alkalinity as CaCO_3 , total alkalinity as CaCO_3 and total hardness as CaCO_3 .

The Texas Department of Water Resources has test wells throughout the state of Texas. Following is a list of the wells in 8 counties:

	Alluvium					
	Ogallala	Bolson	Santa	Edwards-	Santa	Capitan
	Deposits		Rosa	Trinity	Rosa	Limestone
				(Plateau)	Alluvium	
Andrews	19			4	2	
Crane		15	2		3	
Culberson		27		8		5
Ector	1		1	19		
Loving		3			16	
Reeves		40		21		
Ward		3			18	
Winkler		26	9		13	



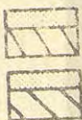


EXPLANATION

MINOR AQUIFERS

Yields large quantities of water in small areas or relatively small quantities of water in large areas of the State

OUTCROP
DOWNDIP



Woodbine

Queen City

Sparta

Edwards-Trinity (High Plains)

Santa Rosa

Hickory Sandstone

Ellenburger-San Saba

Marble Falls Limestone



Blaine Gypsum



Igneous Rocks



Marathon Limestone



Bone Spring and Victorio Pe



Capitan Limestone



Rustler



Nacatoch Sand



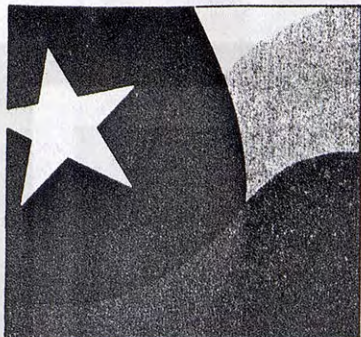
Blossom Sand



Purgatoire-Dakota

Others Undifferentiated (Not Shown)

JAN 26 1979



MEMORANDUM

LEAGUE OF WOMEN VOTERS OF TEXAS

1212 Guadalupe, No. 109 • Austin, Texas 78701 • Tel 512/472-1100

January 18, 1979

TO: June Naylor, LWV-Odessa
FROM: Catherine Perrine, LWV-Texas

Thanks for the copy of your January 4 statement at the DOE hearing on nuclear waste disposal in New Mexico. If you haven't done so already, please also send copies to Betty Anderson, Jan Wilbur, Laura Keever, and Jan Albers of the LWV-T Board.

As you suggested, I am enclosing a copy of the "reading list" on ground water from the June State Board Report. In Volume II of the fat blue books, you will want to look at the sections on the Colorado basin, beginning on page IV-455 and the Rio Grande, beginning on IV-747.

Also, I would strongly suggest that you order (free) a copy of Report R-125, Water Resources of Ward County, from Librarian, Texas Department of Water Resources, P.O. Box 13087, Austin, TX 78711.

Did you have any luck getting color maps of the aquifers from Dr. Grubb? If so, please thank him profusely. We ask him for something almost weekly.

Is there anything else that you asked me to look up or send you?

Catherine -

Catherine

✓
cc - Anderson, Wilbur, Keever, Albers



barber blue sea

EPA hearing

Denise

Jess Mc Nulty

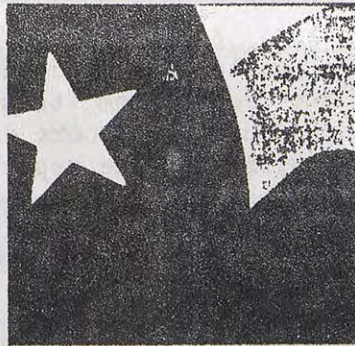
Concern - allowing a hazardous waste facility to be located in recharge zone of a sole source aquifer.

No facilities be permitted in the recharge zone of sole source aquifers -

Concern facility exempt in floodplains

Wetlands

the hazard Coastal areas



League of Women Voters of Texas
1212 Guadalupe Suite 109 • Austin, Texas 78701 • Tel. 512/472-1100

STATEMENT OF LAURA KEEVER
PROGRAM VICE PRESIDENT OF THE LEAGUE OF WOMEN VOTERS OF TEXAS
REGARDING THE DRAFT ENVIRONMENTAL IMPACT STATEMENT ON THE
MANAGEMENT OF COMMERCIALY GENERATED RADIOACTIVE WASTE
BEFORE THE
UNITED STATES DEPARTMENT OF ENERGY
OCTOBER 3, 1979

Good morning. My name is Laura Keever and I am Program Vice President of the League of Women Voters of Texas. From 1974-1978 I served on the Energy Committee of the League of Women Voters of the United States, and I am currently chairman of the Nuclear Advisory Committee to the Texas Energy and Natural Resources Advisory Council.

The primary impact left on this reviewer after analysis of the Environmental Impact Statement on the Management of Commercially Generated Radioactive Waste is the enormity of the need for additional information--knowledge, if you will--in order to make informed decisions. For one of the many things this report does extremely well is to point out the many, many areas of needed additional research for effective management of commercially-generated radioactive wastes. I will review some of the areas which we think particularly require additional investigation, as well as speak to the issues of safety, retrieveability, and monitoring.

First, however, let me share with you the thinking of members of the League of Women Voters of the United States with regard to nuclear power and its use in this country. In general, Leaguers recognize that nuclear energy is a necessary part of the total energy mix of the United States. Our position is a cautious one, however, for we are concerned with safety, with the environmental implications of the use of nuclear power, with issues of long-term waste disposal, and with the finite nature of uranium reserves. For these reasons, we would like to see our proportionate reliance on nuclear power, specifically light water fission reactors, remain about what it is today.

I wish to begin the substantive portion of these comments with a note regarding definitions. In the Glossary of Key Terms and Acronyms, high-level waste (HLW) is defined as follows:

"DOE management directives define high-level waste to include high-level liquid wastes, products from solidification of high-level liquid waste, and irradiated fuel elements if discarded

without reprocessing. A proposed NRC regulation (10 CFR 60.3) defines high-level waste to include irradiated fuel, high-level liquid waste, and products from its solidification. In the GEIS there are instances, however, where discarded spent fuel and high-level waste (as wastes from the reprocessing of spent fuel) are cited separately."

For one who delights in clarity, this leaves something to be desired. Low-level waste (LLW) is then defined as:

"For purposes of this Statement, waste which is not high-level or transuranic."

To the general public these definitions, particularly the definition of low-level waste, are confusing and may very well be misleading. The problem comes, of course, when materials which by definition are classified as low level may very well be highly radioactive. The League of Women Voters certainly encourages the Department of Energy to pursue a more accurate definition of these terms.

With regard to safety, the two paragraphs which the League finds most remiss in the GEIS are on page 3.1.17, where it is stated:

"The site selection process can also take on a different character. Because the practical aspects of gaining access to land for reconnaissance and exploration, at least over the near term, may impose severe restrictions on the area considered, sites can be selected for detailed investigation based on availability or simply ownership by appropriate government agencies. Although satisfaction of appropriate technical criteria and siting considerations is essential at each state, other factors also are relevant to the site selection process, and could dominate. Among these are ease and cost of access, distance from other societal activities, and societal acceptance of the location as a candidate repository site. Large areas of the country may be ruled out by these latter non-geologic factors, totally independent of their possible attractiveness from a geologic perspective, while other areas may be highly favored by these nongeologic factors, balancing national needs and local attitudes. These sites can then be studied in more detail to determine their suitability for a repository.

Too, the criteria for suitability of a site cannot be specified in great detail because of the complexity of the geologic settings, it is possible that the initial selection will be done mainly on the basis of nontechnical factors. Whether a site is selected this way or by a strictly scientific search, it will be examined in detail and compared against the underlying radiological and environmental safety criteria. All of the information required for site selection is needed no matter which selection process is followed. In the discussion that follows, a sequence of purely technical and scientific decisions is assumed."

Needless to say, we find the comment that "it is possible that the initial selection will be done mainly on the basis of nontechnical factors" completely unsupportable. Safety must remain the primary consideration for site selection to which political considerations must take a necessary back seat. While we recognize the overwhelming need for a politically-acceptable solution for the disposal of commercially-generated radioactive

waste, we must insist that safety remain the paramount criterion. It was very disturbing, for example, for this investigator to learn on a recent trip to the Sandia Laboratories in New Mexico, that federal ownership was one of the criteria for selection of the WIPP site. While we can see the advantages of such considerations, we insist that they remain secondary. It is unfortunate that the paragraphs quoted indicate that indeed these factors might play a primary role in site selection, and we recommend that these paragraphs be completely revised to indicate that safety would be the overriding consideration.

At this stage of knowledge, it appears that geologic disposal using conventional mining techniques is the best course to follow with regard to the management of commercially-generated radioactive waste. While the GEIS discusses the issue of retrieveability versus isolation, in general, it favors isolation. Though a five-year retrieveability period is indicated in the GEIS, this seems too short a time frame to us at this time, and we lean toward retrieveability for 20-25 years, though that could be modified in either direction after further information is gathered in in situ operations. While we agree that maintaining retrieveability longer than needed to reasonably assure repository operation increases the occupational and general populace risk, we think this is counterbalanced by the additional gain in safety.

It is unfortunate that monitoring of radioactive waste has become an issue of debate. While the League of Women Voters certainly hopes that the selection of geologic sites will be so perfect that surveillance will be unnecessary, as indicated on page 3.1.44 of the GEIS, we think it prudent that monitoring take place under any and all circumstances. At the very minimum it will prove the accuracy and good judgment of the site selection process. With the basic assumption that knowledge is better than ignorance, we would also be better prepared to respond should unforeseen negative events occur. While we do not foresee the necessity at this point for monitoring for as long as 200,000 years as mentioned on page 3.1.76, we probably should plan for monitoring for 100 to perhaps 500 years. Again, however, further information might change this figure in either direction.

As was mentioned earlier, the most overwhelming impression one is left with after reviewing the GEIS, is the enormous amount of additional information which is needed. We need to begin immediately and comprehensively to collect the basic required information, in addition to setting the criteria to be used in the various aspects of the radioactive waste disposal program. Certainly the site selection criteria for tectonic and hydrologic considerations, criteria for seismic hazards, criteria for performance of a mined repository, and criteria for packaging for retrieveability, among others, need to be established. Further, the effects of heat and radiation on rock properties and many other site specific parameters need to be established.

Our recommendation is that programs to establish this information base proceed with the least possible delay. Furthermore, as we recognize that the search for "the safest" site could go on forever, we favor establishing conservative criteria, determining which of several sites (if any) meet those criteria, and then ultimately choosing a site and beginning construction. We are in favor of this approach, however, only if adequate monitoring is provided and the concept of initial retrieveability followed.

Our last comment has to do with the tendency of the GEIS to view the problem of commercially-generated radioactive waste only in terms of radioactivity and not in terms of toxicity. While it is true that all radioisotopes ultimately decay to a stable form, even the stable forms of some radioisotopes may be highly toxic. Certainly the recent unfortunate experiences concerning toxics at Love Canal in Niagara Falls, New York has taught us the need for extreme caution in the handling of toxic materials. We must therefore keep this concept in mind and not limit our concern to the dangers of radioactivity in the ultimate disposal of commercially-generated radioactive waste.

Thank you.

(R)

Nuclear Waste Dump Okayed Near Carlsbad

ALBUQUERQUE, N.M. (AP) — The Department of Energy announced Friday it is going ahead with the government's first permanent nuclear waste disposal site, to be constructed in underground salt beds 25 miles southeast of Carlsbad, N.M.

Joe McGough, the director of the Waste Isolation Pilot Plant project, said the federal government had notified Gov. Bruce King and New Mexico's congressional delegation of the decision.

The site will provide "a research and development facility to demonstrate the safe disposal of radioactive waste resulting from the defense activities and programs of the United States," the energy department said in a news release.

McGough said the site would handle low-level defense related wastes, including such things as gloves, clothes and tools contaminated with small amounts of radioactive materials, largely plutonium.

Five flags — those of France, Britain, Spain, the Confederacy and the United States — have flown over Mobile, Ala., since its founding 1702.

The dump also will include an area for research on high-level waste. McGough said that program had not been entirely defined but will include about 40 canisters of high-level nuclear waste also generated by the nation's defense program. He said the program is designed to find out the effect of high-level waste on the salt beds.

Officials said the facility will begin accepting waste, now stored temporarily at the Idaho National Engineering Laboratory, in about 1987.

Dave Jackson, a DOE spokesman, said a formal agreement with the state concerning the project still has to be worked out.

The dump has been the subject of numerous hearings around the state and has drawn considerable criticism from environmental groups that are concerned about the storage of nuclear wastes in the salt beds and about the transportation of nuclear waste on New Mexico's highways.

The DOE has \$29 million authorized for the project this year and is asking \$117 million in 1982 and \$92 million in 1983.

Opposition Sought To N-Waste Project

A-J Austin Bureau

Austin — A Democratic candidate for the U.S. Senate from New Mexico has called on Texans to oppose plans by the Department of Energy to locate a high-level nuclear waste storage facility near Carlsbad, N.M.

Stephen William Fox told a Capitol press conference DOE's plans to locate the Waste Isolation Pilot Project near Carlsbad pose an "incredible danger to Texas," since the wastes would be transported through the state.

Fox, chairman of the No Nuclear Wastes Defense Fund and publisher of the 21st Century No Nuclear Wastes Express in Santa Fe, urged Texans to write Federal and State officials — including those at the Department of the Interior, DOE and Texas Railroad Commission, as well as legislators and congressmen — expressing their opposition.

Fox said he favors an end to nuclear power — because "we don't know what we're doing" — and production of military and industrial nuclear wastes.

If wastes are produced, they should be stored where they are produced, without some "crazy scheme of shipping it across the country," he said.

He also attacked the "cover-up and ostrich-like leadership" of state and Federal officials over the recent breaching of an earthen tailings dam owned by United Nuclear in northwestern New Mexico, which result in the spill of some 100 million gallons of radioactive water to the Rio Puerco.

Traces of the spill have been reported downstream in Arizona, and it is thought the spill could eventually reach California.

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PARIS (AP) who was found said Monday.

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FLYING LESSONS



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1/20

September 12, 1979

COMMENTS OF THE LEAGUE OF WOMEN VOTERS OF TEXAS
ON THE
RECOMMENDED POLICY STATEMENTS ON SELECTED NUCLEAR ISSUES
BY THE
ADVISORY COMMITTEE ON NUCLEAR ENERGY

The League of Women Voters of Texas appreciates the opportunity to offer suggestions on these important Nuclear Energy issues before the Advisory Committee on Nuclear Energy.

The basic position of the League of Women Voters on nuclear energy is that the United States should not increase its reliance on nuclear fission as an energy source and that special attention must be given to solving health and safety problems associated with nuclear power production. Development of alternative energy sources is particularly important and appropriate in Texas, which has a greater-than-average potential for the use of renewable resources, such as solar and wind power and bioconversion as well as major coal deposits.

Our comments are as follow:

Transportation of Radioactive Material in Texas: Beacuse of the major dangers to health and safety associated with high-level wastes or large quantities of low-level wastes, national decisions on nuclear waste disposal should give full consideration to risks associated with transportation, as well as to risks associated with waste repositories. The State of Texas should assist federal agencies in assessing such risks to citizens of Texas. We agree with the Committee's recommendations for state actions on prior notification, routes and traffic controls, surveillance and enforcement, implementation of an emergency action plan, and coordination with other states. In addition, we believe that shipment routes that would expose large numbers of Texans to high risks should be prohibited by the state if federal regulations do not fully accomplish this purpose. We believe that the state should also develop contingency plans for shipment routes in the event that preferred routes are unavailable.

Severance Tax on Uranium Mining: We agree that a severance tax on uranium mined in Texas is justified and equitable in view of existing state taxes on oil and gas.

Financing Nuclear Plant Construction--Construction Work in Progress:

We agree that determinations as to the inclusion of construction charges in utility rate base calculations should be made by the Public Utility Commission on a case-by-case basis. We recommend, however, that the "excess capacity" of the utility be considered when judging the extent to which construction work serves the needs of present customers.

Alternate Reactor Designs and Fuel Cycles: Because of the high risks to health and safety associated with the liquid metal fast breeder reactor (LMFBR), the League has urged the federal government to give a very low priority to development of this energy source.

Disposal of High-Level Nuclear Waste: The safety of long-term storage of high-level wastes in salt formations is questioned by some knowledgeable scientists. One purpose of the Department of Energy's proposed Waste Isolation Pilot Project (WIPP) in southeastern New Mexico is to "answer technical questions about the disposal of wastes, including high-level waste, in salt." (WIPP Draft Environmental Impact Statement, pp. 1-2).

We agree with the recommendation that Texas seek the right of concurrence over location of any nuclear waste disposal site in Texas. However, as the Background Information section points out, investigation of salt formations in East Texas and in the Amarillo area as potential disposal sites has not been completed. Texas citizens and legislators should have the results of these specific studies and additional information on the issue of waste storage in salt formations prior to passage of any legislation that would authorize a state agency to concur in location of high-level waste storage facilities in Texas.

We agree that the feasibility of nuclear waste disposal needs to be studied in a variety of geologic media. We urge that the State of Texas support research in this area which will provide for the safe and secure storage of nuclear waste. We realize, however, that there is considerable disagreement among informed scientists on this issue and we further recommend that the problem be approached in a systematic and deliberate way so that scientific data can be accumulated. In the event that potential sites are chosen in Texas, provision should be made for their abandonment at any stage should new scientific data show they are unsuitable.

Transmutation of Radioactive Wastes: We agree that research on the transformation of long-lived radioactive isotopes into less hazardous forms should be encouraged.

Commercial Spent Nuclear Fuel Reprocessing: Federal agencies should continue to assess the relative risks to the public of long-term storage of wastes and techniques for reprocessing them. We are of the opinion that safe nuclear waste disposal is the problem which must be addressed. Therefore, we cannot support the reinstatement of commercial nuclear fuel reprocessing at this time.

Uranium Mining and Milling: We agree with the recommendation that state legislation should be passed to allow the Texas Department of Health to continue regulation of uranium mining. We also support the recommendations included in the Minority Position for requirements that would further reduce the exposure of Texas citizens to radiation hazards. In addition, state regulations should require consultation with local Soil and Water Conservation Districts to assure that reclamation plans restore agricultural lands to productivity.

Biological Effects of Radiation: Because potential consequences of radiation exposure are so severe, such as genetic mutation and cancer, standards for exposure should be set at conservative levels until biological effects are better understood.

Low-Level Waste: The need for new waste disposal facilities to supplement existing sites in South Carolina, Nevada, and Washington is obvious. Determination of the most suitable sites and methods of disposal should have a high national priority. The Advisory Committee's recommendation concerning high-level waste disposal sites is also appropriate for low-level sites: ". . . any nuclear waste disposal site be located in Texas only when a determination has been made that it serves the best national interest of the United States after adequate survey and evaluation of alternate sites throughout the nation."

The State of Texas should encourage prompt formulation of a federal plan for disposal of low-level wastes that minimizes risks to the public health as well as transportation costs. The Texas Legislature should not proceed with authorization of Texas facilities until a nationwide plan is available. Such action could result in excessive exposure of Texas citizens to radiation hazards and should be embarked upon with all due caution.

Costs of Disposing of Nuclear Wastes and Decommissioning Nuclear Plants: We concur with the concept of reserve funds that would include these costs in charges to users of energy produced by nuclear plants. Past predictions of cheap nuclear energy have resulted, to a considerable extent, from inadequate assessments of costs of waste disposal and safe decommissioning of nuclear plants.

In conclusion, we urge that state committees and agencies concerned with nuclear issues give high priority to providing factual information to the public. Forums should be provided for reasoned discussion of these issues. These will assist the State of Texas in reaching policies that best meet public needs and are most widely acceptable. We appreciate the opportunity for response that the Advisory Committee on Nuclear Energy has given us.

Respectfully submitted,

Diana Clark, President
League of Women Voters of Texas

May 28, 1979

The Honorable Gary L. Watkins
County Judge
County of Ector
Odessa, Texas 79761

Dear Judge Watkins:

Thank you for informing us of the endorsement of Ector County Commissioners' Court of the League of Women Voters of Odessa's Waste Isolation Pilot Plant (WIEP) proposal.

This matter is under consideration by the League of Women Voters of Texas. We are completing a television documentary on the subject this spring. The Board of Directors will carefully examine the pros and cons established by the research for this film. In addition, the energy director of the League of Women Voters of Texas is chairing a nuclear subcommittee for the Texas Energy Advisory Council. She will share the findings of this committee with our organization.

The League of Women Voters of Odessa has been diligent in its efforts on this matter. Thank you for your concern.

Sincerely,

Betty Anderson
President

EA:jl

bcc: June Naylor, LWV-Odessa
Karen Storey, LWV-Odessa Pres.
Laura Keever
Diana Clark
S.O.

also Betty A.

Nuclear Wastes and Public Acceptance

Par Nichell
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Views

Monitored containers in a controlled tunnel environment may prove more widely acceptable than the uncertainties of an uncontrolled geologic structure

Of the issues raised so far in the debate over the safety and desirability of nuclear power, waste storage remains the point of greatest public concern. There is no question that such wastes are hazardous and remain so for a long time. Proponents of nuclear power claim that technology is available for safely and economically treating and storing these materials, yet officials have produced nothing but studies of the problem and have generated intense resentment in certain localities by announcing site investigations.

Thus, critics would appear to be justified in assuming that the problem is unsolved and that nuclear power is a dubious risk until a waste-storage method acceptable to the public is put into operation. This article attempts to show that such conclusions, though incorrect, are a natural effect of a series of mistaken approaches by officials in charge of the waste program in the past. A new approach which uses the strengths of the existing technology, instead of its weak parts, will, I believe, satisfy the perceptions and expectations of the public. From this approach, I shall present a specific example of a storage concept whose performance can be proved from known and accepted

data and which should be highly acceptable to those concerned about present waste proposals. It is possible that a demonstration facility of the new type could be in operation within about two years.

A brief review

Man-made nuclear waste began accumulating with the start-up of the Clinton Pile and the Hanford Piles in 1943-44. The Savannah River reactors, various test reactors, and nuclear submarines and ships have added to the inventory of fission products resulting from government programs, mostly military. Beginning in 1957, civilian nuclear waste began to appear, but it will be many years before the civilian product will overtake the military backlog. Most of the military wastes have been dissolved and at least partially processed to recover needed valuable materials, such as plutonium, while the civilian power-plant wastes are nearly all still in the form of undissolved spent fuel in bundles of rods, just as it was removed from the reactor. Thus the military wastes now sit as liquids or slurries in large, covered underground tanks, while the civilian wastes reside in cooling ponds as zirconium-clad uranium oxide.

In a previous article (1) I have discussed the properties of radioactive wastes and described the two distinct kinds of materials involved—fission products, which emit penetrating radiation but are relatively short lived, and the fuel materials, which are very long lived heavy metals emitting nonpenetrating alpha radiation. (This latter group I called radiopoisons, since they must actually be ingested to be harmful.) Much research and development has been

done in the United States and other countries on methods of separating the valuable heavy metals from the useless fission products and on converting the latter to a durable solid form suitable for storage or disposal (2, 3). This work has been based on the assumptions that recovery of the unused heavy metals in the spent fuel was an economic necessity and that the resulting thirtyfold compaction of the waste fission products was a useful side effect.

The United States government, however, has for the present postponed any consideration of reprocessing the spent fuel while exploring means for controlling access to the plutonium it contains. This means that any concept for near-term nuclear-waste storage must be able to handle the spent fuel from the civilian reactors as well as solidified waste from processing plants, military or civilian.

Every analysis of the scope and cost of complete control and perpetual storage of nuclear wastes has indicated that it is a problem which is of moderate technical difficulty, minor in scope, and trivial in cost, amounting to less than one-hundredth of the cost of the electric power produced (4). How then is it possible that so little has been accomplished? My own opinion of how this came about may be summarized thus: the early developers of nuclear power had three failings—they knew too much about radioactivity, not enough about geology, and almost nothing about dealing with the public and its reactions.

Of course, it is not a fault to know one's subject well, but apparently one reason the work of demonstrating a

R. Philip Hammond has thirty years' first-hand experience with radioactive materials, including nuclear fuels, high-level wastes, reactors, and weapons. He is well known for his developments in seawater desalting, his application of nuclear power to food production, and his work on advanced energy sources. Dr. Hammond has been an adjunct professor at UCLA, serves on the editorial boards of three technical journals, and is now a consultant in the energy field. Address: R&D Associates, Box 9695, Marina Del Rey, CA 90291.

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Yearly Net Cost	\$ 51.50	\$ 65.50	\$ 93.50	\$143.50	\$225.50		\$ 83	\$111	\$167	\$267	\$431

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complete system for waste treatment and storage was not completed is that it was believed that the amounts then produced were too small to be important. And indeed, they are small even for a fully nuclear electric industry! A volume of fission products about the size of an aspirin tablet would represent each person's share (10,000 kwh) of U.S. annual electric output. Including the inert materials that accompany such waste after processing, the waste pile for 200 million people would not quite fill a 9 m cube (5). So, with the U.S. only about 2% nuclear powered in the early days, the Atomic Energy Commission planners thought the output was so trivial in size that they threw away the chance to get the problem under control, demonstrated, and publicly accepted while it *was* still trivial in size. This was the first mistake.

These men also knew too little about geology. They thought in terms of final and perpetual disposal of the wastes in deep geologic strata, such as salt beds or granite. They knew that the fission products would decay to harmless materials in a few hundred years and that the traces of heavy metals remaining from the reprocessing and recovery operation, while they would last a very long time, would be so dilute that they would approximate the original uranium and radium content of natural ores. They assumed that one could prove that deep burial in a large and stable geologic formation was effective isolation from the human environment for all time.

Although they were probably right about the effectiveness, they were wrong about the proof. This was the second mistake. Today we realize that not enough data exist to prove much of anything about long-term geologic events (6). A determined "what if" search can hypothesize many ways in which deeply buried materials could be reintroduced to the surface, and even concentrated. These scenarios cannot be proved, of course, but it is impossible now to disprove them. The further into the future the time horizon is extended, the more uncertain is our level of confidence about geologic events.

The third mistake had to do with misreading the public perception of the hazards from nuclear waste and of the credibility of various technical

approaches. Part of the public's reaction came from past failure of nuclear proponents to make clear the distinction between the short-lived and long-lived parts of the waste. Antinuclear zealots were quick to claim, since no one refuted them, that the wastes were lethal for millions of years, when, in fact, after a few hundred years one would have to eat them by the pound to ingest enough for any radiation effect (5). But eating almost any rocks by the pound is neither healthy nor likely.

Another part of the error was in not realizing that the public could quickly grasp the basic uncertainty of using geological strata as the final and permanent containment. If the wastes remained forever lethal—the proponents strangely never bothered to challenge this—the loss of control implied by deep burial became unacceptable.

Evaluating future benefits

How we discount the future is an important aspect of waste storage that has been little discussed. If I owe you \$100 payable without interest in 100 years, what would you settle for right now? Because of inflation, most people would settle for about a dime. But to take inflation out of the question, suppose I owed 18 ounces of silver in 100 years (worth \$100 today), what would be the present worth of the future benefit? In fact, you could sell such a claim for about \$14 if the buyer demands a return only 2% higher than the inflation rate. But what if I need not deliver the silver for 1,000 years? Then the same buyer would offer one four-millionth of a cent for your claim!

Thus, in a purely actuarial sense, we cannot afford to spend very much to save someone an expense 100 years from now, and almost nothing to save an expense 1,000 years from now. But if the future benefit we are buying is isolation from old nuclear wastes, a different kind of instinctive perception comes into play: once we lose control of the waste, the cost of regaining it after various untoward geological events may be astronomical.

We are presented therefore with two possibly conflicting requirements. First, estimates show that we can af-

ford whatever it costs to ensure safe isolation and control of wastes for the next hundred years or so, but to be fiscally responsible we cannot justify additional expense now to ensure a longer duration, although modest future costs would be acceptable. Second, until the public's perception of million-year lethality has been modified, we must choose a storage system that can maintain positive control of the waste indefinitely, if desired.

Assuming that reeducation of the public will not be accomplished quickly, we are left with two ways to solve the dilemma: develop a way to prove the performance of one or more deep burial systems, or maintain effective near-term control and assured isolation in a system that can be monitored, maintained, and renewed indefinitely. The first method may eventually be achievable, though we have failed so far. The second method has been discussed from time to time by nuclear officials, but discarded in favor of continued search for a "permanent" solution (7). I believe that this was an error, for I think that the public can be quite comfortable with a provable, renewable near-term solution that leaves options open and does not lose control of the wastes.

We must therefore develop criteria for nuclear-waste storage based on public acceptance as well as technical soundness. I believe that there are dozens of technically sound approaches to waste storage, both long-term and interim, that can eventually be shown to work well. But acceptance by the public is the principal problem right now, and a changed approach is imperative. Officials have been astounded by the strong public reaction to their attempts so far to develop a solution; a system meeting the following criteria should be more acceptable to the public.

The waste must be reliably contained at all times. Since no one can prove in advance what the endurance will be, this means that the container performance must be monitored. It also implies control over the environment around the containers. If the storage repository, its internal environment, the containers, and the monitoring system are designed and tested together as an interactive unit, an engineered containment system is pro-

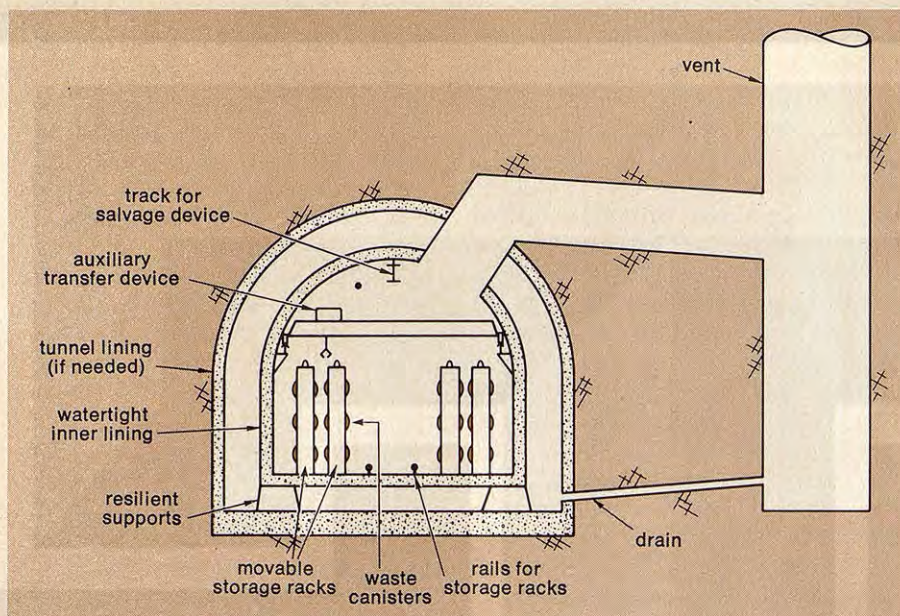


Figure 1. A cross section of a waste-storage tunnel shows the relatively simple containment system required under continuous monitoring. In the dry-air environment of the inner tube, waste canisters should survive for many thousands of years, but if they are constantly under surveillance, any failure could be immediately detected and remedied.

duced, which can provide predictable and verifiable endurance.

The containers must be retrievable and maintainable. From the first criterion, the monitoring must indicate the imminent failure of a container before any actual loss of material occurs. But such information is useless unless there is a way to correct the failure. If any given container can be pinpointed and retrieved upon an indication of failure, then some real assurance about maintaining full control of the hazard can be given.

The storage facility must provide isolation from external events and must also permit careful control of human access. This criterion can be met by above-ground installations at some cost, but an underground system provides it in a very simple fashion. There is an important distinction between the use of geologic structures for isolation and their use for containment. Isolation is easy and effective underground, but containment by the rock alone is perceived by the public as unreliable.

The storage facility and the containers must have plausible or demonstrable likelihood of lasting for 100 years. The 100-year period is needed only for economic assurance, since any portion of the system should be renewable at any time if monitors show it has failed. Complete replacement of repository and containers after 100 years would add only

a minor burden to the initial cost of the system (13.8% added), but the costs would rise rapidly if the duration were much less than 100 years. The present-worth value of a series of complete replacements continuing indefinitely at 100-year intervals would add 16% to the first cost of the system.

The storage system should be able to accept and retrieve both processed waste and spent fuel elements interchangeably. The cooling period required before acceptance of either type of waste is an important factor in the design of a specific facility, but need not be a criterion. A reasonable time based on current cooling-pond capacity would be 5 years for spent fuel and 10 for processed waste.

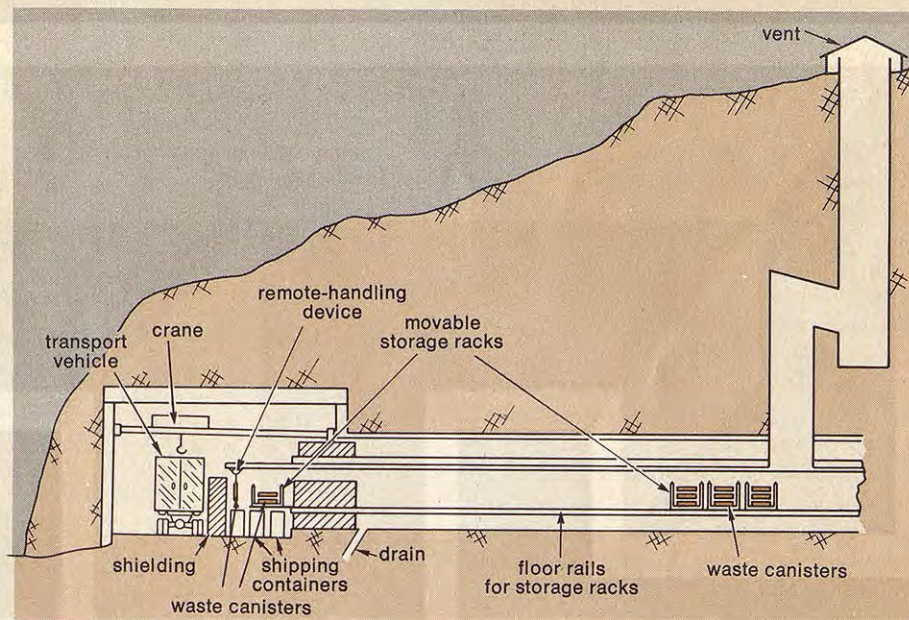
An acceptable storage concept

Several systems that would meet all these criteria are probably feasible. Let us examine one example that has some unique factors in its favor with respect to early demonstration and public acceptance. I devised the system in collaboration with colleagues in R & D Associates, a firm with extensive nuclear background, and with Dr. Werner Heierli, a Swiss civil engineer specializing in tunnels. We believe that the entire concept is founded upon current and documented technology and could be demonstrated in a working system within two years.

The starting point for the storage system is a sealed stainless steel canister containing either glassified high-level waste or a spent-fuel bundle from which the end structures have been removed. Around the first container is placed a second sealed container, made of a durable metal such as titanium. Between the two containers is sealed a gas that can be readily detected at very low concentration to signal the development of a leak (8). The durability of such a dual container would be difficult to prove in an unknown environment deep underground, but in warm, dry-air surroundings a minimum survival time of many thousands of years can be easily demonstrated by actual corrosion testing in the laboratory. However, as will be shown, there is no need to demonstrate more than a comfortable credibility that a life of 100 years can be expected.

The actual waste repository is a tunnel excavated into the side of a convenient mountain. The type of rock is not important as long as it is structurally competent and there are no active faults nearby. The mouth of the tunnel should be accessible by rail and/or road, but it should be placed high enough to avoid danger of flooding. Self-draining of the tunnel should be assured by sloping the floor upward from the mouth with a gradient of half a degree or so. The tunnel wall should be cut with a boring machine or by modern smooth-wall blasting techniques, which maintain

Figure 2. Waste canisters arrive at the portal structure of a tunnel in shipping containers, which are moved into a shielded area for unloading. The canisters are removed from the shipping containers by remote-handling devices and placed in movable storage racks. These racks travel along rails in the tunnel floor to their final positions lining the tunnel walls. The heat given off by the canisters creates a convection draft up through one or more vents, pulling a cooling current of air through the tunnel and thereby ventilating it without power or equipment. A leaking canister could be retrieved by either a wall crane or the backup ceiling-hung device.



the integrity of the rock face. Rock bolting, reinforcement, and liners should be used as indicated if poorer rock is encountered.

After the main tunnel is finished, a free-standing inner liner is constructed (see Fig. 1). This liner resembles a reinforced concrete culvert placed on resilient supports, with about a meter of space all around between the liner and the tunnel wall. The purpose of the liner is to divert the water and small rockfalls that may occur in any tunnel and to ensure continuity in case of earthquake. (Even though an unknown fault may intersect the tunnel, history shows that underground earth movements seldom exceed a few centimeters, and offsets of a meter are extremely rare.)

At intervals of half a mile or so along the tunnel, vertical shafts to the surface are constructed to serve as vents. These shafts are offset ten meters or so from the axis of the tunnel and extend below its floor level. They are connected to the inner liner at its roof level and to the main tunnel at its floor level for drainage. The vents are protected at the surface by offsets and cap structures.

The waste canisters arrive at the portal structure in a shipping cask, which provides shielding. They are removed from the cask by remote-handling gear and moved into the tunnel by an accurately controlled

crane that moves on tracks in the tunnel floor or wall (see Fig. 2). A roof-hung retrieval device serves as a backup for the wall crane and can repair it. The heat given off by the stored fuel canisters produces a thermal convection draft up through the vent acting as a chimney, and thus a strong cooling current is produced through the entire tunnel without power or equipment. Thus an environment of slightly warmed, dry air would be maintained indefinitely.

Continuously monitoring leak-detection devices in the tunnel and in the chimney serve to give warning in case one of the canisters develops a leak in the outer protective layer. A portable detector on the crane aids in pinpointing the faulty canister, which can then be retrieved by the crane, repaired, and restored to its place without leakage of radioactive material.

Although there is every reason to believe that the basic tunnel and cooling system would last for thousands of years and that the inert metal canisters would last even longer in such an environment, actual experience with similar tunnels extends only to about 100 years in Europe (although in ancient Persia, hundreds of miles of underground aqueducts called *qanats* were built, and some of them are still in use today, three thousand years later; 9). Thus the tunnel systems could be looked upon as a long-term repository that nonetheless allows

monitoring, repair, and retrieval of waste canisters.

From a cost standpoint there is little incentive to require proof of survival of the tunnel and canisters for more than 100 years. A small sum set aside at interest will provide for replacement. Even at 2% discount rate, the present-worth cost of complete replacement every 100 years is only 16% more than the cost of the first tunnel. So there is no need to prove a longer life, only that there is a credible way of keeping the system going for that long, and that there is room for a replacement tunnel when and if it should be needed. The probable density of packing for canisters in a tunnel would mean that only two or three kilometers of tunnel would be required to hold the high-level processed waste produced by all existing U.S. nuclear power plants over their forty-year lifetimes.

In fact, the United States already has such a tunnel system ready for use. At the Nevada Weapons Testing Site near Las Vegas, extensive tunnel systems have been carved into the sides of several mountains for underground testing of nuclear weapons (10). Each main tunnel branches out into several arms extending to the actual firing chambers. Before each firing the chamber to be used and the outer end of the corresponding branch are sealed off by a massive plug. After all the branches have been used and plugged the system is

abandoned, still leaving the main access tunnel and parts of the branches unused.

These many kilometers of tunnels are already provided with roads, utilities, guards, and fences. The earth beyond the plugs is already contaminated by much more radioactivity than is ever likely to escape from the waste canisters, and the entire site has already been perpetually dedicated to isolating the nuclear testing residues it contains. There is plenty of room for more tunnels beyond any conceivable need. Power-plant wastes would add a negligible burden to the normal site operations, and the Nuclear Regulatory Commission (which does not control test sites) could concentrate its attention on control of hazardous wastes before they enter the site.

Apart from the purely technical factors in using controlled-environment tunnels for waste storage, it would seem desirable to set up a businesslike management scheme for the nation's nuclear wastes. One way to do this would be to establish a Comsat-type corporation owned partly by the federal government and partly by the nuclear industry. The corporation could be self-financing through the establishment of fees for handling, processing, and storing nuclear waste to be collected from the individual utilities and from the military. The fees could include the cost of new tunnels and containers if the original set did not last more than 100 years.

Years of delay in establishing an acceptable way of storing nuclear waste are hindering access of the United States to a needed new energy supply. Attempts to prove that deep geologic formations will provide perpetual containment and isolation have not inspired confidence, because geologic predictions are inherently unprovable and because of a feeling that irrevocable deep burial implies loss of control of the wastes. A different approach using a controlled, monitored, and maintainable underground environment, with geologic formations used for isolation but not for containment, should have better public acceptance.

Storage in tunnels at the Nevada Test Site would be a modest extension of function in a region already dedicated and accepted by the public for isolation of nuclear residues. A storage

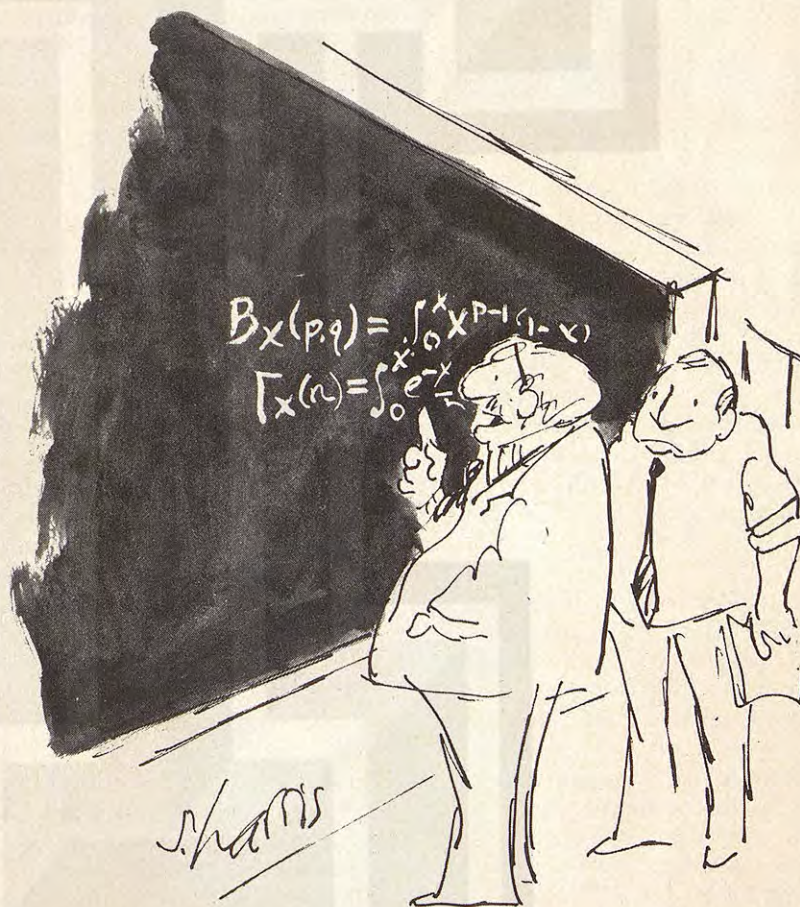
system such as the one described could be put into operation quickly using the existing infrastructure at the site. It would provide a much needed working demonstration of safe storage that could be either temporary or permanent as future events require.

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"However, it's excellent pseudoscience."

a statement concerning
THE WASTE ISOLATION PILOT PLANT (WIPP)
near Carlsbad, New Mexico
by the League of Women Voters of Odessa, Texas

We recognize the need for the United States to find a place to store the accumulated waste of our nuclear programs. However, there are some basic problems of the proposed Waste Isolation Pilot Plant near Carlsbad, New Mexico, which have not been solved.

First, according to the hydrological studies conducted by Sandia Laboratories in Albuquerque, New Mexico, there are high pressure deposits of natural gas and water underlying the site which are potentially dangerous if the high pressure gas should ever force the water into the WIPP site.

These natural gas deposits are potentially valuable sources of natural gas, but the WIPP site will remove them from usefulness. Also the potash deposits of the area will be rendered useless by the proposed chose of site.

Second, there have been earthquakes as recently as the spring of 1978 in Winkler County, Texas, which ~~is~~ adjacent to Eddy County, New Mexico, the location of the proposed WIPP site. These quakes show the area is not as geologically inactive as has been claimed by the Department of Energy.

Third, the aquifers of southeastern New Mexico and southwestern Texas are too close to the chosen site. The Santa Rosa limestones are actually present in the boundaries of the mine area. If any leakage should occur and seep into these water supplies, it could pollute a portion or the entire water supply of the area.

Because of the above reasons, we feel this site is not sufficiently safe for long-term storage of large quantities of nuclear waste.

If, however, the President of the United States and the Department of Energy choose this site in southeastern New Mexico, we would like to see the following precautions:

1. There should be monitoring of the mine until the mine site is no more radioactive than the natural radioactivity of the region.
2. There should be monitoring of private and public water supplies of southeast New Mexico and southwest Texas as long as it is necessary to minitor the mine. The monitoring should be at the expense of the United States government, not at the expense of the individual water user.

3. If pollution of any water supply should occur from the Waste Isolation Pilot Plant, the water supply should be replaced with potable water. This good, usable water should not be at the expense of the property owner/owners, but rather at the expense of the United States government.
4. There should be security provisions for the transportation of the radionuclear waste to the site.
5. The radioactive waste should be isolated in as retrievable a manner as possible, pending future technology when the waste can be safely disposed of or utilized for fuel.

If the present plans of the Department of Energy are carried out by the United States, the Carlsbad WIPP site will ultimately contain the largest (or one of the largest) concentrations of radionuclear waste in one place that has ever been gathered together in the history of mankind. We certainly feel this justifies extraordinary precautions and safety measures for the humans and animals which populate the area. Also there are many unique features of the land which need preservation-- to name but two-- Guadalupe National Park in Texas and Carlsbad Caverns National Park in New Mexico.



memorandum

April 10, 1979

TO: Energy Education Project managers, co-managers and project treasurers

FROM: Dotty Powers, Energy Chair and Florence Chichester, Energy Education Program Director

RE: The relationship between the League of Women Voters of the United States (LWVUS), the League of Women Voters Education Fund (LWVEF) and grant-funded projects; proper crediting of funding sources.

There does not seem to be a clear understanding among many Leagues of the importance of distinguishing between the LWVUS and the LWVEF in connection with the state League energy education outreach projects. The LWVEF is designated a 501(c)3 organization by the Internal Revenue Service (IRS). Grants and tax-deductible contributions are made to the LWVEF because it conducts only unbiased research and educational activities--no advocacy or lobbying. The LWVUS is designated a 501(c)4 organization. The LWVUS reaches positions on governmental issues and acts to influence policies relating to these issues. Contributions to the LWVUS are not tax-deductible.

Your energy education project funds come to you via the LWVEF, which is responsible to the US Department of Energy (USDOE) and the IRS for the objective nature of grant activities. Therefore, no grant funds can be used for advocacy, no grant project can support or oppose an energy strategy, and no project manager can involve herself simultaneously in energy lobbying. The LWVUS energy position should not be invoked in any way in a League energy education project.

Products or promotional materials produced by a League energy education project--publications, slide shows, flyers, films, public service announcements--must carry a credit, and in many cases a disclaimer. The USDOE and the LWVEF must be credited. We suggest this format: *This publication/film/slide show has been financed in part/entirely with funds from the League of Women Voters Education Fund and the US Department of Energy (USDOE) under grant #EU-78-G-01-6482. Contents do not necessarily reflect the views or policies of USDOE.* If you wish you may also credit the effort of your state League or state energy office or any outside contributors.

Please note that the grant number, EU-78-G-01-6482, for the Phase II grant is not the same as the one for Phase I, last year.

Second interim reports are due in the national office by April 30.

cc: State League presidents
State Board liaison for energy education project.

League members Polly Gaubatz, Linda Nelson and June Naylor attended a recent Department of Energy hearing in Hobbs, New Mexico concerning nuclear waste disposal at the proposed Carlsbad WIPP site. Because of the League's concern about nuclear leakage and possible contamination of water supplied to Ector County, June Naylor presented the following testimony at the hearing:

"As a result of the League of Women Voters of Texas state water study and because of our concern for our fragile ecosystem with its dependence on a limited supply of water, the League of Women Voters of Odessa, Texas, would like to enter the following statement into the record.

"The Delaware Basin is a contained geological area with limited supplies of water. This basin includes portions of Lea and Eddy Counties in New Mexico; all of Loving and Reeves Counties in Texas and portions of Winkler, Ward, Pecos, Culberson and Jeff Davis Counties in Texas. The Delaware Basin is bounded by an ancient reef formation called the Capitan Reef which is visible in the Carlsbad area near Carlsbad Caverns and the Guadalupe and Glass Mountain areas of Texas. The water movement in this area is generally in the direction of the Pecos River which drains in a southeasterly direction.

"The proposed WIPP site is in the northeast sector of this basin. Any water pollution resulting from leakage of the WIPP site could effect large portions of the Delaware Basin water supply. If the polluted water escaped this area it could extend pollution into the Pecos River Valley that feeds into the Rio Grande River near Del Rio and Ciudad Acuna. (Thus a national problem could conceivably become an international problem.)

"The water in this basin is utilized by farmers and ranchers living in the area as well as the municipal areas of Jal, New Mexico; Kermit, Wink, Mentone, Pecos, and Monahans, Texas, as well as the industrialized counties directly to the east of the area.

"Midland, Texas, in Midland County owns water rights in western Winkler and eastern Loving Counties within the Delaware Basin. Currently the water is only for future need, although two wells are now utilized by oil companies for petroleum production.

"Odessa, Texas, in Ector County received 2,277,380,000 gallons of water from Ward County wells in the Delaware Basin in 1978. This is from wells owned and operated by the Colorado River Municipal Water District with offices in Big Spring, Texas. This two billion plus gallons of Delaware Basin water represented 41% of the total water utilized in the municipal area of Odessa, Texas, in 1978.

"Oil companies routinely utilize water from the Capitan Reef in the recovery of petroleum from producing wells, as well as use in refineries and petrochemical complexes where raw petroleum products are readied for market.

"If WIPP should become a reality, we the League of Women Voters of Odessa, Texas, would like to recommend the following precautions and guarantees:

"1. Nuclear wastes be isolated in as retrievable a manner as possible, pending future technology when the waste could be safely disposed of.

"2. Constant monitoring of water supplies in the Delaware Basin for a period of at least 1,000 years. If pollution should escape the confines of the Delaware Basin, the areas downstream should also be monitored.

"The United States government could let the U.S. Environmental Protection Agency monitor these water supplies or the government could give the Texas and New Mexico Legislatures authority and funds to see that it was properly monitored.

"3. Importation of a pure water supply for the area affected if pollution should occur. This importation of water should be at the expense of the entire United States tax base, as the entire tax base would be receiving the benefits of the use of the WIPP site.

"We, the League of Women Voters of Odessa, Texas, urge the above precautions and guarantees be adopted as part of the implementing legislation for WIPP.

"If as we have been told, our fears of future water pollution are unfounded, these safety measures and guarantees will cost very little, but would give the people of Southeast New Mexico and Southwest Texas much peace of mind."

Follow-up correspondence has also gone to the Department of Energy asking for clarifications made by DOE representatives at the hearing.

Maps of the area of concern are enclosed.

Pats

GOVERNMENT CONCENTRATES

Discharge levels for toxic chemicals ignored

Congress' General Accounting Office has found widespread noncompliance with discharge levels for toxic chemicals specified under EPA's National Pollutant Discharge Elimination System. In a review of discharge reports prepared by 165 facilities, GAO found that about 55% failed to comply with one or more discharge limits during a 15-month period. To correct this situation, GAO says that EPA should increase its sampling inspection coverage of dischargers, require followup inspections when violations are found, and seek authority administratively to assess monetary penalties for permit violations.

Industry, environmental group cosponsor ad

In an unusual move, Monsanto and the Environmental Defense Fund have agreed to cosponsor a magazine ad campaign designed to counter the public notion that all chemicals are hazardous and can cause cancer. The ad, which already has been tested in a few cities, tells readers that although some chemicals are harmful and should be controlled, most are safe when handled with care. Monsanto is somewhat sensitive about the chemicals and cancer issue since its acrylonitrile/styrene copolymer soft drink bottle was forced off the market by FDA after being condemned by the Natural Resources Defense Council, another environmental group.

Industry group hits federal cancer study

The American Industrial Health Council says that a federal epidemiological study of cancer among workers, which concludes that as much as 20% of all U.S. cancer incidence is the result of occupational exposure, is "seriously flawed." According to the industry group's analysis of the study, the "predicted massive increase in cancer due to occupational exposure . . . is not supported by current cancer rates, worker exposures, or number of workers exposed." According to the study, for example, cases of mesothelioma, a cancer caused by asbestos exposure, should number 5000 to more than 10,000 annually, but AIHC says that National Cancer Institute data show there are less than 1000 cases annually.

Nuclear waste disposal studied again

A special federal task force, representing 14 agencies, has concluded that successful isolation of radioactive wastes from the biosphere appears feasible for periods of thousands of years, provided that a systems approach is rigorously utilized for selecting the geological environment, repository site, and waste form. In a draft report issued for public comment, the task force recommends, among other things, that the Nuclear Regulatory Commission licensing authority be extended to cover low- and medium-level radioactive wastes from both civilian and military sources. It says one or more intermediate size storage facilities should be established as soon as possible to gain experience with both the licensing process and public

reaction. Target date for operation of the first high-level repository is 1988 if salt formations are chosen for storage, or 1992 if another media is picked.

OSHA's cancer policy still under fire

In post-hearing comments filed with OSHA, the Manufacturing Chemists Association charges that the agency exceeded its authority in issuing its much-debated carcinogen regulation proposal. According to MCA, any regulation considered for a specific chemical must make provision for a risk/benefit analysis. Further, MCA contends that OSHA has neither the authority nor the expertise to determine, as it proposes to do, questions of suitable substitutes for regulated substances.

Tighter regulation of pipelines needed

The National Transportation Safety Board is strongly urging quick action on proposals for tighter regulation of liquefied petroleum gas (LPG) pipelines. Regulations are needed, the board says, because its new study of pipeline accidents shows that LPG accidents accounted for only 10% of the 2881 liquid pipeline accidents between 1968 and 1976, but they caused 62% of the 55 fatalities and 51% of the 127 injuries. The study also disclosed that in the LPG accidents nearly five nonemployees have been killed for every one employee fatality, and three nonemployees have been injured for every injured employee, according to the board.

New appeal procedure considered for drug

FDA commissioner Donald Kennedy is on the verge of deciding whether to allow a three-member board of inquiry to consider an appeal to the agency's ruling on the controversial injectable contraceptive Depo-Provera. The board of inquiry was requested by the drug's developer, Upjohn Co., after FDA last summer denied the firm's application for a new drug approval. Normally, the agency ruling would be appealed to an FDA administrative law judge. If Kennedy decides to go ahead with the board of inquiry, both FDA and Upjohn would submit a list of nominees and Kennedy would select one member from each list. The commissioner would then select his own representative to serve as chairman of the panel. The ultimate decision to approve or disapprove the drug, however, still would rest with Kennedy.

"Nit-picking" rules eliminated by OSHA

It took some time, but OSHA finally has wiped from its books nearly 1000 safety standards that it says "are unneeded or unrelated to job safety and health." The rules, which deal with such matters as toilet seat design and the type of wood used to make portable ladders, are the so-called "consensus standards," since they were originally adopted from voluntary industry codes. The revoked standards made up 10% of the wording of all OSHA safety standards and their elimination was first proposed last December.

decade, SABIC, in partnership with Dow Chemical, Mitsubishi Gas Chemical, Royal Dutch/Shell, and others, plans to produce 1.6 million metric tons per year of ethylene and 1.3 million metric tons per year of methanol, plus a variety of downstream products ranging from 514,000 metric tons per year of LDPE to almost 1.4 million metric tons per year of urea.

Regarding the potential of East European chemicals in Western Europe's markets, Robin Wood of London-based Hyplan Consultants advised the ECMRA group, "Do not panic; the level of imports from the East has been emotionally overstated." Confining his remarks largely to low- and high-density polyethylene, polypropylene, and polyvinyl chloride, "because of the ambitious plans of the individual countries in Eastern Europe for the plastic industry," he admits that "Eastern Europe will be an exporter of plastics materials in the future." However, he maintains that the level of exports will not be of flood proportions.

The major impact of such exports will be on the operating rates of West European producers, Wood declares. If the maximum export level is attained, the actual decrease in operating rate for LDPE, HDPE, PVC, and polypropylene will be about 2 to 3%, he claims. "This is not very palatable," he says, "but the Western world should be able to reduce production costs and the break-even point for profitable plant operation." □

CHECKOFF

■ **Argentina**—IPAKO Industrias Petroquímicas Argentinas, a petrochemical company, will build \$117 million, 110,000 metric-ton-per-year low-density polyethylene plant at Bahía Blanca, about 400 miles southwest of Buenos Aires.

■ **Belgium**—Polysar Europa has begun construction of bromobutyl rubber plant near Antwerp. Construction cost is about \$21 million. Plant is scheduled to go on stream before end of 1979.

Continental Pharma will build \$18 million pharmaceutical complex at Mont Saint Guilbert. Complex will include research center, processing plant, and auxiliary facilities.

■ **Ireland**—Aughinish Finance Ltd. has completed loan agreements totaling \$308 million for financing alumina extraction plant at Aughinish Island on Shannon Estuary in County Limerick. Aughinish Finance is 40% owned by Alcan Ireland Ltd., 35% by Billiton Aluminium Ireland Ltd., and 25% by Anaconda Ireland Co. Plant, which will produce 800,000

tons of alumina annually from bauxite imported from Guinea and Brazil, is scheduled for completion in 1982.

■ **Malaysia**—Aluminium Pechiney and Hyundai Heavy Industries Co. will undertake feasibility studies for aluminum complex proposed for island of Labuan, Sabah, Malaysia. Capacity initially will be about 90,000 metric tons of aluminum ingot per year. Estimated investment will be about \$700 million. Plant is expected to begin production in late 1982.

■ **Trinidad**—Fertilizers of Trinidad and Tobago Ltd. (Fertrin) will build 2300 ton-per-day ammonia fertilizer complex at Port Lisas. Completion is scheduled for 1981.

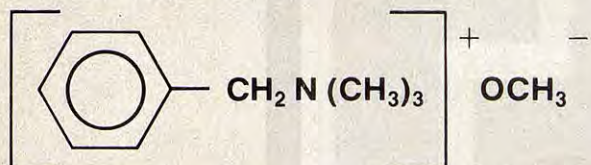
■ **Turkey**—Mitsubishi Petrochemical Co. will supply biaxially oriented polypropylene film plant for Polifan Sentetik Film Sanayi A.S., a marketing and production organization established by group of Turkish companies. 3000 ton-per-year plant will be built in Trabzon and begin operation in 1980 using polypropylene supplied by Petkim Petrokima, Turkish national petrochemical organization.

PERFORMANCE CHEMICALS

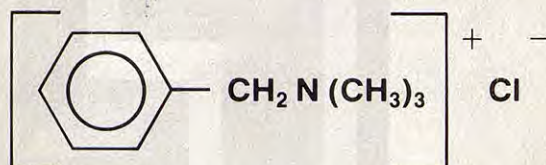
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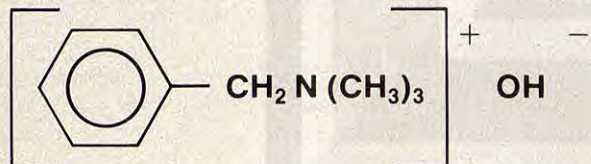
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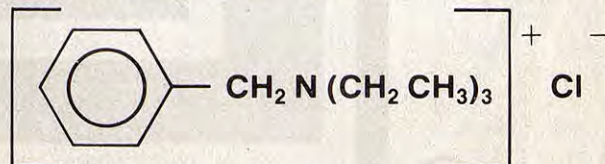
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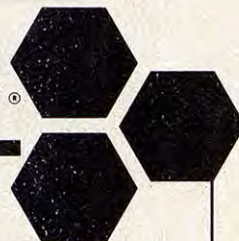


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NOV 10 1978

Anderson



League of Women Voters of Lubbock

Lubbock, Texas

November 10, 1978

TO: Bill Blann, Channel 13 / *BCC: Betty A., Laura K.*
FROM: Pats Bruno & Nickell (PB 793-0553 and PN 793-0003)
RE: Taping in Austin--Nuclear waste disposal project

We have recently met with Laura Keever, League of Women Voters of Texas State Board Director of Energy. She advised us of the following seminar dates in Austin and Houston, which we are planning to attend:

November 16-17 Austin

Energy Advisory Committee of Texas--Public Hearing✓

December 15 Austin

Energy Advisory Council Senate Floor Meeting to adopt revised nuclear policy document

January 29-30 Houston

Nuclear Energy Symposium sponsored by the League

Please make a note of these dates to arrange for a camera person. We will notify you again nearer the dates for the December and January trips.

Concerning our first out-of-town shooting on November 16-17 (Thursday and Friday), we have arranged interviews with:

Susan Reed, nuclear resource person, The Texas Observer

Bill Fisher, Bureau of Economic Geology, UT Austin
(attended all state public hearings held by DOE on nuclear waste)

Martin Woucash, Radiation Control, Texas Health Department

We plan to see these people before the public committee hearings and to review a number of documentary films at the University of Texas before Friday.

Although we have not yet received an advance on the grant funds, we will cover expenses for air fare, hotel accommodations, and meals for Victor for the two days.

We anticipate the cost of car rental in Austin to be beyond our budget, and with the equipment requirements, we are considering driving to Austin.

An LWV-Education Fund committee will meet Monday, Nov. 13, in Washington, D.C. to review our project outline and budget, and then, half the grant funds should be immediately forthcoming.

FYI: A copy of the AJ article (11-9) is enclosed.



LEAGUE PLANS PROJECT — Meeting to discuss an upcoming educational film on nuclear waste storage are, from left, Mrs. Patricia Bruno and Mrs. Pat Nickell, project co-chair-

men. Laura Keever of Houston, energy director of the League of Women Voters of Texas, and Betty Anderson, state president of the League. (Staff Photo by Paul Moseley)

League Plans Documentary

Mrs. Laura Keever of Houston, energy director of the League of Women Voters of Texas, was in Lubbock recently to confer with local leaguers on their nuclear waste disposal educational project.

Mrs. Keever, who is also vice chairman of the citizens' advisory committee to the Texas Energy Council, met with Betty Anderson of Lubbock, state League president, and project directors Mrs. Patricia Bruno and Mrs. Pat Nickell.

Under grants totalling \$5500 from the national League's education fund and the Exxon Corporation, the local League will produce an educational documentary in cooperation with the New Mexico league, on the implications of nuclear waste storage in the West Texas-Eastern New Mexico area.

The film will explore the political, social and technical aspects of nuclear waste disposal, from the particular vantage point of this area, in which several sites for such disposal are being considered.

It is designed not to influence legislation or public opinion for or against such disposal, but to serve as an educational means of informing people on the ramifications involved.

The League of Women Voters is concerned with national and state policies regarding the disposal of nuclear waste, and hopes to be helpful in formulating long-range policies and plans.

NOV 30 1978



League of Women Voters of Lubbock

Lubbock, Texas

November 28, 1978

Betty Anderson, President
League of Women Voters of Texas
5017 15th Street
Lubbock, Texas 79416

Dear Betty:

Collecting our luggage and thoughts after this trip to Austin with film equipment took some time. Both had been squeezed into Pat's Trans-am for two days. We think the trip was very successful.

One of the things that made it so rewarding was the money we saved, as well as the amount we accomplished--having the League office "motel" available to us was very helpful and we tended to feel more "at home". Perhaps it was the art work. We are most grateful for the courtesy and hope we were proper guests--enough to stay again if necessary.

Our thanks also to the Austin staff, who cleaned up after us, and made sure we were able to get in and out at weird hours.

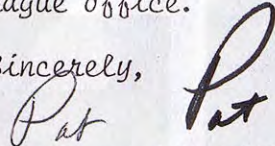
We took an hour's worth of videotape (a lot) from three interviews with: Martin Wukasch, Radiation Control Director at the Texas Department of Health; Jerry Wermund and Bill Fisher at the U.T. Bureau of Economic Geology. We also got cover footage of the splitting of salt core samples from the potential area waste sites in Palo Duro Canyon. We toured U.T.'s nuclear reactor lab.

Our only frustration: Linn Draper wasn't home and the Eng. Adv. Council public hearings were DRY.

We will probably NOT return for the Dec. 15 wrap-up on policy recommendations. Instead, we are considering a quick trip to Austin on Dec. 7 for the Panel and plan a major jaunt Dec. 11-12 to Sandia Labs and Los Alamos, the N.M. WIPP office & the Office of Energy. We will accompany Marianne Thaeler, who has been very helpful in arranging this leg. Our only snag has been over Victor's lack of citizenship, but we are working it out.

Again, our thanks for the use of the League office.

Sincerely,


Pat Bruno & Pat Nickell

P.S. I have some nuclear waste material from Fumi Sugihara for you, but I am taking the liberty of reading it before passing it on for later return.

LEAGUE OF WOMEN VOTERS OF TEXAS EDUCATION FUND
1212 Guadalupe, #109, Austin, Texas 78701

PROJECT SUPERVISOR'S EVALUATION

LWV OF _____ PROJECT _____

1. Have you received copies of the following:

Project Director's Report?

Financial Report?

Publication?

Conference invitation?

Other printed material? Please list.

2. Was the project implemented as planned?

3. Do you have any suggestions for managing similar projects in the future?

4. Have you other comments?

5. Are there any particular individuals that worked on the project that you would recommend for future TEF projects?

In salaried jobs?

Signature of Supervisor

Date

Please fill in this form as soon as possible after completion of the project .
and mail to the TEF secretary.

A STATEMENT PRESENTED BY THE LEAGUE OF WOMEN VOTERS OF
ODESSA, TEXAS at the DOE HEARING 8 June 1979
Albuquerque, New Mexico

The League of Women Voters of Odessa, Texas, thank you for the opportunity to present some of our thinking on the Draft Environmental Impact Statement of the Waste Isolation Pilot Plant proposed for Eddy County, New Mexico.

We recognize some of the numerous and complex problems the United States faces in the energy field today. We have supported the economically and environmentally sound use of coal and fossil fuel resources and the development of renewable energy resources including solar, wind, geothermal, etc. We, who live in an oil and gas producing area in West Texas, certainly recognize the vulnerability of the too great dependence of our national economy on our depleting oil and gas resources.

We also support the governmental effort seeking a solution to the problem of storage of nuclear waste. At the same time we urge that nuclear waste be stored in properly engineered, biologically safe and environmentally sound repositories. In addition, we feel there should be a continuous stewardship built into the system of each repository as it is designed, not transitory agency responsibility. The responsibility needs to be spelled out in black and white so all will know who is responsible for operating the monitoring facilities and how this monitoring will be done. The responsibility for payment and/or replacement of land, water, property or human life in the area should be determined as an integral element of the project development.

The limits of liability assumed by the government in the event of loss of aquifers due to salt intrusion and/or radionuclear contamination should be addressed. Decisions and plans on the perpetual care and liability of responsibilities related to the licensed nuclear activities need to be shared with the public and should be made before, not after the problem arises.

In November of 1978 the League of Women Voters of Texas finished a groundwater management study for Texas. One of the primary objectives we agreed upon was that we should strive to maintain groundwater quality by preventing harmful contamination of aquifers.

After this Texas groundwater study was completed, we in Odessa began an intensive look at the proposed Waste Isolation Pilot Plant proposed for Eddy County, New Mexico. We had found two aquifers of the Delaware Basin actually present at the site of the mine--the Santa Rosa and the Rustler. Subsequent evidence has shown that the Cenezoic Alluvium Azuifer is also involved.

After studying the DEIS the LWV concluded that because of the small project area of influence adopted in the WIPP DEIS, the true hazard potentialities are not reflected. Because of the limited area of analysis the DEIS concludes that the impact is not too far reaching and that the true hazards are less serious than the risks assessed. The DEIS further implies that the public risks to Texas are either unquantifiable or insignificant.

For example, to quote the DEIS, page 7-62: "The Delaware Basin... contains some of the least productive aquifers in the United States."

We have not studied all aquifers in the United States and we cannot really judge this statement. But, it doesn't matter whether the Delaware Basin has the least productive aquifers of the United States. The aquifers of the Delaware Basin are the ONLY aquifers in this area. They are the only aquifers this area is ever likely to have in the foreseeable future unless we have drastic geographic or climatic changes.

Ward, Winkler, Loving and Reeves Counties of Texas are totally dependent upon these aquifers for their irrigation and municipal water supplies. Gaines, Andrews, Ector, Crane and Pecos Counties are partially dependent upon these water aquifers for their livelihoods in varying degrees.

We of the area would like to trade these aquifers in on new bigger, better sources of water. But, until someone can tell us how, they are the best we have. It seems the best policy we can assume is to protect what we have.

We certainly do not grant the point that the affected aquifers are the least productive in the United States.

Here we will refer you to the Continuing Water Resources Planning and Development for Texas in two volumes published May, 1977 and available from the Texas Water Development Board; Austin, Texas 78711 (P.O. Box 13087) The section on the Rio Grande Basin has use and availability data relevant to the WIPP site discussion. There is some implication of data from the Colorado River Basin section also.

There are over 250,000 United States citizens who live in the area of which we have been speaking. They are dependent upon this water every day, every year of their lives.

The DEIS on page 9-105 describes the DOE hydrologic studies thusly: "A computer code modeled the Delaware basin hydrology in a square mile area 36 miles on a side. Local boundary conditions were determined for this model. Then calculations performed with the model defined aquifer communication (or lack of it) and aquifer flow rates; they also tested the consistency between model generated numbers and hydrologic measurements in the field."

Page 7-68 states: "Groundwater in the Rustler Formation east of the Pecos River generally flows southerly and southwest along formational gradients and discharges into the Pecos River."

This ground water that moves into the Pecos River at Malaga Bend flows southward through Texas to the Rio Grande. In the upper part of the Pecos River drainage system in Texas, the Pecos River is directly connected to the Alluvium deposits in Loving, Reeves and Ward Counties. These deposits are extremely permeable, and large quantities of river water move into the aquifer due to the difference in hydrostatic pressure between the river and the alluvium. The alluvium deposits range up to 1,500 feet or more in thickness and yield large volumes of water used principally for irrigation." (letter 16 May 1979 Baskin)

We believe that the impact that the WIPP site could have on the water resources of the State of Texas can be properly evaluated only if the entire geologic sequence of formation and the hydrologic framework of the Delaware Basin in New Mexico and Texas be studied on an integrated, regional basis. Basic principles of hydrologic and hydrologic continuity dictate the necessity of aquifer-wide analysis. From the standpoint of water resources planning, development and management, the "region of influence" should be larger than the WIPP project used in the DEIS.

The aquifers of the Delaware basin are not restricted to the arbitrary limits of the DOE study. They are, in fact, interstate aquifers.

THE ENTIRE SYSTEM NEEDS TO BE UNDERSTOOD.

The actual mechanisms at work in this aquifer system are not fully understood. There seems to be a need for a detailed, monitoring and surveillance plan for the entire system--not just the arbitrarily chosen area 36 miles to a side. There should be establishment of observation wells in the Rustler, Cenozoic Alluvium and Santa Rosa aquifers.

The Texas Department of water Resources has done much work in this area in trying to define aquifers, measure levels of water and test for various mineral components of the water. The Texas Department of Health also tests wells in this area. I can find none of their data utilized in the EPS.

WHY?

It seems fairly clear that the interchange and flow of ground water in the Delaware Basin area of southeast New Mexico and southwest Texas is poorly understood at this time. Further research needs to be done before placing nuclear waste including long-lived transuranic waste in the area of these aquifers.

An aquifer is a priceless natural resource. The more desert-like the environment, the more delicate and precious the existing aquifers of the area. Because these areas of New Mexico and Texas are semi-arid, dry regions, the available water becomes even more precious than it would be in an area with much more plentiful water resources.

If these aquifers of the Delaware Basin were ruinously contaminated by either massive salt intrusions and/or radionuclide intrusions caused by the introduction of the WIPP site into the eco-system, we are taking a chance on making the area downstream dependent on the water uninhabitable.

It would be impossible to maintain the present economy and population of this area without the ground water in question. As much surface water is utilized as possible, but without a change in climate, there is not enough surface water available.

When any nuclear waste repository is introduced into an area, it becomes part of the ecosystem of that area until the radionuclear materials which have been introduced reach the same radionuclear level that is natural for the surrounding area. We would like to see the WIPP repository monitored until this is achieved.

In conclusion we would like clarification of a perpetual care plan for the WIPP repository and the monitoring system that is to be utilized.

We feel DOE needs to pool their considerable resources and knowledge with the resources and knowledge of the Texas Water Development Board and other appropriate agencies to make an intensive study of the aquifers of the Delaware Basin area of southeast New Mexico and southwest Texas before any further decisions on the WIPP site are made.

Thank you for your time and consideration.

NOV 9 1978

League of Women Voters Education Fund 1730 M Street, N.W., Washington, D.C. 20036 (202) 659-2685



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STAFF DIRECTOR

Martha T. Mills

November 7, 1978

Patricia Bruno

Dear Patricia:

It was good to meet and talk with you at our Training Conference last month. The LWVEF Energy Committee and national staff certainly welcomed the opportunity to work personally with all the state project managers and hope that the conference was only the beginning of a fruitful working relationship between us on the Energy Education Phase II projects.

Accordingly, I am enclosing the following articles on nuclear waste which I thought you may not have seen:

"'Radwastes': Leading Policy Role Recommended for Science Adviser", (Science, Vol. 202, October 6, 1978)

"'Cooperative Federalism' Proposed for Siting Waste Repositories", (Science, Vol. 202, November 3, 1978)

"U.S. Study Finds Nuclear Waste Disposal Is Possible but Could Take 17 More Years", (Wall Street Journal, October 20, 1978)

Nuclear Regulatory Commission Proposal for Management and Disposal of Low-Level Wastes by Shallow Land Burial and Alternative Disposal Methods (Federal Register, October 25, 1978)

We will try to send other such articles along as we come across them.

Incidentally, we are very pleased to see that you and New Mexico have set up regular communications to keep up with what is going on in both states. Keep up the good work!

Sincerely yours,

Isabelle

Isabelle P. Weber
Coordinator
Energy Department

cc: Mrs. Betty Anderson

enclosures

“Cooperative Federalism” Proposed for Siting Waste Repositories

What the nuclear enterprise needs most as it tries to fend off its critics is a well defined, widely accepted national policy and program for the disposal of radioactive wastes. The Carter Administration may have taken a major step toward establishing such a policy with the issuance on 19 October of a draft report by the Interagency Review Group (IRG) on waste management, which the White House set up late last winter. Spokesmen for the National Governors' Association and two prominent environmental groups praised the report as an improvement over past efforts at formulating a waste management policy.

This report, which is accompanied by a subgroup report on alternative technology strategies prepared under the leadership of the White House Office of Science and Technology Policy (OSTP), will be put in final form and submitted to the President after the close of a 30-day period for public comment.* It seems to be the most technically conservative and politically discreet official discussion of nuclear waste management put forward so far.

Past statements have indicated that the scientific feasibility of disposing of high-level reprocessing wastes (HLW) or spent reactor fuel in deep geologic formations—and in salt formations in particular—is not in doubt. The present report also takes an optimistic view, but does so in a guarded and carefully qualified fashion, and characterizes the past emphasis on seeking engineering solutions to the waste disposal problem as “too simplistic” and as having suffered from too little reliance on the materials and earth sciences.

John M. Deutch, chairman of the IRG, acknowledged at a press briefing that the IRG was divided as to the two key policy options set forth in the report for selecting the first repository site for spent fuel or HLW. One option is to choose a salt formation, the geologic medium which the Department of Energy (DOE) has been investigating and counting on all along; under this option, the site

might be selected by 1980 and the repository constructed as early as 1988. The other option is to await the availability of a wider range of media (basalt and granite are among other media being investigated); but in this case site selection could not be made before 1984 and construction of the repository could not be completed before 1992, at the earliest.

Although Deutch did not say how the IRG member agencies lined up on this issue, most of the 14 agencies represented on the IRG are understood to favor the more technically conservative option, or the one looking to the wider choice of emplacement media. The DOE, on the other hand, is said to favor saving time by proceeding with salt.

The draft report acknowledged that adoption of this option could lead to a rapid increase in information and provide an early showing of progress. But it said that it involved “increased risk of both technical and institutional failure which could be detrimental to the overall program.” Licensing and construction of

“intermediate scale” experimental facilities (for up to 1000 fuel assemblies) in different geologic media was recommended as a key to a sound R & D strategy. The first of these might be available by 1986, the report said.

Past approaches to selection of repository sites have been chiefly notable for the amount of political opposition stirred up in states (such as Michigan, Louisiana, and New Mexico) where salt formations were coming under investigations. The new approach recommended in the draft report is put forward under the label of “cooperative federalism.”

Under this approach, the President would establish an “executive planning council” that would include selected governors and representatives of groups such as the National Conference of State Legislatures, the National League of Cities, and the Council of Energy Resources Tribes as well as officials from the DOE and other federal agencies. The council would, among other things, develop criteria and plans for siting repositories and help design and evaluate environmental impact statements on such proposed facilities.

In addition, the particular states where possible repository sites are identified would be assured that site selections would be made by a process of “consultation and concurrence.” No site would be selected without the agreement of the state in which it is located. The IRG said

Uranium Mill Tailings Bill Enacted

In its closing hours, the 95th Congress enacted legislation dealing with the disposal of uranium mill tailings, a significant but long-neglected part of the overall problem of radioactive waste management (*Science*, 13 October).

The legislation, which the Carter Administration supported, has two principal features. First, it provides for the federal government—with the affected states to pay 10 percent of the total cost—to undertake to eliminate the hazards associated with more than a score of inactive tailings piles left from past uranium milling operations carried on under Atomic Energy Commission contracts. The cost of this effort has been put at \$140 million, but this estimate may fall far short of the true cost, especially inasmuch as a number of the piles probably cannot be stabilized and rendered innocuous in place but will have to be moved.

Second, the legislation clarifies and strengthens the authority of the Nuclear Regulatory Commission (NRC) to insist on proper tailings management by its uranium mill licenses. Equally important, it will require those states which have chosen to license such milling operations themselves to abide by substantive standards at least as stringent as the NRC's. Procedural standards for public hearings and environmental studies also are prescribed.

The Atomic Safety and Licensing Board, in decisions issued in two reactor licensing proceedings last summer, indicated that implementation of NRC policies for tailings disposal will reduce future environmental and health effects to negligibly small proportions. This sanguine view will, however, be debated next year when the forthcoming generic environmental impact statement on tailings disposal comes under public review.—L.J.C.

*Available from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. The IRG report is priced at \$9 per printed copy, \$3 per microfiche; the subgroup report, \$9.50 and \$3.

this right of concurrence is preferable to having Congress confer on the states the authority to "veto" repository projects (although the only difference would seem to be that, with the consultation and concurrence process, no state would be expected to reject a site precipitously).

The IRG recommended against relying on a single geologic repository through the end of the century as present policy contemplates. Instead, it called for two or three repositories, each in a different region. "With [the] single-repository approach," the report observes, "the near-term construction and operating costs might be less. However, the need to transport wastes from all over the United States to a single facility could add significantly to cost and would result in numerous political and other institutional problems during site selection and operation."

The National Governors' Association had itself proposed the consultation and concurrence concept, and its reaction to the IRG draft report was enthusiastic. The chairman of this group's Nuclear Power Subcommittee, Governor James B. Edwards of South Carolina, dispatched a telegram to Deutch commending the IRG for taking a "most un-bureaucratic and refreshingly productive" approach to the waste management problem. In past years Edwards has been concerned lest an attempt be made to commit the high-level military wastes now in temporary storage at the DOE's Savannah River plant to a bedrock formation that underlies one of the most important freshwater aquifers in the Southeast.

Two environmental groups deeply involved with the radioactive waste issue, the Union of Concerned Scientists and the Natural Resources Defense Council, issued a joint statement hailing the IRG report as a "positive and welcome change from the tired rhetoric of waste management reports of previous administrations." But these groups qualified their praise by saying that the IRG had failed to address the question whether more wastes should be generated in the absence of a convincing demonstration that the problem of ultimate disposal will be solved.

They also complained that the report does not evaluate the controversial Waste Isolation Pilot Project (WIPP) for transuranic defense wastes—and possibly an intermediate scale experimental venture with spent fuel—which the DOE has hoped to carry out near Carlsbad, New Mexico, if its site investigations there turn up positive. In their view,

WIPP is plainly inconsistent with siting criteria set out in the report. They say, for instance, that, whereas the report indicates that sites should be selected with a view to minimizing the possibility of human intrusions during the thousands of years the wastes remain hazardous, the presence of potash deposits in the vicinity of the WIPP site is an invitation to such intrusions.

The past performance of the DOE and its predecessor agencies in waste management has been such as to inspire proposals in Congress and elsewhere that the department be relieved of responsibility in this field by establishing an independent agency. But the IRG indicated in its report that to set up a new agency would lead to more delay in getting on with the job and to a loss of the appropriate perspective of waste management viewed in relation to energy production and other energy-related environmental issues.

It recommended that the DOE develop and implement waste management plans subject to the regulations and licensing authority of the Nuclear Regulatory Commission. The report makes no mention of the proposal put forward recently by the "Keystone group" (an ad hoc nuclear waste discussion group made up of environmentalists, academicians, and industry people) to have the President's science adviser serve temporarily as the top policy-maker in this field (*Science*, 6 October).

A policy issue considered inconclusively by the IRG was whether all new post-reprocessing facilities to be built by the DOE for high level military wastes should be licensed by the NRC. These facilities would include vitrification and encapsulation plants and tanks for the temporary storage of HLW. Although the congressional armed services committees are resisting proposals to extend NRC licensing to new defense waste facilities, some IRG member agencies (such as the Council on Environmental Quality) felt that all such facilities should be licensed. Final repositories for HLW must be licensed even under existing law.

The IRG report and that of its subgroup encompass such a wide range of technical and policy issues related to both commercial nuclear power and military wastes that only the highlights are summarized here. But some of the incidental findings, such as the one holding that whether spent fuel is reprocessed or not is not a question "fundamentally related" to safe waste disposal, are also weighty in their implications for waste management in the United States and abroad.—LUTHER J. CARTER

RECENT DEATHS

Geary F. Eppley, 82; former professor of agronomy, University of Maryland; 17 June.

N. B. Everett, 62; former chairman of biological structure, University of Washington School of Medicine; 23 May.

Roxana S. Ferris, 83; curator emerita, Dudley Herbarium, Stanford University; 30 June.

Rudolf Grah, 62; professor of forestry and conservation, University of California, Berkeley; 25 May.

Karl F. Herzfeld, 86; former chairman of physics, Catholic University; 3 June.

George H. M. Lawrence, 67; director emeritus, Hunt Institute for Botanical Documentation, Carnegie-Mellon University; 11 June.

K. Lucille McCluskey, 86; professor emeritus of chemistry, St. Xavier College; 16 June.

Walter R. Miles, 93; retired professor of psychology, Yale University; 15 May.

Glenn Murphy, 70; former chairman of nuclear engineering, Iowa State University; 2 April.

Wayne W. Panyan, 37; associate professor of engineering, University of Detroit; 9 June.

Robert Parent, 61; professor of electrical engineering, University of Wisconsin, Madison; 23 June.

Giuseppe Parravano, 60; professor of chemical engineering, University of Michigan; 1 April.

Thomas C. Poulter, 81; physicist and senior scientific adviser, Stanford Research Institute International; 14 June.

Emil Prout, 58; professor of metallurgical engineering, Cleveland State University; 11 June.

Dennis E. Pulestron, 38; associate professor of anthropology, University of Minnesota; 29 June.

Oscar K. Rice, 75; professor emeritus of chemistry, University of North Carolina, Chapel Hill; 7 May.

Lloyd L. Smith, Jr., 68; professor of entomology, University of Minnesota; 17 June.

Russell P. Smith, 80; former chairman of physics, Grove City College; 14 May.

Edmund M. Spieker, 83; professor emeritus of geology and mineralogy, Ohio State University; 6 March.

James T. Wilson, 63; geologist and seismologist and director, Institute of Science and Technology, University of Michigan; 25 May.

Edgar W. Woolard, 79; meteorologist and director, Nautical Almanac Office, U.S. Naval Observatory; 17 June.

PROPOSED BUDGET FOR NUCLEAR WASTE DISPOSAL DOCUMENTARY

<u>STIPENDS</u> for project managers (10 %)	\$	<u>550.00</u>	
<u>TRAVEL</u> (includes low air fares, food, lodging and car fare			\$ 550.00
Houston		475.00	
Austin		330.00	
Midland		50.00	
Amarillo		50.00	
Carlsbad, N.M.		320.00	
Albuquerque, N.M.		410.00	
Washington, D.C. # 1		110.00	
Washington, D.C. # 2		940.00	
Flight for Laura Keever from Midland to Lubbock and back		<u>100.00</u>	
			\$2,785.00
POSTAGE, (\$25) XEROX (\$25)			
PHONE CALLLS (including long distance)			
(\$500) and SUPPLIES (\$25)		<u>575.00</u>	
			575.00
<u>STATION EXPENSES</u>			
Graphics		100.00	
Tape costs and dub		580.00	
Equipment		520.00	
Promotion and Publicity		<u>200.00</u>	
			1,400.00
<u>HANDLING COSTS</u> in State League Office and tape distribution costs		<u>190.00</u>	
			<u>190.00</u>
	TOTAL		\$5,500.00



OCT 6 1978

OCT 4 1978

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STAFF DIRECTOR
Martha T. Mills

September 29, 1978

Betty J. Anderson, President
LWV of Texas
1212 Guadalupe, #109
Austin, Texas 78701

Dear Betty:

We are pleased to inform you that your League has been selected by the LWVEF review committee to receive \$4,000 in DOE pass-through funds as part of the LWVEF's Energy Education Program, Phase II. Congratulations!

We do want to bring to your attention the fact that EXXON had earlier expressed an interest in contributing \$1500 towards the energy education project undertaken by your state League, should it be selected to participate in Phase II. We notified EXXON today that the Texas League had been chosen. EXXON will send its contribution of \$1500 to the LWVEF to be disbursed, at our discretion, either as part of the basic \$4,000 pass-through grant (thus stretching our DOE grant funds further), or as an addition to it. Before reaching a decision on the final amount of the LWVEF grant to your project, we will, of course, need to discuss your overall plans and budget requirements with you and/or your project manager. We would like to do this at the project workshop so it is important that your League consider this matter prior to October 18.

A copy of this letter is being sent to the project manager and the workshop participant listed on your League's project proposal. We will expect them to attend the Project Workshop in Washington from October 18-20, 1978. Registration will take place from 12:30-2:00 p.m. on the 18th, with the program beginning at 2:00 p.m. The workshop will end at approximately noon on the 20th.

Reservations have been made for all participants at the Jefferson Hotel, 16th and M Streets, N.W., but they must be confirmed. Your League's participants should let us know no later than Monday, Octo-

Betty Anderson, President
LWV of Texas

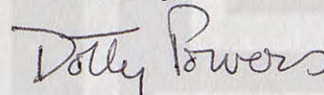
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9/29/78

ber 9 their date and time of arrival and departure. If they intend to extend their stay in Washington, we must know as soon as possible if they wish us to make any arrangements at the Jefferson Hotel. A mailing of more specific workshop information will shortly be sent to all participants.

One final but important matter relates to the LWV of New Mexico. They have also submitted a proposal dealing with nuclear waste disposal, a copy of which is enclosed, and have also been awarded a \$4,000 pass-through grant. It seemed to our review committee that we should bring this to your attention since it offers a particularly good opportunity for your state Leagues to work together on a joint effort, thereby enhancing your final project. The October workshop will provide an opportunity to discuss this in detail but we hope that your board will have time to consider this before then. You may also want to discuss this informally with the New Mexico League, who have received a copy of your project proposal.

Sincerely,



Dorothy K. Powers, Chair
National Energy Committee

cc: Patricia Bruno (project manager)
Pat L. Nickell
EXXON

enclosure



MEMO to Betty Anderson

October 25, 1978

From: Pat Bruno and Pat Nickell

Re: Nuclear Waste Disposal Project, Washington D.C. Energy Conference

Copies: Marjorie Burr, President, New Mexico League of Women Voters

Laura Keever, Energy Chairman, LWV of Texas

Marianne Thealer, Energy Chairman, LWV of New Mexico

Mary Reynolds, Project Manager, LWV of New Mexico

KLBK-TV in Lubbock

PROJECT INTERVIEWS

We went to the office of Natural Resources Defense Council on Monday, October 16, and interviewed Tom Cochran, Ph.D. and staff scientist, and Richard Pollock, Director of Critical Mass Energy Project. We taped the interview and will transcribe two hours of tape. This interview dealt with the major political and legislative issues which affect waste management policy at the Washington level. We also were given names and organizations to contact in Washington; Palo Alto, Calif.; and Albuquerque, N.M.

During the conference, the Department of Energy conducted a press conference to release an Interagency Review Group (IRG) Report to the President on Nuclear Waste Management, with the introduction by John Deutch of DOE, Chairman of IRG. These reports, in three volumes, presents the findings, policy considerations, and tentative recommendations reached by the IRG in its deliberations and study which began last March at the direction of the President. We were given copies of the three volumes.

Laura Keever was in Washington to attend the press conference and we met and visited with her briefly.

The National League staff had arranged for Texas and New Mexico project managers to interview Sheldon Myers, Director of Waste Management for the Department of Energy on Thursday, Oct. 19. During this hour-long discussion, Mr. Myers also offered to be of help in any way possible, including conference participation or televised interviews at our convenience.

LWVUS EF ENERGY CONFERENCE

The conference began October 18, 1978. The major outcome was that we agreed to work with the New Mexico League of Women Voters in conjunction with their project, which is a 25-page booklet and an early spring conference in Eastern New Mexico. Mary Reynolds of Las Cruces is the project director and Dr. Alex Burr of Las Cruces is her assistant.

We recommend to the two states that they accept the project as a joint venture. The extent of cooperation logistically possible can be discussed, but we anticipate that both states might share resources and acknowledgements on our final products.

We are enclosing a copy of the conference agenda, most of which did not deal specifically with nuclear waste, per se, but did concern itself with guidelines and grant administration.

We did encounter interest in both the New Mexico project and ours from conference delegates from Wyoming, Illinois, Ohio, Florida, Pennsylvania, New York, and other states. They requested an opportunity to view the videotape once it was completed and asked to be kept informed of progress on the projects.

GRANT FUNDS

As far as the Exxon funds are concerned, to our knowledge the LWVUS position suggests the funds are forthcoming to us. They required no further justification of the budget, which includes the additional \$1500. A final budget and outline of the project is due in the national office November 10. However, the National League staff suggested and we concur that perhaps our state board might wish to apply for matching funds. We will contact Carole Shlipak on this. Enclosed is our first revised tentative proposed budget (by no means final), which does not reflect a number of items indicated during the conference. Further details on the budget will be forthcoming soon (before November 10). Linda Archer of the Lubbock League has agreed to act as Project Accountant.

COMMUNICATION

To maintain communication among all participants in both states, we plan to send a bi-weekly memo to you, with copies as indicated.

We look forward to a further visit with Laura Keever on November 3 in Lubbock. The Lubbock League Board plans a salad luncheon at 11:30 a.m. Friday, Nov. 3, in the home of Carolyn Lanier at 4803 W. 16th St., in honor of Laura and Rachel Gooch, Consultant to the League, who will also be visiting in Lubbock at that time.



LUBBOCK, TEXAS

VOTER

November 1978

Carolyn Lanier, President
4803 16th Street, 79416

Janet Thornton, Editor
4711 64th Street, 79416

WORKSHOP SET

A Legislative briefing for Leagues in the West Texas area will be held in Lubbock on Nov. 28 from 10:00 A.M. until 2 P.M. at the First Federal Savings and Loan 3845 50th. The LWV of Texas is holding the briefings. The program is designed to help local leagues get ready for the upcoming legislative session in Austin. Topics for discussion include: legislative priorities, legislative interviews, and lobby laws and techniques. Betty Anderson and Louise Cummins will conduct the session. The state league is holding similar briefings in Dallas, Austin, and Corpus Christi.

Lubbock League members are invited and encouraged to come and participate. Please call the League office if you plan to attend. You will not be telephoned. Bring a sack lunch or money to send out for a sandwich. Beverages will be provided.

* * * * *

ANNOUNCEMENT: KARMEN HOPKINS
new Telephone Chair

STATE PROGRAM

State program planning will be discussed at the November units in addition to the regular program which will be learning resource centers (libraries) in local schools.

Approximately five minutes at the end of each unit will be for suggestions for additional program study for the state League. Those Leaguers who are unfamiliar with state program may find it helpful to read the "We Support" pamphlet published by the state League and distributed to all local Leaguers.

Anyone with a suggestion for a study to be done at the state level may present it during the November units, and the state League explains that if any local League is doing a local study which could or should be expanded to complement the local study, then that could be suggested. Anyone who wishes to bring material to support his view may do so.

This is grass-roots level support, so if you have a suggestion to make, please be prepared to do it.

OFF THE CUFF:

Dear Leaguers,

When we first conceived having our own Bandwagon '78 no one knew how much work would be involved! Now that the time is here, we know we need you all! I know you will not let us down. Please bring your husbands, friends, lovers, children, mothers-in-law, attorneys, and doctors. We want the politicians to know there are people who care!

The two bluegrass bands, the free Cokes and popcorn, and the helium-filled balloons have all been arranged for us. Arch Lamb is lending his wagon for the setting. Straw hats, streamers and almost every politician on the ballot will be there. Please, please make every effort to come and mingle and hostess!

No wonder I love the League-- you are wonderful people.

See ya there,
CAROLYN

* * * * *

MORE AND MORE TV ---

Did you see the League's television show with Bush and Hance on Channel 5, Oct. 26? Louise did her usual great job!

ELECTION DOINS

On Nov. 7, 90 League volunteers throughout Texas, 6 from Lubbock, will gather data from key precincts. This information will be telephoned to the American Broadcasting Co. where it will be programmed into their computer. The news analysts and political scientists will broadcast this information on election night.

The local ABC reporters include: Louise Cummins, Sally Kersay, Dorothy Joiner, Skeet Workman, Mona Sandlin, and Karmen Hopkins.

John H. Thompson, manager of ABC's political unit has said, "Experience has shown that no other organization can match the League in election reporting. In state after state 100% of our sample is reported."

AND

In another Election Day activity, Pat Nickell, Darline Buckberry, Betty Nicholson, Diane Muma, and Dorothy Joiner will participate in the Secretary of State's Election Inspection Program. It is an attempt to prevent election fraud.

LOCAL STUDY ITEM - SCHOOLS

CONSENSUS

3

The school committee makes the following recommendations concerning the proper development of the Learning Resource Centers of the Lubbock Independent School District. Do you concur?

1. Adequate staffing for each campus Learning Resource Center is a major priority.
 - a. Full-time certified specialist.
 - b. Competent, well-trained aides with emphasis on curtailing turn-over in this area.
2. L.R.C. quarters must have adequate space, functional furnishings, and be adaptable to changes in program emphasis, curriculum design, and pupil population.
 - a. Increased use of media presentations by teachers and students.
 - b. Conversion of study halls into expanded library space.
 - c. Use of library geared to meet changing schedules and interest of all students.
3. The Texas Education Agency should establish standards necessary for accreditation in the area of L.R.C.'s.
4. Recommendations of the visiting accreditation teams concerning L.R.C.'s should be implemented in the L.I.S.D.
5. The various levels of government should cooperate in, and be responsible for, the building of a superior L.R.C. for each school child in Texas.



CREDITS WELL—DESERVED

Our 1978 Finance Drive is nearly over, and the Lubbock League is richer by \$4611.50. Last year's drive netted \$3228.75, so we have real reason to celebrate. Next month's VOTER will include the names of our contributors and our final 1978 Finance Drive total.

Now it's time for all of us to say "Thank you" to our own members who worked so hard and made the 1978 Finance Drive our Best ever! But First -- a message to all of the finance workers -- would you please come to a meeting at my house at 2506-60th on Nov. 8th at 1:00 P.M.? Bring your cards, folders, anything leftover, and we will try to figure out what worked well for us this year and what didn't. Keep the good and throw out the bad for the next finance drive.

MARY ORWIG -- Thank you for serving us lunch!

The Lubbock League thanks goes to these:

Carolyn Lanier
 Louise Cummins
 Betty Anderson
 Darline Buckberry
 Mary Vines
 Pat Nickell
 Sally Kersay
 Gladys Maynard
 Kathy Dietz
 Ann Burbidge
 Sophie Wilde
 Juanita Schmidt

Mona Sandlin
 Gail Tutino
 Virginia Mehaffie
 Pat Bruno
 Linda Archer
 Edith Purrington
 Trudy Wigginton
 Shirley Neher
 Joan Kyre
 Peg Westbrook
 Dorothy Joiner

Is it any wonder that our Finance Drive was so successful? Thank you, one and all.

RUTH LAUER

ENERGY EDUCATION

Pat Bruno and Pat Nickell of the Lubbock League have recently returned from Washington, D. C. where they attended a three-day Energy Education Project Workshop in connection with a grant from the National League of Women Voters Education Fund to the LWV of Texas.

Pat Bruno is Project Manager for the Texas project, which is to produce a 30 or 60 minute video tape documentary television show on the subject of nuclear waste disposal in the region. The show, which is being produced in cooperation with KLBK-TV Channel 13 in Lubbock, will tentatively air in the spring, 1979.

The Texas League was one of ten states awarded a \$4000 grant by the National League's Education Fund, with funds provided by the U. S. Department of Energy. This project is part of the overall Phase II section of the Energy Education Outreach Program.

The Texas project will be done in cooperation with the League of Women Voters of New Mexico, with plans to air the documentary show in New Mexico as well as Texas. Copies of the videotape will be offered to public broadcasting stations around both states for public service air time. The New Mexico League plans a nuclear waste conference in early March in the eastern part of New Mexico and has largely completed a booklet on the subject of nuclear waste disposal.

While Pat and Pat were in Washington, they interviewed Sheldon Myers of the Waste Management Division of DOE; attended a DOE press conference during which nuclear waste recommendations were made to President Carter; interviewed Dr. Tom Cochran of the Natural Resources Defense Council and Richard Pollock of the Critical Mass Energy Project.

Exxon has awarded an additional \$1500 to the Texas League for the waste project. Linda Archer of the Lubbock League has agreed to serve as Project Accountant.

REPRESENTATIVE GOVERNMENT

Washington, D.C.--The Last Colony?
October 24, 1978

Since 1924, the League has supported the effort to secure full voting representation for the District of Columbia. As of Aug. 22, the Senate gave its consent to provide two senators and representatives based on proportion of population. The House approved this resolution in March '78.

The time is ripe for state ratification of this important legislation in order to make this amendment law. (ratification by the required 38 states)

The League is a member of Self-Determination for D.C., a coalition which has continued to coordinate leadership in the passage and now ratification of this amendment.

Present League strategy is directed to states without active ERA campaigns in progress. However, simultaneously, the League is aware of a tremendous need to educate the public and state legislators about the issue.

Senator Kennedy, during Senate discussion of the amendment, gave the following as some of the reasons for support for the amendment:

***Based on 1977 census estimates of population, the District of Columbia is the residence of over 690,000 people, a number greater than the population of 7 states.

***D. C. citizens paid \$1.4 billion in federal taxes in 1977, greater than the taxes paid in 11 states.

***The casualty level for D.C. residents in the Viet Nam War-- 237 killed--was higher than the level of 10 states.

ALL of these clearly illustrations of violations of basic American rights!

Of the 115 nations in the world with elected national legislatures, only the U.S. and Brazil deny representation in their legislatures for the citizens of their capitol cities. In a time when the U.S. is stressing the preservation and protections of human rights, Senator Kennedy states, "The emperor has no clothes" when it denies the citizens of its capitol the right to vote for elected representatives.

KATHY DIETZ -- 792-0450
Representative Government

MEMBERSHIP CHANGES

7

Please add the following to your membership book:

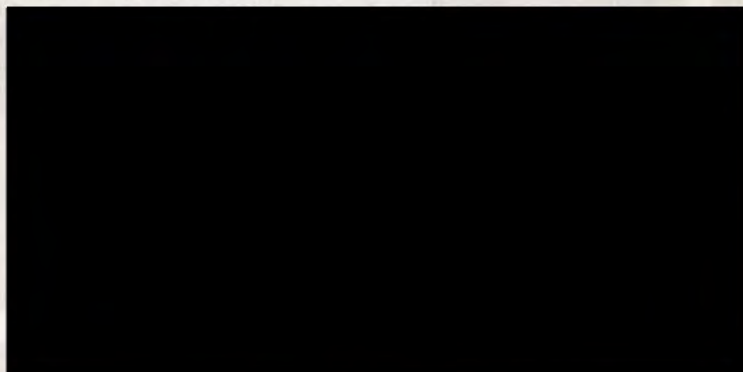
Elms, Lynn (Mrs. Larry)

Thomas, Clydene (Mrs. Thomas)

Arnold, Jean (Mrs. Frank)

Dorow, Tavita (Mrs. Winton)

Meyer, Marie (Mrs. Paul)



ERA PUBLICATIONS AVAILABLE

We have on hand a number of copies of a new concise League publication, revised September, 1978, "ERA means equal rights for men and women." If you would like a copy please ask Virginia Mehaffie (797-0148). Also I can, if you wish order for you a copy of a much longer and more detailed League study, "In Pursuit of Equal Rights: Women in the Seventies" at a cost of \$1.50 each (not included in your subscription service). Also available is a non-League publication, "The Church, Religion, and the Equal Rights Amendment."

VIRGINIA MEHAFFIE
Publications

FLASH! VOTER DEADLINE FOR DECEMBER ARTICLES IS NOVEMBER 21!



CALENDAR

- Nov. 2 BANDWAGON
- Nov. 3 Board and any interested members bring a salad to Carolyn's, 4803 16th, to meet Rachel Gooch and Laura Keever from State Board.
- Nov. 7 VOTE
- Nov. 13 Unit Meeting 7:30 P.M.
2001 31st -Trudy Wiginton
- Nov. 14 Unit Meeting 1 P.M.
5403 17th - Mary Orwig
- Nov. 15 Agenda-12:30-Sally Kersey
- Nov. 16 Unit Meeting 9:30 A.M.
4507 59th - Kathy Kreneck
- Nov. 21 Board, 9:30 A.M., Linda Archer's (3½ miles past the loop on Slide, turn right, second on right).
- Nov. 28 Legislative Workshop

LUBBOCK LEAGUE OF WOMEN VOTERS
4803 Sixteenth Street
Lubbock, Texas 79416

BULK RATE
U.S. POSTAGE PAID
Permit No. 269
LUBBOCK, TEXAS

Betty Anderson
5017 15th Street
Lubbock, Texas 79416





League of Women Voters of Lubbock

Lubbock, Texas

October 12, 1978

Bill deTournillon, General Manager
KLBK-TV Channel 13
7400 University Avenue
Lubbock, Texas 79423

Dear Mr. deTournillon:

On behalf of the League of Women Voters, we are delighted that you have accepted our proposal to jointly produce a public affairs program at Channel 13 exploring the problem in Texas of nuclear waste disposal. We are looking forward to working with you and your staff on the project. The League applauds your commitment to voter education and public service.

To confirm our conversation of October 11, KLBK will:

provide editing and technical assistance for the production of a 30 or 60 minute documentary to air in the Spring, 1979;

make available a camera technician and equipment for on-site taping and interviews. Approximately 15 days of out-of-town travel is anticipated within the grant period of six months.

and allow the use of Xerox machines, graphics, and Texas WATS line privileges at the station's convenience.

Budgeted within the \$5500 grant are travel costs, including air fare, food, lodging, and car fare for a KLBK-TV camera technician. To help defray station expenses, approximately 25 per cent is budgeted to KLBK for graphics, tape costs, equipment rental and promotion and publicity.

Enclosed are copies of the grant application stating the extent of the project (see bracketed material) and League of Women Voters Education Fund guidelines with spending limitations.

The League would like to thank you for your receptivity and enthusiasm and we look forward to a rewarding and cordial working relationship.

Sincerely,

Carolyn Lanier, President
League of Women Voters of Lubbock

enc. 2

cc Patricia Bruno

[REDACTED]

Pat L. Nickell

[REDACTED]

SEP 18 1978

September 15, 1978

Dotty Powers
Chair, National Energy Committee
LWVUS Education Fund
1730 M St., N.W.
Washington, D.C. 20036

Dear Dotty:

Enclosed is Texas' project proposal for the Energy Education Outreach Program -- Phase II.

We are very excited about the possibilities of a documentary on the storage of nuclear wastes. I talked with Isabelle Weber Thursday afternoon about handling the financial administration, and she suggested that I write this cover letter.

In our discussions with KTX-TV, the Lubbock PBS affiliate connected with Texas Tech University, the television personnel suggested that it would be advantageous for them to administer the funds for these reasons:

- . the project directors could be paid stipends as consultants;
- .. travel could be vouchered through the university;
- . the project directors would have access to the university WATTS lines for telephone calls;
- . the station (but not individuals) can contract with the university graphics department.

The university would waive their indirect costs; the television channel would donate production costs, etc.

If the proposal is approved, we suggest the check for \$4000 be made out to LWV-Texas Education Fund, and then we would subcontract. If it is not possible, we will renegotiate with the television station and the university -- although we think we have a workable arrangement

Hope you view the proposal with favor.

Sincerely,

Betty Anderson
President
Enclosure

bvc

bcc: B. Anderson
J. Wilbur
L. Keever
P. Bruno
C. Shlipak
S.O.

League of Women Voters Education Fund
1730 M Street, N.W.
Washington, D.C. 20036

TEXAS

(state)

PRELIMINARY PROPOSAL FOR A STATE LEAGUE
ENERGY EDUCATION OUTREACH PROJECT
(PHASE II)

Date: September 15, 1978

State President: Betty Anderson

League: LWV-Texas

Address & Phone:

Address & Phone: 1212 Guadalupe, #109
Austin, TX 78701
(512) 472-1100

1. Workshop Participant (project manager):

Patricia Bruno

Address & Phone:

2. Workshop Participant:

Pat L. Nickell

Address & Phone:

Evaluation of Phase I

1. Briefly, what were the objectives of the first state League energy education project?

The primary objectives of the first energy project were to: (1) hold three energy conferences in various locations in Texas; (2) provide information on both energy production and conservation, though emphasizing conservation -- a need in a producer state such as Texas; (3) reach expected audiences of 50-75 participants at each conference including League members, legislators, and the general public; (4) videotape the Austin conference for distribution to other local League areas.

2. From the state League's point of view, was the project successful in meeting those objectives?

Yes. The project was successful from the point of view of the LWV-Texas in that the conferences were informative and the desired number of individuals were reached. We ~~a. -- If yes, what aspects contributed significantly to its success? --~~

were not as successful in reaching legislators in the first two conferences, however the one held in Austin achieved this goal. This was due to location as well as emphasis on a legislative response panel in Austin. The videotape has been ordered for showing in Amarillo, Corpus Christi, San Marcos, Harlingen, and Abilene. It was shown in Austin initially.

b. If no, why not? What, if anything, do you think should have been done differently or should be done differently in another project?

Description of Phase II

Describe your overall proposed project, including your plans to make full use of effective materials developed in the first phase and to increase your audience or to target certain groups. (Attach an additional sheet, if necessary.)

The purpose of this project is to produce a 30- or 60-minute video tape documentary in cooperation with KTXT-TV, Lubbock's public television station, in order to regionally examine the questions and controversies surrounding nuclear waste disposal.

This documentary will examine three prongs of the nuclear waste issue: public fears, emerging policy and legislation, and proposed methods and costs of waste disposal/storage.

Program format will include interviews with Carter nuclear policy architects, regional nuclear energy advocates, environmentalists, and area consumer protest groups.

It would also include a brief review of recent proceedings from public hearings conducted in Midland, Amarillo, and El Paso, Texas over proposed nuclear disposal sites.

The documentary will further include an explanation of major risks and safeguards, existing, and proposed, for the transportation, storage and disposal of nuclear waste material.

Production will be under the supervision of Production Manager George Warmingham, and the program will air on Channel 5, KTXT in the spring of 1979. Video copies will be made available for use by local Leagues through the state office. Information on the documentary will be available to the West Texas local Leagues in Abilene, El Paso, Amarillo, Midland, and Odessa for local TV promotion. Copies of the tape will be offered to the Public Broadcast Service with its 200+ stations in a national network, a print of the program will also be available to any broadcast station to air on a non-commercial basis, and to educational and cultural institutions within the state.

Timetable Give a brief outline of goals or activities you would plan to accomplish in each time period.

Nov--Dec Begin research; complete interviews in Washington, D.C. and Austin, Texas; begin reviews of public hearings, and finish on-site filming and interviews in Carlsbad, N.C.; initiate project grant publicity.

Jan--Feb Complete interviews in Midland, Amarillo, Albuquerque, and Los Alamos; complete research and hearing reviews; transfer video cassette to two-inch tape; begin editing.

March--April Complete editing and production; finish promotional material for publicity.

May--June Dubbing and distributing four tapes for airing; make material available for air.

Budget Attach a general, proposed project budget

SEND THIS PROPOSAL BY SEPTEMBER 20, 1978 TO THE ENERGY DEPARTMENT, LEAGUE OF WOMEN VOTERS EDUCATION FUND, 1730 M ST., N.W, WASHINGTON, D.C. 20036.

PROPOSED BUDGET

Project Managers	\$ 400.00
Travel	1500.00
Video Tape Costs/Transfer	950.00
Graphics	50.00
Publicity	500.00
Equipment Rental	<u>600.00</u>
TOTAL	4000.00



SEP 21 1978

OCT 6 1978 2

League of Women Voters Education Fund
1730 M Street, N.W.
Washington, D.C. 20036

New Mexico
(state)

PRELIMINARY PROPOSAL FOR A STATE LEAGUE
ENERGY EDUCATION OUTREACH PROJECT
(PHASE II)

Date: September 16, 1978

State President:

Marjorie Burr

League: League of Women Voters of New Mexico

Address & Phone:

Address & Phone:

1. Workshop Participant (project manager): Mary Reynolds

Address & Phone:

2. Workshop Participant:

Dr. Alex F. Burr

Address & Phone:

Evaluation of Phase I

1. Briefly, what were the objectives of the first state League energy education project? To take to 12-15 N.M. communities an energy crisis and conservation presentation and to stimulate projects in those communities to increase public awareness of conservation techniques and alternative energy sources. It was to bring home to citizens the need for conservation.

2. From the state League's point of view, was the project successful in meeting those objectives? Yes and No

a. If yes, what aspects contributed significantly to its success?

There are already several groups in N.M. in public education for energy conservation and demonstration of alternative energy sources; e.g., N.M. Energy Extension Service, N.M. Energy Institute, Solar Association. LWV/NM Energy Education Outreach filled gaps with innovative ideas like a style show of warm indoor clothing and a meeting for community leaders on solar energy financing.

b. If no, why not? What, if anything, do you think should have been done differently or should be done differently in another project?

The personnel involved could not devote sufficient energy, time and effort to reach aggressively those people and communities where "there is considerable ennui concerning a great deal of the energy situation." Therefore, we did not completely reach our goal of reaching very far beyond those already interested in energy conservation.

Description of Phase II

Describe your overall proposed project, including your plans to make full use of effective materials developed in the first phase and to increase your audience or to target certain groups. (Attach an additional sheet, if necessary.)

During the past year the developments in the national energy situation have come home to New Mexico in several ways that have stimulated increased interest in the crisis; e.g., natural gas deregulation and nuclear waste disposal. Our proposal deals with this second issue.

With the President's National Energy Plan calling for vastly increased construction of nuclear generating plants, the question of nuclear waste disposal has become critical nationwide. "Today, 63 nuclear plants provide about 10 per cent of the U.S. supply of electricity. By 1985 an additional 75 nuclear plants already planned or in construction could be in operation, and nuclear power could provide as much as 20 per cent of the electric supply." (National Energy Plan) The nuclear waste isolation problem is now critical; doubling the number of nuclear plants will demand a solution to the waste disposal problem.

The plans for a Waste Isolation Pilot Project (WIPP) near Carlsbad, N.M., have expanded and accelerated, becoming a cause of concern to the whole state and particularly to the people on the east side of the state (the East Side). An emotionally charged controversy is raging now. The pro side points to the national need for a nuclear waste disposal solution; the cons point to the unknowns and the risks involved for the people of New Mexico. As ascertained under Phase I of the Energy Education Outreach Project, the people and government of New Mexico are already conservation-conscious. But even so they are asked to accept the nuclear wastes that have been and will be generated from meeting the nation's energy needs. (There are no nuclear generating plants in New Mexico.)

The Department of Energy has promised that the state will have the opportunity to pass or veto this waste isolation project. Whether it will be through legislative action, constitutional amendment, or some other method

Timetable Give a brief outline of goals or activities you would plan to accomplish in each time period.

Nov--Dec Organize and plan

Jan--Feb Publish brochure: "Nuclear Waste: What's the Problem or Is There a Problem?"

March--April Conference: "Citizens and the Nuclear Waste Issue: What Do We Need to Know? How Can We Be Effective?"

May--June Television program on state-wide PBS network: "Pros and Cons of Nuclear Waste Disposal at Carlsbad"

Budget Attach a general, proposed project budget

SEND THIS PROPOSAL BY SEPTEMBER 20, 1978 TO THE ENERGY DEPARTMENT, LEAGUE OF WOMEN VOTERS EDUCATION FUND, 1730 M ST., N.W., WASHINGTON, D.C. 20036.

is yet to be decided. There is a gap between technical information and emotional response to the issue, which the LWV is qualified to fill through public education on the issue.

The State Council of LWV/NM in April 1978 mandated that we provide unbiased information on nuclear waste disposal to the public. If we were to be funded under the Energy Education Outreach Project, we could carry this out effectively through a multiple approach.

First, we plan to publish 1000 copies of a brochure tentatively titled: "Nuclear Waste: What's the Problem or Is There a Problem?" (Outline attached.) Then we will hold a short state-wide conference on the subject: "Citizens and the Nuclear Waste Issue: What Do We Need to Know? How Can We Be Effective?" at which Local League members and selected participants from their communities will meet with interested community leaders from Carlsbad. This fulfills a need for transferring citizen education and participation skills--League specialties--to those who are concerned with the issue. Finally, we will present a program over the state-wide PBS television network: "Pros and Cons of Nuclear Waste Disposal at Carlsbad," probably a variation of a panel discussion in which all sides are given the opportunity to state and argue for their positions.

This multi-media approach will target the East Side of the state where no Local Leagues are established. About 800 of the 1000 brochures will be distributed there. The state-wide conference will be held there if feasible. Publicity for the television program will be targeted there. While we will not be using materials developed in the first phase, we will be responding to a critical energy problem, using League skills to effect an equitable solution.

Attachment to LWV/NM Energy Education Outreach Project Phase II
Sept. 16, 1978

"Nuclear Waste: What's the Problem or Is There a Problem?"

Outline

- I. Introduction and Background.
 - A. What is WIPP?
 - B. Nuclear energy
 - 1. How are wastes formed?
 - 2. What are effects of radiation?
 - 3. What are types of waste?
 - C. Alternative methods of disposal
- II. WIPP
 - A. Why is Carlsbad site considered?
 - B. Historical development of WIPP
 - C. Stages at disposal site
 - D. Critical problems
 - E. Unanswered questions.
- III. Citizens' Role
 - A. Public input opportunities
 - B. Risk-benefit ratio and long-term risk assessment
 - C. Final question

Attachment to LWV/NM Energy Education Outreach Project Phase II
Sept. 16, 1978

Budget

Salaries and Wages		
Project Director Stipend	\$ 400	
Secretarial Service	60	
Project Consultant	<u>100</u>	\$ 560
Brochure Publication and Distribution		
Printing of 1000 copis of 25-page brochure	1400	
Duplication of draft brochure to reviewers	<u>25</u>	1425
Postage for Brochures and Miscel- laneous Correspondence		150
TV Production		
Facilities--1 hour	500	
Participants' Expenses	500	
Publicity	<u>100</u>	1100
Conference		
Expenses of Consultants to Conference	500	
Partial Travel Allocation to each Local League Community	<u>210</u>	710
Communication and Office Supplies		
Telephone	50	
Office Supplies	<u>5</u>	55
		<u><u> </u></u>
TOTAL		\$4000.00



League of Women Voters of Lubbock

Lubbock, Texas

January 6, 1979

Betty Anderson

Mrs. Isabelle P. Weber,
Energy Department Coordinator
LWV-US Education Fund
1730 M Street NW
Washington, D. C. 20036

Dear Isabelle:

Enclosed is an interim report of the progress to date of the Texas League of Women Voters Energy Education Project, Phase II: A Nuclear Waste Disposal Documentary. As described, the raw material for the documentary is abundant, including 10 hours of raw footage, audio tapes, and additional video material sources. The timetable allows for another month and a half to gather footage, of which we particularly need "descriptive" video, cover footage, and aesthetic shots, such as the file film we anticipate from the commercial networks and the trips to Carlsbad and Amarillo where we will seek more "anti-nuke" sentiments.

A new development, not included in the interim report is a January 18-19 trip to Dallas for a two-day PBS writers'/producers' conference sponsored by the Corporation for Public Broadcasting as a resource, information, and seminar panel session for a selected audience of women script writers. It is being produced by KCET-TV in Los Angeles for closed circuit feed to four regional PBS conference hosts. The conference will provide valuable assistance for scriptwriting techniques, production outlets, and public relations techniques for "selling" the script, and "how-tos" on marketing our video idea and package. Additionally, of course, it will offer us an opportunity to make contacts for offering the documentary to the PBS network.

We will also take the opportunity while in Dallas to visit the Regional DOE Field Office Representative and take a side trip to Glen Rose, construction site for the Dallas Power and Light Co. nuclear plant.

As you see from the budget report, we have spent all the \$2000 grant funds advanced to date. We have incurred additional expenses yet to be reimbursed and we are in immediate need of additional money for proposed and pending travel. In addition, our agreement with KLBK-TV requires a total of \$1400 advanced to them at regular intervals of approximately \$200. Please consider and let us know immediately if you can forward immediately an additional \$2000 for these costs and expenses. The first grant advance mailed took 20 days to reach us and we were forced to make an urgent request to the state League for an advance in good faith. We hope to "do better next time".

Of concern to us is the realization that nowhere have we received any written confirmation of the total dollar amount of the grant. We presume it to be \$5500 and to include the Exxon grant, but we just don't know that to be a fact. Betty Anderson could not confirm this for us, either, and is therefore concerned since she has already sent Exxon a formal thank you letter. Please clarify this oversight for us immediately.

We look forward to hearing from you.

Sincerely yours,



Mrs. Pat Bruno
Project Director

PB/pn

CC: Betty Anderson

Laura Keever

Mary Reynolds

INTERIM REPORT ON PROGRESS OF NUCLEAR WASTE DISPOSAL DOCUMENTARY

League of Women Voters of Texas

Energy Education Project, Phase II

January 5, 1979

By Pat L. Nickell

Washington trip, October 17-20, 1978

While in Washington, D. C. to attend a workshop in connection with the Energy Education project, Pat Bruno and I interviewed Dr. Thomas Cochran, staff scientist for the Natural Resources Defense Council, Inc. (NRDC) and Dr. Richard Pollock, Director for Critical Mass Energy Project. We did not film this interview, but we did audiotape it and found it quite informative.

Also, in Washington, Pat Bruno attended a press conference conducted by the DOE during which she was given copies of the Interagency Review Group's (IRG) *Report to the President* and interviewed Sheldon Myers, a waste management official with DOE, who formerly worked for the Nuclear Regulatory Commission (NRC). While that interview was not overly informative, we felt fortunate to receive copies of the IRG report.

Laura Keever's visit, November 3, 1978

Laura Keever, energy chairman for the LWV of Texas, visited in Lubbock in November to consult with us on the project. She brought us copies of articles she had gathered, and we met with Betty Anderson, president of LWV of Texas, and Linda Archer, our project treasurer.

Austin trip, November 15-17, 1978

Our first out-of-town trip for the energy project was to film a public hearing conducted by the Texas Energy Advisory Council (TEAC) in Austin on Nov. 17. Both Pat Bruno and I went, and were joined by Victor Palit, continuity director and video technician at KLBK-TV, Channel 13, who has been assigned to our project. We visited the University of Texas (UT) film library to study documentary films.

We interviewed (on tape) Martin C. Wukasch, Director of the Division of Occupational Health and Radiation Control for the Texas Health Department on Nov. 16. He offered technical assistance on the project should we need it. Wukasch, however, died of a heart attack in his office on Nov. 22.

At UT, we taped an interview with Dr. Bill Fisher, director of the Bureau of Economic Geology, and Dr. Jerry Wermund. They took us to a well sample library, where we taped segments of core sample testing of a drill site in the Palo Duro Canyon area of the Texas Panhandle, being studied for a possible site for nuclear waste burial.

We met for lunch and visited with Mrs. Susan Reid, a reporter for

The Texas Observer. Mrs. Reid has written articles on nuclear waste and is very knowledgeable on the subject. She offered us her own insights and copies of her background material.

The hearing proved to be a disappointment as it concerned energy policy recommendation and had little of nothing to do with nuclear waste. Chairman of the TEAC is former Texas Senator Max Sherman, however, and we hope to interview him later. He is president of West Texas State University in Canyon, Texas (near Palo Duro Canyon).

We contacted the office of Dr. Lynn Draper, director of the Nuclear Reactor Teaching Lab at UT. Dr. Draper was out-of-town, but his assistant talked to us and showed us video material prepared by Dr. Draper on reactor processes and nuclear energy. We also toured the reactor lab.

Dr. Draper's assistant arranged for us to interview Dr. Draper at a later date, and we hope to return to Austin later to interview him and Dr. Sally Lopreato, a sociologist at UT who has done studies of public reaction to nuclear energy and waste sites.

I found a "nuclear map" of the United States in a bookstore in Austin. It is 1972 vintage, and may not prove too useful, but it does have areas marked where exist nuclear power plants, nuclear weapons facilities, nuclear targets, and miscellaneous facilities such as uranium mining and milling, nuclear fuel processing, reprocessing, waste storage/burial sites, and reactor research and development.

Albuquerque/Los Alamos trip, December 10-12, 1978

We met Mrs. Marianne Thaeler, energy chairman for the LWV of New Mexico in Albuquerque, N.M. for joint interviews with officials and scientist at Sandia Laboratories, prime contractor for DOE's New Mexico studies. Mrs. Thaeler is the author of the booklet on nuclear waste, part of the NM-LWV energy education project.

We interviewed Don Schueller, acting manager for the Waste Isolation Pilot Plant (WIPP) project; Dr. Wendell Weart, Sandia's manager of the Nuclear Waste Technology Department; and Robert M. Jefferson, manager of the Nuclear Materials Transportation Department, who provided us with film footage of transportation accidents designed to test containers, such as one called the *Super Tiger*.

We visited and shot footage in several laboratories at the Sandia complex, where experiments are conducted to test various geological characteristics of the WIPP site. One lab is testing the corrosive damage of salt on various metals and substances; another tests well core salt samples after heat and pressure application; and another is conducting tests to determine possible migration of encapsulated water (in salt deposits) toward a heat source.

An interesting sidelight at Sandia: Victor is an Indian citizen and was unable to obtain security clearance at Sandia because India has nuclear technology. We were accompanied at all times by an armed guard, and signs had to be posted whenever we were in a building that an "uncleared" person was inside. We were also accompanied on our tour by Rod Geer, public information officer at Sandia.

Following the tour at Sandia, we went to the office of the Southwest Research and Information Center (SWRIC) and interviewed Jeffrey Nathanson, communications director, who screened an anti-nuclear waste commercial for us and offered a copy. It was filmed in California by a group called C.A.R.D. which I think is *Citizens for Alternate Resource Development* (but I am not sure.) The commercial was well done technically, but ethically questionable, in our opinion.

We all then travelled to Los Alamos where we visited with scientists at Los Alamos Scientific Laboratories (LASL). John T. Ahearne, Jr., public information specialist, accompanied us on a day-long tour in which we taped material on several experiments: a solid waste facility (open pit); a liquid waste treatment plant; and an incinerator to turn radwastes into tablet form.

While at LASL, we taped interviews with Dr. Lee Borduin at the incinerator plant; Dr. John L. Warren, in charge of solid waste; and Dr. Thomas L. Keenan, group leader for waste management.

We were treated to lunch in the home of a NM-LWV Board member and there did an interview with Dr. Graham Foster, a nuclear physicist at LASL.

Denver trip, December 19-21, 1978

Victor and I flew to Denver to attend an NRC conference on High-Level Radioactive Solid Waste Forms. We met Mrs. Thaeler there, and Pat Bruno joined us Dec. 20.

We taped interviews with Dr. Cochran, NRDC-Washington office; and with Dr. Terry Lash, NRDC, California office. Drs. Cochran and Lash are highly respected anti-nuclear voices. We also taped an interview with Dr. Robert O. Pohl, a Cornell scientist who is anti-WIPP.

We taped the keynote address at the banquet, delivered by Senator Harrison Schmitt, R-New Mexico, and then did an interview with him. Sen. Schmitt is a Harvard-trained geologist and former astronaut. We also taped interviews with NRC Commissioner Thomas P. Kennedy (described as a nuclear "hawk"); Ms. Leslie Casey (NRC conference coordinator); and Dr. Robert Leachman, on loan to NRC from the Office of Technology Assessment for the U.S. Congress (OTA).

In addition to these interviews, we taped portions of two pro-con panel discussions conducted by the NRC, in which participants from all over the U.S. and from many foreign countries pointed out nuclear waste problems, such as limitations in predicting long-term behavior of waste or host rock; political and ethical considerations; and reprocessing research.

We met with many representatives from private energy interests, most of whom promised to send us reading material, and we talked with scientists from everywhere. Nearly everyone expressed an interest in seeing the show when completed and several offered technical assistance.

The conference was highly technical, but thanks to our study and reading on nuclear waste, we were able to grasp the general idea, if not the basic chemical formulas.

Hobbs trip--Canceled, January 4, 1979

We had intended to attend a DOE public hearing on the WIPP site in

Hobbs, N.M. (about 120 miles from Lubbock) but because of icy road conditions, we were not able to go. We heard that League members from Odessa, Texas, made a statement. We hope to attend future hearings and expect more to be scheduled, at which we can gather video material.

Current Project Status, Jan. 5, 1979

We now have about ten hours of "raw footage" which awaits our editing efforts. We have gathered prodigious amounts of material for reading and studying, and are deeply indebted to Mrs. Thaeler for her help with possible questions. She has given us an advance copy of her booklet, although we expect minor changes in the final product.

Future Plans

The Texas Legislature convenes Jan. 9, 1979. We plan to carefully monitor legislation which is proposed and/or passed in regard to nuclear waste, uranium, or energy.

The League will travel to Austin Feb. 28 for Lobby Day. We plan to go then and interview legislators who have sponsored legislation relating to our project subject.

We will also try to interview Dr. Draper and Dr. Lopreato on that trip.

We plan to travel to Canyon to interview Max Sherman. We also hope to interview residents in the Palo Duro Canyon area (about 10 miles from Canyon) about the waste site study being done there.

We will travel to Carlsbad, N.M. to do on-site filming of the WIPP site, interview Carlsbad mayor Walter Gerrels and Mrs. Roxanne Kirschner, a Carlsbad resident who is a SWRIC spokesman in that area.

We will begin to edit tape in a few days, condensing a monumental amount of information into an hour-long television script. We have verbal agreement with an Austin composer for an original musical score.

As indicated in the project timetable, periodic consultant review will be established for technical and script clarification and language weight and balance assessment. Selected scientists and officials from DOE and NRC with whom we have arranged for review include the Radiation Control Director for the Texas Health Department (Wukasch's successor); Dr. Keenan at LASL; Dr. Leachman from OTA/NRC; Schueller in Albuquerque; Dr. Harry Parker, chemical engineer at Texas Tech University in Lubbock; and Dr. Bill Davis of Lawrence Livermore Labs in California who will visit Lubbock in February to consult with us.

Additional sources of video material available to us are cassettes from DOE Consumer Affairs; a transcript and video tape of a December debate on licensing of nuclear waste sites on PBS and file film from previous DOE hearings in Texas and New Mexico.

We are ahead of schedule in video taping, and are very excited by the quality of our material. We believe the show will be very interesting, as well as informative. Channel 13 has been most helpful and cooperative, and they are quite clear that the final product will be the sole property of the LWV.

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League of Women Voters of Lubbock

Lubbock, Texas

League of Women Voters of Texas
Education Fund
Energy Education Project, Phase II
Route 4, Box 162S5
Lubbock, Texas 79413
January 6, 1979

Florence Chichester, Manager
LWVEF Energy Education Project
1730 M Street, NW
Washington, D. C. 20036

Dear Ms. Chichester:

Enclosed are the first ten vouchers for the Texas Energy Education Project, Phase II. I hope all the papers are filled out correctly. Please let me know if there are any problems.

I already have about \$180 worth of vouchers that I don't have cash to pay, so I would appreciate the next check as soon as possible. You can reach me at the above address, or call me at (806) 792-8224.

Sincerely yours,

Linda Archer

Linda Archer
Project Treasurer

LA/pn

INTERIM REPORT FOR NUCLEAR WASTE DISPOSAL DOCUMENTARY

JANUARY 5, 1979

	BUDGETED	EXPENDED	
STIPENDS	\$ 550.00	\$ 275.00	
TRAVEL			
AUSTIN	330.00	417.25	
ALBUQUERQUE, N.M.	410.00	218.65	
WASHINGTON, D.C. # 1	110.00	91.23	
DENVER	-	576.14	
OTHER TRIPS	1935.00		
	<u>2785.00</u>		
STATION EXPENSES	1400.00	500.00	
TWO INCH TAPE	190.00	-	
POSTAGE	25.00	-	
XEROX	25.00	7.42	
TELEPHONE	500.00	46.16	
SUPPLIES	25.00	30.64	
	<u>5500.00</u>		
CASH ON HAND		18.80	
VOUCHERS PAYABLE			\$ 181.29
CASH RECEIVED FROM NATIONAL TO DATE			<u>2000.00</u>
		<u>2181.29</u>	<u>2181.29</u>



OCT 6 1978

LEAGUE OF WOMEN VOTERS OF NEW MEXICO



October 4, 1978

Patricia Bruno
Project Manager
4405-A - 31st Street
Lubbock, TX 79416

Dear Patricia:

We would like to plan to make some tentative arrangements for a possible get-together (maybe lunch) for some preliminary discussions during the workshop on the possibility of a joint-effort by our Leagues on this particular project.

As soon as the more specific workshop schedules become available, we can make a more definite meeting arrangement while we are in Washington. Please let us know if this suggestion is agreeable with you.

We are looking forward to meeting you and your participant Pat Nickell and a successful workshop.

Sincerely,

Mary

Mary Reynolds
Project Manager
2045 O'Donnell Drive
Las Cruces, N.M. 88001

cc: Marjorie Burr (State President)
Betty Anderson (TX State President)
Dorothy K. Powers, Chair
National Energy Committee

New Officers, Board Elected By SPAG

By PAULA TILKER
Avalanche-Journal Staff

With a convert's fervor, a Dallas County commissioner Tuesday defended regional governments and challenged the South Plains association members to become involved actively in their group.

Also at the 10th annual general assembly meeting of the South Plains Association of Governments (SPAG), at-large representatives from a 15-county area were elected, as was a new board. A budget for fiscal year 1978-79 also was adopted.

Roy Orr, also a member of the North Central Texas Council of Governments, told the 150-member audience that making SPAG work is one of their "last chances" to avoid federal encroachment on their local governmental preserves.

Sel-Determination "Lost"

"Other urban centers have already lost" their self-determination, he said, citing New York City as an example. Those cities are "wards of the federal or state government, and we can't allow it to happen here," Orr said.

Regional governments, which unite county, city and special district ruling entities, are not "another layer of bureaucracy," he said. "They represent a marriage of existing local governments" that know the needs of their area, he explained.

Regional bodies such as SPAG coordinate efforts on such projects as environment, transportation and safety — all "regional problems that need regional solutions," Orr added.

He urged SPAG members to assess a high priority of their time and effort to active participation in the organization. "You must honor that priority. You can't afford not to," he said.

Otherwise, he explained, the region will "default and let someone else do it (solve problems)."

Plainview Man Elected

The newly elected board of directors includes Plainview city councilman Medlin Carpenter, president; Lubbock city councilman Alan Henry, first vice-president; Hale County Judge Henry Heck, second vice president; Dickens County

quarter of the upcoming fiscal year, only.

Congress has not yet allocated money for the programs, but is expected to do so soon, Truett Mayes, SPAG executive director, said, explaining the board wants to have the paperwork completed to avoid start-up delays.

Liquor Suit Approved As Class Action

(Continued From Page One)

possible conflict of interest on the part of Greenhaw.

The plaintiff reportedly had entered a fee agreement with the Dallas law firm handling the case which stipulated that Greenhaw would be paid 10 per cent of all attorneys fees from the action.

Fee Waiver Noted

A memorandum accompanying Woodward's order noted that Greenhaw had filed an Aug. 28 affidavit waiving his right to the fee and stating he is not acting as counsel in the litigation.

The memorandum states that before Greenhaw can be certified a class representative, he must not only waive the right to a fee but must also agree not to accept directly or indirectly any finder's fee.

The order states that after the waiver is filed by Greenhaw or after a suitable class representative is found, the suit may be maintained as a class action.

Federal Rules Cited

According to the memorandum, federal rules prescribe that a class action must entail a class so numerous that joinder of all members is impractical; questions of law and fact must be common to the class; claims of representative parties must be typical of class claims; and parties must protect interests of the class.

Woodward says in the memorandum that there is no serious controversy about class numbers and that questions

Judge H.L. "Bill" Young, third vice president; Littlefield mayor pro tem Paul Carmickle, fourth vice president; Lubbock County commissioner James Lancaster, secretary, and Brownfield city councilman T.C. Williams Jr., treasurer.

Other at-large members include Edward Krizan, Hockley County; A.E. "Dick" McGinty, Yoakum County; Robert Finney, Bailey County; Bob Brown, Hale County; Giles McCrary, Garza County; Gilbert Fawver, Floyd County; M.L. Sanders Jr, Crosby County; Glenn Thompson, Cochran County; Forrest Campbell, Motley County; Lit H. Moore Jr., special-purpose governments; Mel-don Leslie, Lynn County, and Charles Wood, Lubbock County.

During a SPAG directors meeting earlier Tuesday, the board withheld endorsement of a federal environmental survey, pending additional information.

The Department of Energy is soliciting local governmental opinion about its proposed methodology for surveying bedded salt formations in the South Plains area, as well as across the nation. The department is considering burying nuclear waste in salt beds.

Board members said they want to know how and where the waste material would be transported and how it would be buried and contained before approving the methodology.

The methodology, which has taken about five years to develop, is only in draft form, and no federal action to bury nuclear waste is imminent, however.

The draft, bound in two volumes, outlines in meticulous detail how the salt beds would be studied and criteria for their use.

Board members also approved a CETA Title I grant application for \$1,036,543 for services and training in Lubbock, Garza and Hale counties. CETA (Comprehensive Employment Training Act) is a federally funded program to provide job training and employment opportunities for economically disadvantaged, unemployed or underemployed persons.

Also, SPAG members approved \$193,993 in a CETA Title III grant application, \$34,265 for Title II and \$255,829 for Title VI.

All of the allocations are for the first

of law and fact are common to the class.

The memo indicates the alleged existence of a conspiracy affecting prices during the period outlined would be an issue common to each class member damage claim, although individual damage claims would not be common to the class.

"The court finds that the common questions are predominate over the damage questions which may affect only individual class members and that a class action is the superior method of adjudication in this instance," the memo says.

Woodward noted in the memo arguments raised by defendants that the problem of methods of identifying members of the class could make management of a class action difficult.

"This court finds that reasonable efforts will lead to the identity of the class members, most of whom reside in the immediate area of Lubbock," the memo states.

Lie Detector Test Testimony Disputed

WASHINGTON (AP) — A former manager of a department store chain told a Senate subcommittee Tuesday the firm used lie detector tests as a means of firing or refusing to hire blacks.

The president of the chain, Macks Stores of Sanford, N.C., said the firm could disprove the allegation.

Don M. Blews of Siler, N.C., testified before the subcommittee on the Constitution in support of a bill to prohibit use of polygraph tests as a requirement for employment.

Blews said he was managing his third store for the company when a district supervisor noticed two black employees and told him to fire them. He said he was told the company had a policy against hiring blacks because they "just don't work out."

He said he refused to fire the two women. Two days later, he said, all employees in his store were given polygraph tests and he was told the two blacks had failed. He said he fired the employees after again being told to do so.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

rant County.

"This is the most widely publicized case in the history of the county and is why it must be moved. ... The people I talk with are polarized. They say he's guilty or that he has been framed," Collins said.

But defense lawyer Richard "Racehorse" Haynes said, "I do not think it impossible to get a fair and impartial jury in this county." Haynes conceded it probably would take longer in Tarrant County than anywhere else.

In removing himself, Cave said he had researched the law and had several cases to back up his contention his removal was not necessary.

"However, in view of the allegations made in the defendant's motion for the court to excuse itself from presiding in the venue hearing, common sense and prudence dictate that this is one of those instances in which discretion is the better part of valor.

"And in order that the rights of the defendant and the state alike be fully protected herein, even from a mere hint or allegation of impropriety, however remote or groundless, I will voluntarily excuse myself without ruling on the motion."

Cave was one of 15 persons the prosecution claims was on a so-called "hit list."

Davis is charged with hiring one of his employees to arrange the killing of several persons. Among them is State District Court Judge Joe Eidson, who presided over Davis's messy divorce case until stepping down after Davis's arrest.

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Shop Dillard's in South Plains Mall Monday

Dotty Powers
Chair, National Energy Committee
LWV Education Fund

1730 M Street, N.W.
Washington, D.C. 20036

Dear Dotty:

Enclosed is Texas project proposal for the Energy Education Outreach program--Phase II.

We are very excited about the possibilities of a documentary on the storage of nuclear wastes. I talked with Isabelle Weber yesterday/af about handling the financial administration, and she suggested that I write this cover letter. In our discussions with KTXT-TV, Lubbock, the PBS affiliate, connected with Texas Tech University, the television personnel have suggested that it would be much easier for them to administer the grant--that the project directors could be paid their stipends as consultants, travel would be vouchered, the directors would be given access to the university WATS lines for telephone calls, the un

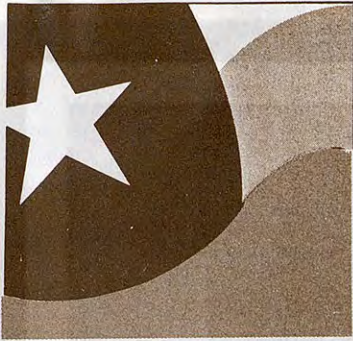
Only the university can contract with the graphics dept., etc.

The university would waive their indirect costs; the television channel would donate production costs, etc.

If it is not possible to subcontract these services, and we will renegotiate with the television station and the university, although we think we have a workable situation.

Hope you view the proposal with favor.

S/ BA



MEMORANDUM

LEAGUE OF WOMEN VOTERS OF TEXAS

1212 Guadalupe Suite 109 • Austin, Texas 78701 • Tel 512/472-1100

August 19, 1978

To: Betty Anderson, Laura Keever, Jan Wilbur
From: Lois Carpenter
Re: Energy Grant proposal

Whoopie! Who thot that one up? Sounds like a big bite to chew. It is a terrific idea (as is Energy: A Dialogue III) whose time has come. Can it really be done well for \$4,000? Can it be done just from the vantage point of west Texas? What is to be the scope of the project?

Betty's note said Midland and Amarillo had hearings this summer. Correct. But I believe El Paso did too???

I understand that our local newspaper reporter Jim Steinberg, who covered the New Mexico WIPP hearings as well as the Midland hearing, is very interested in this topic and has collected quite a bit of information on it. I would be glad to approach him for help if you wish. Just let me know.

To: Betty Anderson, Jan Wilbur Also Rowena Rodgers
From: Lois Carpenter
Re: How can we keep our state program people on schedule?

I just spent about an hour on the phone being very sympathetic to our new Program V-B, who is also the Water Chair with the interesting name of Mickey Waters. She is a school teacher, so goes back to work next week. She and her committee had planned to get all their preparations for the October water units done in the summer. I'm sure I'm not the only one who has heard that song and dance this summer. And the two of you may have your fingers worn to the bone from wringing your hands over the situation this sumemr! This League is surely not in ~~ax~~ bad a situation as those who are planning Sept. (or Aug. even) meetings on ground water.

Anyway, I was particularly concerned that when the June deadline was not met, there was no official notification sent to LLs that it would be much later, etc. I fear several were just wondering if their mail had got lost, or thought that it would certainly arrive in a week or two.

I ended up explaining to Mickey that there was no requirement that a local League participate in a state consensus, and that they might want to discuss at the board meeting Aug. 21 the possibility of changing the calendar and having different units in Oct. if they do not feel they have time to properly prepare for Gr. WTR. ~~xxxx~~ before then. Mickey said she was in Austin several times this summer and if she had known there was any problem with needing more information or helping Catherine, she would have been glad to help.

Since this particular problem persists in plaguing us I suggest we face the possibility that it may never go away completely, and further measures should be undertaken. The following have occurred to me as possibilities:

1. Routine requirement that anyone preparing an F&I or major program publication must have an assistant chairperson as back-up and aid. (goad?)
2. Routine requirement that anyone preparing an F&I or major program publication present to the state board meeting approx. 3 months prior to completion date a detailed outline of the publication.
3. Routine requirement that anytime such a completion date is not met, an announcement and explanation be sent LLs to aid in their planning.
4. Establish a policy that when a completion date is not met, the Pres. and V-P's consider the pros and cons of changing the consensus deadline and be authorized to do so if that seems best.

Numbers 1 and 2 of course would insure that research and organization are undertaken and basic plans laid well in advance. Numbers 3 and 4 would help insure better relations between state and local Leagues. These are mere suggestions, but I definitely think we need to do something to address this problem.

DON'T BOTHER TO FILE

31 August 1978

To: Lois cc: Jan W., ~~SA~~
From: Betty A.
Re: State Program on schedule

C
Thank you for your suggestions on trying to alleviate the problems we have had with the water publication. I think they are good ideas. I think the routine requirements can be phased in. At this point I don't think it wise to bring up any policy changes--because feelings are still pretty sensitive.

O
When the VPs and I met earlier this month, we dediced to change the consensus date. Then when I talked with Catherine, she convinced me that she was going to have the material out the next week to meet the Dallas Voter deadline. I should have stuck with our executive board decision--I've been so trusting but I'm losing that fast.

P
It has been a headache for all of us--to put it mildly.

Re: Energy--thanks for agreeing to talk with Jim Steinberg. I have talked with the two Lubbock gals, and I will mention it to them--and bring the proposal to board meeting.

Y
Looking forward to seeing you in Austin.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SEP 25 1978

P. O. Box 648
Temple, Texas 76501
September 22, 1978

League of Women Voters
Betty Anderson, President
5017 - 15th
Lubbock, Texas 79416

Dear Ms. Anderson:

This is to remind you of the multi-agency and organizational briefing concerning the recent appraisal of the status and condition of our state's land, water, and related resources.

The briefing will be held October 12, at Austin, Texas, at the Department of Mental Health and Mental Retardation Auditorium, 45th and Lamar Streets, beginning at 9:30 a.m.

I hope that your schedule will allow you to attend this session.

Sincerely,



George C. Marks
State Conservationist



C + EN 9-25-78

Between 76 + 82 the growth of nuclear-powered generating stations is expected to inc. from 2.0 quads to 5.3 q., or more than 160%

A inc. will happen despite some plant cancellations & occasional N - env & anti nuclear groups

U.S. Told Not To Rely Permanently On N-Power

WASHINGTON (AP) — The director of energy research in the United States said Wednesday this country should not commit itself permanently to reliance on present types of nuclear power.

Instead, said John M. Deutsch said, the United States should consider solar and fusion power as serious — and better — possibilities for the future.

Deutsch, director of the Energy Department's Office of Energy Research, said the department believes the nation will need some 200 to 400 million kilo-

watts of nuclear generating capacity by the end of this century — the equivalent of about four to eight times as many nuclear plants as the 71 in operation now.

A total of 206 nuclear plants with a capacity of about 201 million kilowatts are currently in operation, under construction or on order.

All of them rely on nuclear fission — the splitting apart of large atoms like uranium and plutonium to release some of their energy.

The process creates long-lasting radioactive wastes whose permanent, safe disposal has yet to be worked out. And while many experts believe the wastes can be safely buried, others are not so sure.

The Energy Department also is supporting research on the still-distant possibility of generating power by a different nuclear reaction called fusion, in which energy is released by slamming small, lightweight atoms together to create bigger ones.

Deutsch said a fusion power plant, if it can be built at all, would produce radioactive waste but not as much, or as long-lasting, as that of the fission-reaction powerplants.

It may take 20 or 30 years, however, to figure out whether fusion power is really practical.

Even better, environmentally, might be electrical generation powered by sunlight, with no need to mine fuel and no ashes or other waste to dispose of. The department is developing solar powerplants, too.

Deutsch said both solar and fusion power, although not yet proven, should be considered "serious choices" for the future, in competition with nuclear fission and its next-generation version, the "breeder" which would produce additional fission fuel as well as electricity.

LOCATIONS

Borden County; wildcat; Texland-Rector & Schumacher No. 2, Amoco-Long; 2,080 FSL, 1,880 FEL, Section 29, Block 30, T-4-N, T&P survey; 8 miles S Gail; 9,000 feet.

Cochran County; Levelland field; Monsanto Co. No. 14 Reed; 631 FSL, 1,980 FWL, Section 35, Harrison & Brown survey; 10 miles S Lehman; 5,200 feet.

Cochran County; Levelland field; Monsanto Co. No. 8 Calvin; 1,980 FNL, 660 FWL, Section 39, Harrison & Brown survey; 10 miles S Lehman; 5,200 feet.

Cochran County; Levelland field; Monsanto Co. No. 7 Calvin; 1,980 FNL, 660 FWL, Section 39, Harrison & Brown survey; 10 miles S Lehman; 5,200 feet.

Cochran County; Levelland field; Monsanto Co. No. 6 Calvin; 1,980 FNL, 1,980 FEL, Section 40, Harrison & Brown survey; 10 miles S Lehman; 5,200 feet.

Cochran County; Levelland field; Monsanto Co. No. 2 Dyke; 631 FNL, 1,980 FEL, Section 59, Harrison & Brown survey; 10 miles S Lehman; 5,200 feet.

Crockett County; wildcat; Anderson Petroleum Inc. No. 4-11-O Moody Minerals; 661 FSL, 661 FWL, Section 11, Block MM, T&SHL survey, Abstract 4-170; 29 miles SW Ozona; 7,500 feet.

Crockett County; wildcat; Dan J. Harrison Jr. No. 1-29-30 University Land; 660 FSL, 660 FWL, Section 29, Block 30, University Lands survey; 17 miles W Ozona; 9,000 feet.

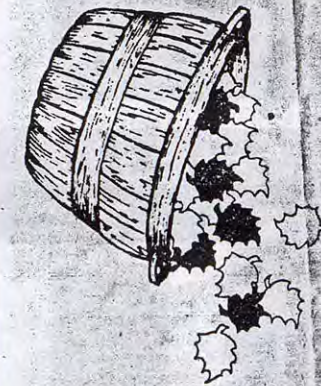
Eddy County; Indian Flats field; C. E. La Rue and B. N. Muncy No. 2 Ford-State; 1,650 FNL, 1,650 FWL, Section 2-22s28e; 9 miles E Carlsbad; 3,900 feet.

Hockley County; Levelland field; Texas Pacific Oil Co. Inc. No. 231 Southeast Levelland Unit; 130 FSL, 1,120 FWL, Labor 11, League 44, Rains CSL survey; 7 miles SW Levelland; 5,000 feet.

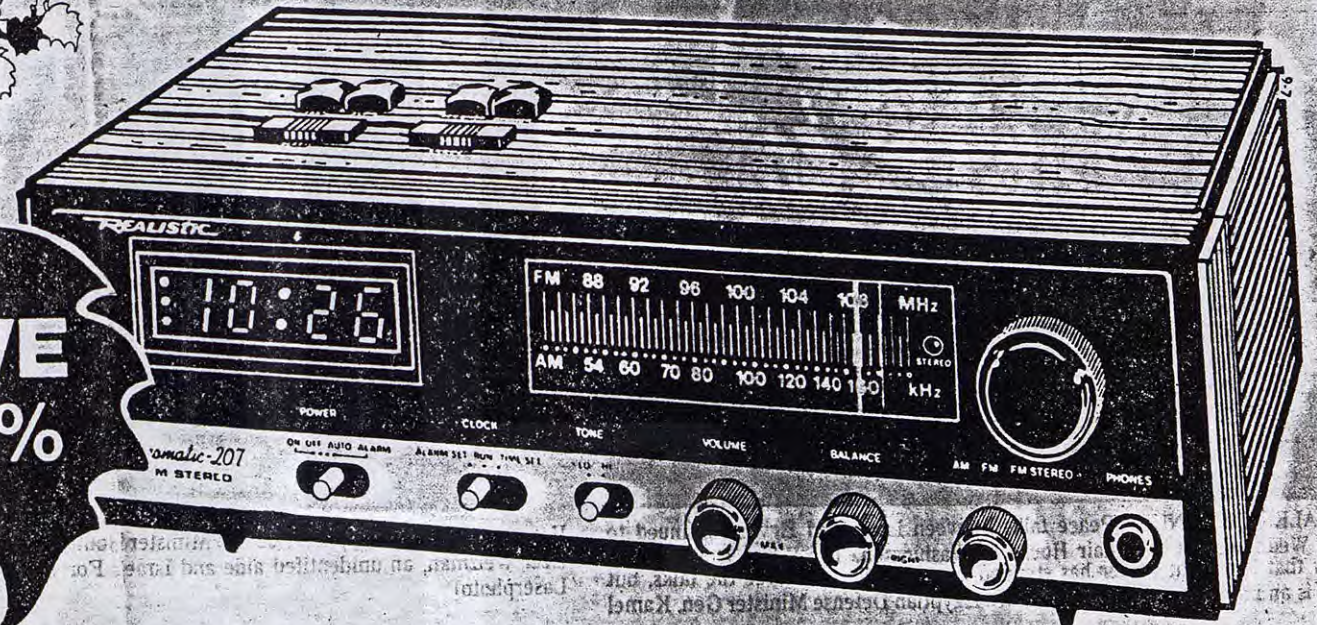
Hockley County; Levelland field; Texas Pacific Oil Co. No. 228 Southeast Levelland Unit; 1,125 FSL, 1,125 FWL, Labor 11, League 44, Rains CSL survey;

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which the United States talked separately with each side, including meetings between President Carter and each delegation.

"The meetings were productive, and we're hopeful the progress will continue," said George Sherman, the official spokesman for the conference. He refused to discuss in detail what the negotiators were talking about.

Minimize Dayan Impact

Sherman continued an American effort to minimize the impact of comments made Tuesday by Israeli Foreign Minister Moshe Dayan after the Israelis met separately with Carter.

Dayan said the negotiators had encountered difficulties and had turned to Carter for help.

"We've never disagreed with the fact that there were difficulties," Sherman said. But he said the meeting with Carter was not extraordinary and did not come about because of a crisis. "There are no unresolved problems that are insurmountable."

But a leading member of the Egyptian delegation told the newspaper Al Ahram that the prime obstacle facing the talks is linking Israeli withdrawal from the Sinai with Israeli settlements on the West Bank of the Jordan River and in the Gaza Strip.

Egypt Position Clear

Ussame El Baz, first undersecretary of the Egyptian foreign ministry, told the Cairo newspaper the Egyptian position on the linkage of the two issues is "totally clear and Egypt will not bargain with it."

Sherman refused to speculate on when the talks might end.

Later Wednesday, the two delegations were treated to a dinner and orchestra music at the State Department.

Wednesday morning there were separate talks between the American delegation and the Egyptians, followed by talks between U.S. officials and the Israelis.

Sherman said the head of the State Department's legal bureau, Herbert Hansell, was involved in both meetings. His involvement has been an indication in the past of an effort to draft language for the proposed treaty after some agreement in principle had been reached.

Ambassador Honored

The Israeli delegation spent the early afternoon at Georgetown University where Simcha Dinitz, the outgoing Israeli ambassador to the United States, was awarded an honorary degree.

In a speech, Dinitz gave no details of the negotiations, but indicated that Israel has not changed its position on the emotional issue of the future of Jerusalem. The Camp David accords do not address the Jerusalem question.

"Jerusalem has never experienced a greater freedom of worship and access to all religions than today. For 29 centuries it was one city and for 19 years it was artificially divided. Now it is one, never to be divided again, and while being the capital of Israel it will continue to provide

decision to pursue a separate Egyptian-Israeli peace.

any advance on the road to peace."

Hill, Schlesinger Not In Agreement On N-Wastes Veto

By CANDY SAGON

Avalanche-Journal Staff

ATTORNEY General John Hill and the U.S. Department of Energy appear to be at loggerheads over what specific power Texas has to block the storage of nuclear wastes within the state.

Hill, the Democratic gubernatorial contender, says Energy Secretary James Schlesinger has assured him that Texas will have veto power over the location of nuclear waste disposal facilities in the state.

Objects To 'Veto'

But the Energy Department denies states have veto power in the matter, a spokesman said Wednesday in Washington. He explained the department objects to Hill's term "veto" because it signifies legislative powers.

Sites for nuclear waste disposal facilities have been considered for Randall County in the Panhandle, Anderson County in East Texas and a proposed 19,000-acre site 25 miles southeast of Carlsbad and only 25 miles from the Texas line.

On Transport Routes

In addition, Lubbock and Amarillo have been mentioned as cities on proposed transportation routes to the nuclear dumping grounds.

In a letter from Schlesinger to Hill, obtained by The Avalanche-Journal, the secretary says, "I want to assure you it is the Department's view that any proposal to locate a nuclear waste geologic disposal facility within the State of Texas will occur only following extensive consultation with the State and that any such facility would be constructed only with the concurrence of the State," meaning the governor or the Legislature. He never, however, uses the term "veto power."

Differences Discounted

But a Hill spokesman dismissed the semantic difference.

"They call it 'concurrence right' and we call it 'veto right,'" said Pete Schenkan, special assistant to the attorney general on energy matters. "In any case, the state has the right to say whether or not a nuclear waste facility will proceed. If the state says it will not proceed, it will not proceed."

The Energy Department spokesman said the department's promise to seek state approval for location of a waste facility should be sufficient without authorization of state veto power.

Legislation Shunned

Schlesinger also notes in his letter to Hill that, "We do not believe that specific legislation to ensure state veto authority is necessary."

"We feel that such legislation would be too rigid to permit the flexibility required to deal with the specific concerns of the individual states in this very important area," the secretary said.

States, however, will not be allowed to prevent transportation of nuclear wastes across their borders.

Campaign Fodder

In his letter, Schlesinger said "a proposal to severely restrict transportation in interstate commerce...will lead to a proliferation of local prohibitions featuring inconsistent local rules, interference with the (Department of Transportation's) transportation safety program, and unpredictable economic and safety consequences."

With only three weeks remaining before the Nov. 7 general election, Hill appeared to be capitalizing on his position as attorney general and a gubernatorial candidate.

His recent news release on the Energy Department decision appeared on "John Hill for Governor" letterhead stationery.

When asked why the stationery was used for a release concerning the attorney general's office, state campaign manager John Rogers said, "everything going on has some campaign implications." He added it was "easier for us (the campaign office) to release the information."

Hill will be in Lubbock today to address the Missionary Baptist General Convention, meet with Texas Tech students and to tour the Health Sciences Center Hospital.

GOOD MORNING!

Outside, It Is...

FAIR with high today due to be in mid 70s and low tonight in mid 40s. Details on Page 2, Sec. A.

Today's Prayer

Dear God, Your Son said "Ask and it will be given you; seek and you will find, knock and it will be opened to you." Help us to always heed these words in His name. Amen — A Reader.

Today In The A-J

Agriculture 15 D
Amusements 12-14 D
Biorhythms 10 B
Comics 17 C
Editorials 4 A
Family News 2-5 B
Horoscope 7 B
Investors Guide 9 A
Obituaries 15 A
Sports 1-7 D
Stock Markets 18-19 C
TV Log 12 D
Word Game 10 B
Wordy Gurdy 13 B

Highlights

●Italian deadlock resulted in pope selection Page 7, Sec. A.
●City motorists reaping tickets' galore Page 6, Sec. B.

'Suing'

juents

ple who owe less than \$200 from the people who owe more than \$200," Kilchenstein said. That way, computers in the next month or two can start spewing out suits against those in the first category.

"Before, separating the bigger accounts from the smaller ones by hand had been painstaking work," Kilchenstein said. That is because a single individual may have several different delinquent tax bills which — though each is small — add up to big bucks.

"One year a fellow might register his car under the name John Smith; the next year, Jack Smith; the next year, John J. Smith or J.J. Smith. And addresses can

See BACK TAXES Page 18

Seven Escape Oklahoma Jail

LAWTON, Okla. (AP) — Seven maximum security inmates, including two accused murderers, broke out of the Comanche County Jail Wednesday night after injuring a one jailer and locking another in a cell.

Three of the escapees, including one of the accused slayers, were recaptured less than an hour later in the Lawton area, police said.

Officials said the jailbreak occurred about 7 p.m. when the inmates beat up a male jailer and overpowered a female jailer, leaving her locked in a cell.

Protesters Preparing Confrontation With Nuclear Power Firm

TULSA, Okla. (AP) — The battle between Public Service Co. and opponents of its proposed Black Fox nuclear plant will intensify Saturday, when several hundred nuclear protesters plan to occupy the plant site near Inola.

About 300 to 400 members of the Sunbelt Alliance have mapped plans to occupy the construction site to dramatize their protest of the nuclear plant and the limited work authorization that gives Public Service the right to begin preliminary site preparation.

Trespassers, the company has announced, will be arrested and work will continue. Jim Garrison, a leader of the Sunbelt Alliance, says the protesters will allow themselves to be arrested without resistance.

"We will place our bodies in front of anything that's moving," says Garrison, 27, a Harvard doctoral candidate working on a thesis on "the theological implications of nuclear power."

Public Service, acknowledging the planned protest, offered Garrison's group a knoll overlooking the site as an alternate demonstration area.

The offer was rejected.

"Everyone taking part will receive six to eight hours of non-violence training," Garrison said of the occupation effort.

"We have role-playing sessions in which part of the people subject the others to verbal and physical abuse and humiliation. We stress passive response to those situations."

Company officials say the protesters are driving up the cost of the plant and thus the cost of the electricity it will eventually produce.

Black Fox opponents claim the safety and welfare of northeast Oklahoma is in the balance.

Vaughn L. Conrad, who has ramrodded the proposed twin boiling water reactor plant for Public Service of Oklahoma, believes the project will reach fruition as soon as the company finishes dealing with the multitude of safety-related questions in the licensing process.

But Garrison is equally certain his forces can impede the progress of the plant until the project is abandoned.

"Black Fox will be built," says Conrad, characterizing opponents as fanatical out-of-towners, intent on "no growth" and embarked on a "children's crusade."

"Black Fox must be stopped," Garrison says, accusing Public Service of "wearing blinders," and concentrating on profits while playing fast and loose with the safety of northeastern Oklahoma residents.

Meanwhile, bulldozers continue to prepare the site way for the \$2 billion plant that Public Service says is the largest construction project in Oklahoma's history.

Co-owners of the project along with Public Service, a subsidiary of the Dallas-based Central and South West Co., are associated Electric Cooperative, Inc., of Springfield, Mo., and Western Farmers Electric Cooperative, Inc., Anadarko.

Oklahoma's first proposed nuclear generating plant is 23 miles east of here, near the Rogers County community of Inola. The fenced construction site is in the center of a 2,200-acre plot of rugged pastureland along the Verdigris River, a waterway navigable to the Mississippi.

Garrison said his group will sit down and wait to be arrested if members are owed to reach the reactor core location.

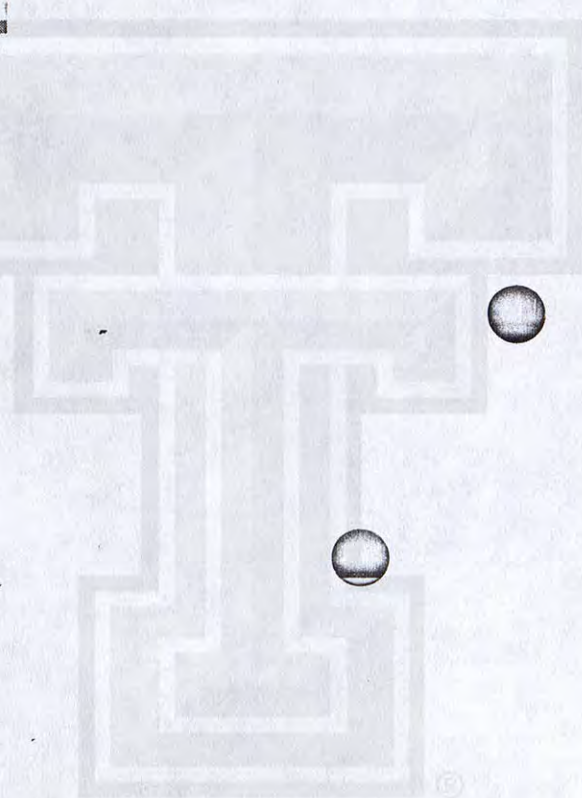
But if they don't let us reach the core area, then we will have to restructure our plan and resort to guerrilla tactics," he said Friday. "By that I mean we will split into several groups and stage repeated altercations to keep the security forces busy. We will go in at different places, in groups of 40."

B METRO

Lubbock Avalanche-Journal
Sun., October 1, 1978

Conrad, 28, manager of licensing and compliance for Public Service, says the company has consulted with foremen in charge of the 200 construction workers at the site, advising them to allow security personnel and law enforcement officers to handle the situation.

"I don't need anybody coming in tanked up with a baseball bat under his shirt saying, 'I'm gonna get me one of those hippies,'" Conrad said. "I just don't need the pain."



Nuclear Waste Fears Voiced By President

12.10.78

MEMPHIS, Tenn. (AP) — President Carter reaffirmed his concern Saturday that waste plutonium created by nuclear power reactors could be used in nuclear weapons.

The same concern led to Carter's decision to halt construction of the Clinch River Breeder Reactor at Oak Ridge, which would create plutonium as a by-product. This, coupled with Carter's effort Saturday to drum up support at the Democratic National Conference for ratification for a Strategic Arms Limitation Treaty with Russia, are likely to become major issues in the 1980 elections.

Taking part in a workshop on strategic weapons limitation at the Democratic conference, Carter forecast approval soon of a SALT treaty with Russia which, he said, will be a start toward an even more stringent agreement in the future.

Senate Republican Leader Howard Baker, a potential Republican presidential candidate two years hence, has criticized Carter's decisions against the breeder reactor and his defense policies. Anticipating the SALT treaties, Baker has scheduled what he calls a Jan. 4 fact-finding trip to Russia. During the summer campaign, Baker told Tennessee voters he is concerned that by 1985, Russia's defense capability will surpass that of the United States.

Any treaty must be ratified by the Senate and Baker has said he will oppose ratification of any treaty which he does not believe adequately maintains U.S. defense superiority.

Even if Baker is not a candidate, the groundwork he has built as Senate minority leader likely will force the nuclear-strategic weapons issue into the fore of the 1980 elections.

Carter said the SALT treaty which he forecast would be signed soon by the United States and Russia "might be different than what we've had" if the agreement were made unilaterally "but it takes two nations to negotiate a treaty."

"We've sought much more strict reductions than the Soviets have been willing to accept," Carter said.

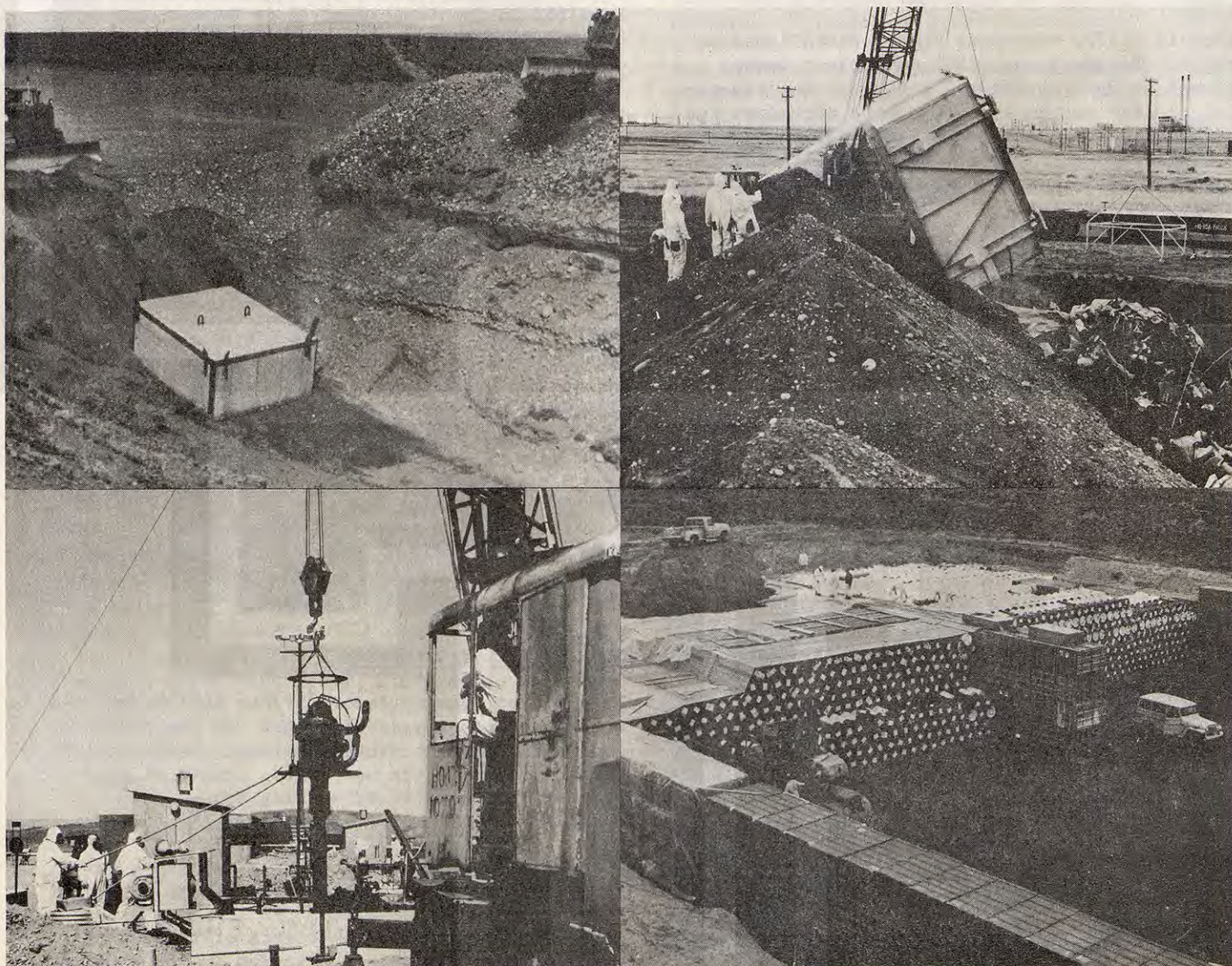
And, after a delegate called "the defense dollar the most inflationary dollar you can spend because there is no market for those other than a battlefield or a warehouse," Carter responded:

"To ... build weapons that are never used or that waste away in the warehouses is exactly what we hope, because we build weapons for our defense. Only the accurate knowledge in the Kremlin that we are strong and we aren't vulnerable is the thing that guarantees that we ... won't have to spend the lives of our young people in combat."

Carter referred to U.S. efforts to reduce nuclear weapons throughout the world and said this country's original concern was about other nations using nuclear power "taking the products of atomic power plants and turning them into explosives."

Carter said, "The problem with nuclear power is that we cannot stand in the way of the development of peaceful uses for atomic power. We support that."

The president said, however, that weapons-grade plutonium produced in the generation of nuclear power can be controlled.



Public Meetings On: **NUCLEAR WASTE MANAGEMENT**

SAN FRANCISCO

• **DENVER**

• **BOSTON**

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vidual citizens, is that there is no safe way to dispose of nuclear waste. Many of these witnesses demanded that all nuclear production be halted by the government until a safe and acceptable solution to the waste problem is found. Few witnesses had any answer to the question of how to dispose of nuclear wastes that are already accumulated. Those that addressed that issue felt that intermediate disposal methods should be tried, but that whatever method was used had to leave the waste retrievable so that, in case the method was found to be unsafe, the waste could be recovered and re-disposed at another location.

A contrasting attitude was expressed principally by nuclear industry representatives, certain academics, and State officials, who believe that the safety risks associated with nuclear waste have been exaggerated and that safe waste management methods do exist. They said that ways must be found to allay the public's fear and mistrust of nuclear power, which they believe is far out of proportion to the actual dangers nuclear power poses. They called for a major public relations/public information effort by the government to encourage public confidence in nuclear power and waste management plans. Several said that, unless such an effort is undertaken, any nuclear waste management plan, no matter how scientifically safe and sound, will fail because of public mistrust and misunderstanding. Indeed, the meetings revealed that public mistrust is a major factor. Many of the general citizens groups that testified (senior citizens groups, migrant workers groups, consumer groups, et al) said they did not know whether there is a safe disposal method, but expressed a deep concern about nuclear safety and a fear that the government and the nuclear industry were not telling them about all the risks. In fact, the government's own credibility emerged as one of the issues addressed most often at the meetings.

Many witnesses, including industry representatives, emphasized the need for public education so that citizens could start having *informed* views on nuclear questions. Several remarked that the public is now so misinformed or inadequately informed that it may be impossible to hold useful public hearings on this subject.

COMMENTS ON THE IRG'S SIX WORKING AREAS

Most witnesses attempted to address some aspect of one or more of the six working areas identified by the Interagency Review Group.

1. Alternative Technology Strategies

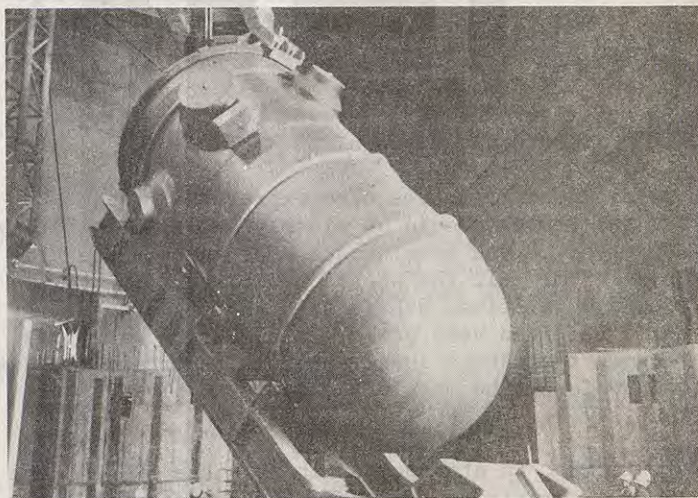
The issue most widely addressed was the question of alternative technology strategies. The consensus was that there is no risk-free approach. While many witnesses (principally industry, State, and academic representatives) believe there are exist-

ing technologies with levels of risk acceptable enough to warrant their use, some geologists testified that geologic knowledge is limited and that hydraulic movement is poorly understood.

The majority of witnesses who commented on specific nuclear waste management technologies favored trying a variety of parallel approaches, in the form of demonstration projects. However, the need to make the waste recoverable, in case the disposal method was found faulty, was frequently stressed.

The method that received the most support was geological burial. Salt-bed burial was the most favored method, with deep rock burial the second most approved approach. However, an Ohio witness at the Boston meeting noted that the salt beds in Ohio have been heavily mined, weakening them structurally, and that they are near major population centers.

Some objected to geological burial on the ground that seismic disturbances would make it unsafe, while others expressed specific objection to the WIPP (Waste Isolation Pilot Plant) project, demanding more research and/or Nuclear Regulatory Commission licensing before this project goes further ahead.



The disposal method that received the most opposition was seabed disposal. Persons who spoke out against this method cited the poor retrievability in case of failure, difficulties in monitoring and in transporting the waste out to sea, and possible threats to humans through the radioactive contamination of sea-based food chains.

Witnesses from citizen or ad hoc, grassroots groups frequently voiced concern about the siting of waste disposal projects. One migrant farm worker representative, for example, was worried that nuclear waste proximity to farm land would endanger crops.

Witnesses favoring nuclear power expressed criticism of Office of Science and Technology Policy (OSTP) work questioning the safety of geological disposal.

NUCLEAR WASTE MANAGEMENT

On March 15, 1978, President Carter established an Interagency Review Group (IRG) on nuclear waste management to develop Federal goals for the management of nuclear wastes and to propose workplans for the achievement of those goals. The IRG is scheduled to submit its recommendations to the President in December, 1978, upon receipt and incorporation of public comments into its Draft Report.

The following 14 Federal agencies participated in the IRG: the Departments of Energy, Interior, Commerce, State, and Transportation; the Environmental Protection Agency, the National Aeronautics and Space Administration, the Council on Environmental Quality, and the White House Offices of Security Affairs, Domestic Affairs, Budget and Science and Technology Policy. The Nuclear Regulatory Commission was invited to participate as they deemed appropriate.

In order to assist in the formulation of its recommendations, the IRG sponsored a series of three public meetings in late July and early August to hear the views of the public on nuclear waste management issues. The meetings were held in San Francisco on July 21 and 22, in Denver on July 24, and in Boston on August 4 and 5.

FACILITATION OF PUBLIC PARTICIPATION

Because of the short time between the official notice of the public meetings in the Federal Register and the scheduled meetings, and in order to assure that a broad range of affected public interests had an opportunity to present their views to the government, the DOE Office of Consumer Affairs contracted with a private group to coordinate efforts to facilitate effective public participation in the meetings.

Stringent time limitations, imposed by the need to promptly complete the report to the President, determined the tight schedule of meetings to obtain public input. However, opportunities for citizen participation were not restricted to the public meetings. Another major opportunity was provided when the Draft Report of the IRG was issued for public comment on October 19, 1978.

Over 400 people, representing the following broad range of interests and constituencies, were directly contacted and invited to participate: academics; nuclear industry/utility executives and engineers; State and local government officials; anti-nuclear citizens groups; labor; environmental groups; church groups; consumer reform groups; pro-nuclear citizens groups; Native Americans;

and local, ad hoc groups opposed to nuclear waste repositories in their areas.

A total of 205 people testified at the three meetings (62 in San Francisco; 40 in Denver; and 103 in Boston).

THE MEETINGS

The Department of Energy requested participants to focus their testimony on the six issue areas for which the IRG had established working groups: (1) Alternative Technology Strategies; (2) Federal Involvement (licensing/standards/criteria); (3) Defense Wastes (special issues); (4) Spent Fuel Storage/Charges; (5) Transportation Issues; and (6) International Issues.

For the most part, witnesses addressed these issues. However, it was difficult for most witnesses in San Francisco and Denver -- most of whom had less than a week -- to prepare detailed or technical testimony on such short notice. Accordingly, their comments tended to be general and many devoted considerable time to criticism of the DOE for holding meetings and soliciting public participation on important issues with only a few days advance notice. Many of these witnesses did indicate that they would later submit detailed, substantive comments in written form.

SUMMARY REPORT OF MEETINGS

An official Summary Report of the Public and Small-Group Meetings sponsored by the IRG was prepared and has been distributed to those attending and participating in the meetings. Copies of this report may be obtained by writing to:

Office of Consumer Affairs
U.S. Department of Energy
Room 8G-082, Forrestal Building
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Complete sets of the transcripts of these public meetings are available for review in DOE's Chicago Operations Office and in the DOE Freedom of Information Reading Room, Room 2107, Federal Building, 13th Street at Pennsylvania Avenue, N.W., Washington, D.C.

The following observations on the meetings were prepared by the public interest law firm of Eaton, Plessner and Stein, of Washington, D.C., which reinforced the outreach effort described above.

GENERAL OVERVIEW

Comments centered primarily on the safety risks associated with nuclear power and nuclear waste management, and on the public's perception (or misperception) of those risks. A few major points were discussed at all three meetings:

One attitude, expressed principally by representatives of environmental and citizen groups and indi-

This fact presents a serious problem in New England, where seven nuclear power stations now generate electricity. According to industry witnesses, each of those seven reactors has undergone "re-racking" of spent fuel pools to hold additional fuel rods. Reactor spent fuel pools which were designed to hold 1.5 core loadings of spent fuel now hold 4 core loadings. But, according to these witnesses, even these modifications will not prevent shortages of space which, in some reactors, could come as early as 1983. The Deutch Report (March, 1978), addresses this problem and also identifies actions by DOE to have interim storage facilities Away-From-Reactor (AFR), beginning in 1983. Therefore, as noted by an executive of Boston Edison, if the government does not move quickly on this issue, private utilities will be forced to construct regional waste storage facilities (most likely air or water-cooled, above-ground silo types) in order to continue nuclear reactor operation. According to these witnesses, AFR storage is essential if the nuclear industry is to continue operation.

5. Transportation Issues

Very little substantive testimony was given on this subject in the San Francisco or Denver meetings. However, several witnesses there did express concern about the safety hazards in transporting nuclear wastes.

In the Boston meeting, a number of witnesses noted that, although high-impact casks have been developed for high-level wastes, low-level and certain transuranics are now trucked in plain metal containers (which themselves become waste). Witnesses questioned the safety of such procedures.

A State public health official, from Massachusetts' Radiation Control Program, described that State's voluntary system for monitoring radioactive shipments. Before radioactive material is shipped, advance notice of the route and the contents are provided to the State's health authorities. In the event of a mishap, State crews will know what precautions to take and what decontamination procedures to implement.

Many witnesses voiced concerns about highway and rail transport of nuclear material. An air freight handler at Boston's Logan Airport spoke of the lack of radiation detection equipment at air terminals and the high incidence of worker exposure to radioactive materials.

6. International Issues

This was the least-discussed subject area, and only slightly behind Defense Nuclear Waste as a topic of least interest at these public meetings. The vast majority of witnesses were much more concerned with the domestic hazards of nuclear waste management. There was strong opposition to President Carter's plan to store, within the United States, nuclear wastes produced by reactors in foreign countries. The Administration is proposing this as a method of halting the proliferation of nuclear weapons.

Other Points of Interest

Witnesses, primarily at the Boston session, made the following points in addition to the ones already presented above:

- The concept of "ethical stewardship" of the planet requires that safety from radiation contamination be the prime goal of nuclear waste management.
- The IRG has no medical members. Doctors or other health professionals should be added to the IRG.
- Dr. Thomas Najarian, a graduate of Harvard's Medical School who also holds a Master's Degree in Chemical Engineering from the Massachusetts Institute of Technology, spoke of his work with naval shipyard workers involved in overhauling nuclear propulsion systems. His initial research reveals that low-level radiation (particularly non-Gamma ray) presents far greater danger than was previously believed. (See Dr. Najarian's remarks on Page 9. -- Ed.)
- Waste management research funds should be dispersed to universities where opposition to nuclear power will cause tougher questions to be raised about the nuclear waste management process.
- Successful waste management is the key ingredient of continued use of nuclear power to generate electricity.
- Regional Away-From-Reactor storage is a concept which will allow the risks of nuclear waste management to be shared by those who are benefiting from nuclear technology.
- The IRG should be composed of the highest-level staffs from the relevant agencies, to insure the absence of interagency squabbles.
- The IRG should establish a seventh working group to consider the question of whether further nuclear waste should be generated until such time as there is a solution to the present nuclear waste management problems.

SAMPLE TESTIMONY

Many, but not all, of the witnesses at all three of the public meetings were opposed to the continued development and use of nuclear power in the United States. The following testimony, taken from the full transcripts of these proceedings, are examples of the kinds of views expressed.

Dr. William Olkowski (speaking at the July 22 San Francisco public meeting):

"I am a professional biologist. I am a member of the Association for the Advancement of Science, the Federation of American Scientists, the Union

Witnesses from New Mexico called attention to the solubility of salt and to the valuable potash deposits surrounding the WIPP site there.

Other witnesses stressed that, whatever nuclear waste management alternative is chosen, the non-defense nuclear waste costs of those alternatives must be charged to the utilities -- for only in this fashion will the true costs of nuclear generating stations become known. Nuclear industry representatives asserted that, if spent nuclear fuel is deemed by the government to be waste, those costs should be carried by the government. If, however, reprocessing is allowed, they felt that the industry would pay those costs.

Various witnesses stressed the importance of prompt implementation of WIPP, to demonstrate to the public that nuclear waste isolation is technically feasible. In this context, support for the John Deutch recommendations on WIPP were voiced (Mr. Deutch is Director of DOE's Office of Energy Research).

2. Federal Involvement (licensing/standards/criteria)

People who discussed this issue generally agreed that nuclear waste management is a national problem and that the Federal government should assume major responsibility for it. Several felt that the NRC should license all disposal facilities.

However, most witnesses also expressed the view that the States should be closely involved in siting issues and in the development of standards and criteria. Some felt the States should just monitor Federal activities; others felt that the States should be given veto power. A number of witnesses stressed that State involvement is important because the public can be more effectively involved at the State level.

One witness, an attorney, felt that the IRG and the agencies comprising that group have too great an interest in nuclear power development to be able to make disinterested determinations on nuclear waste management. He suggested that a separate commission of private citizens and scientists be established to make those determinations.

Many witnesses in the Boston meeting called for additional nuclear waste management public proceedings in States where nuclear wastes are actually being stored at the present time.

3. Defense Waste

This issue was not addressed to any significant degree in either the San Francisco or Denver meetings. Witnesses in Boston pointed out that early decisions in nuclear waste management -- e.g., liquid storage, without partitioning, in carbon steel -- presented subsequent consequences that are quite serious. Attention was called to the numerous leaks,

and to the expense of reprocessing liquid military, high-level nuclear wastes. Other witnesses proposed that future military and commercial nuclear wastes be treated identically.

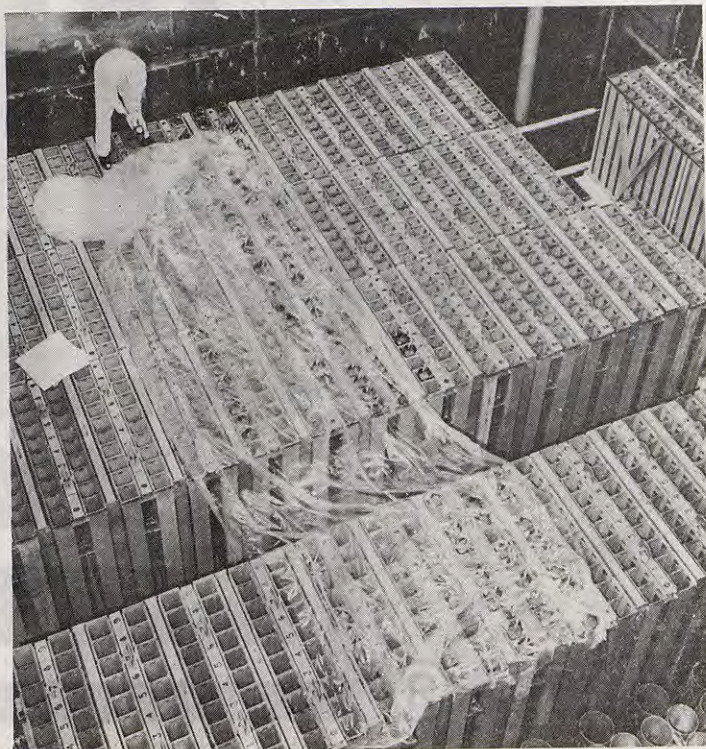
A few witnesses suggested that weapons production be stopped in order to prevent the production of any further wastes. Some noted that the sites of the present military nuclear waste repositories were already hopelessly contaminated and would never be habitable again.

4. Spent Storage

Most witnesses commenting on this issue suggested that no real strategies could be developed until there had been a decision on whether or not to reprocess spent fuel. The reprocessing decision, including the decision on a breeder/plutonium economy, will have a major impact on nuclear waste management.

The pro-nuclear power witnesses favor reprocessing as an essential aspect of continued use of LWR (light-water reactor) technology. They argue that reprocessing technology and facilities exist (at Barnwell, South Carolina), and that spent fuel rods are *not* waste. Furthermore, they maintain, reprocessing would reduce at least the physical volume of high-level waste (but probably not transuranic waste), and ease the problem of high-level waste management.

Other witnesses opposed the reprocessing/breeder/plutonium fuel cycle, supporting President Carter's decision to halt breeder development. Anti-nuclear witnesses stressed that spent fuel rods present the most immediate nuclear waste management problems.



that, since it is in fact going on. Hence I come to meetings like this one to try to interject what I think is a view from the biological sphere, which is probably closer to the political sphere, which will ultimately have to deal with these issues.

"In terms of strategies to deal with the problem, the only way I can offer a solution that would perhaps help you in the deliberations is to push for storage of these materials, appoint public bodies to monitor those temporary storage facilities, have those public bodies issue reports on an annual basis about how much material is stored there, and on the toxicity questions, and the safety questions. In this way we can set in motion a process whereby we will actually educate the people as to what this technology means.

"Hiding these wastes in salt deposits, or in the ocean, is taking the issue out of the public arena. It is hiding the problem. I can see reasons why people would want to hide the problem, but it is not going to go away. I know this, because I have seen so many pesticide issues that wouldn't go away. You think it is solved, and it starts showing up in the food chains. We didn't plan on any of this. We inherited these problems. We have to deal with them now."

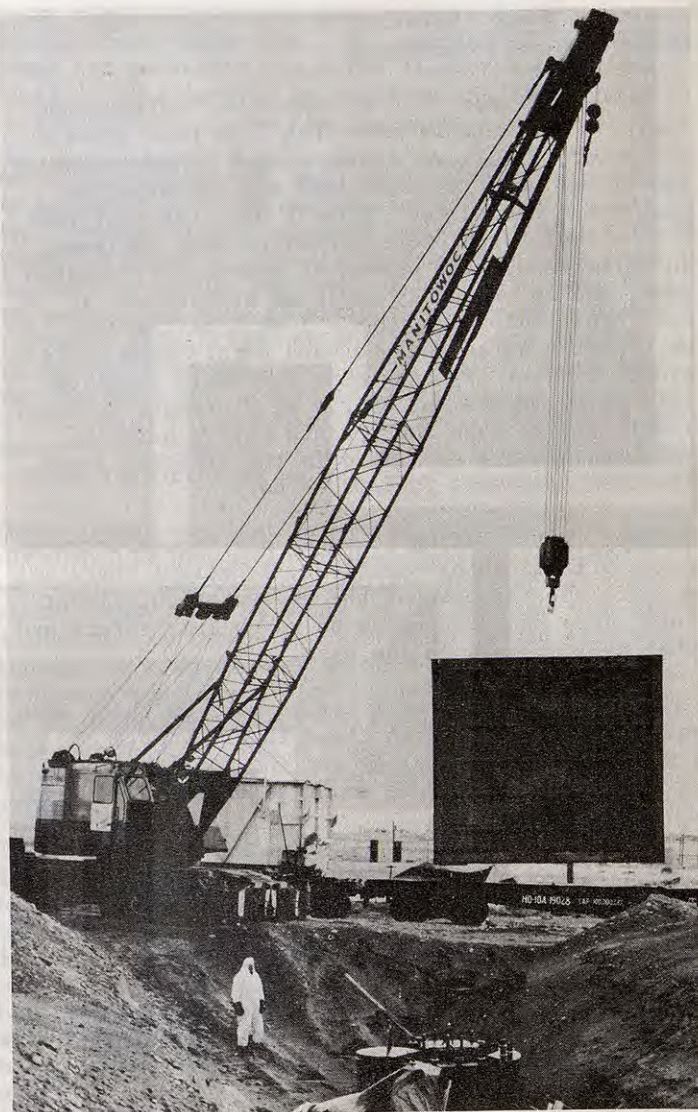
Mr. Roger LeGassie (Associate Director for Program Analysis, DOE Office of Energy Research):

"A speaker before you spoke to the toxicity question, and he used some materials that represent toxicity indexes. (Mr. Gene Cramer, part of whose testimony follows this response by Dr. Olkowski... Ed.) According to this speaker, he is making comparisons with other materials in the earth's crust, and other materials from energy production, such as the ash from coal consumption. I would like to provide you with the copy that I have of this, and ask you to react to the toxicity focus that he made, because you have made the same focus of toxicity."

Dr. Olkowski:

"I will do my best to deal with the toxicity question. All I know now is that we are talking about something which is many orders of magnitude beyond dioxin. I will give you an example of what dioxin can do. We, in the pesticide industry, deal with lethal doses that kill 50 percent of the animals tested.

"Dioxin is extremely toxic. It is known to cause birth defects, mutagenic effects, teratogenic effects, and carcinogenic effects as well. The LD/50 (lethal dose that kills 50% of the animals tested) for dioxin is 0.9 mg./kg. of body weight (for rats). The toxicity of plutonium just goes far beyond that of dioxin. It makes the scale useless in considering its toxicity.



"I bring up the toxicity question because I feel that humans will continue to lose little pieces of this stuff, much as they have already lost a great deal of plutonium in what was considered to be a foolproof process that was not supposed to lose any of those pieces. So, I am bringing up the subject of this immense toxicity because I feel that the probability of losing little bits of this stuff all over the world will come back to injure us as humans. I feel that we shouldn't take the risk. We have solar. We have wind, and we have all these other less toxic technologies. Let's go that way.

"A strategic solution is what we need. It is not a question of whether I am right, or Mr. So-and-so is right or wrong. We, as a people, have to come up with a new direction, and say to our President and to our Congress, 'Okay, get us out of this fix.' We are a sane people trying to deal with insane nuclear issues."

of Concerned Scientists, various fraternal scientific organizations and professional societies, and a co-director of the Center for Integration of Applied Sciences, which is focusing now on developing alternative pest management strategies in city and urban areas. This Center is part of the John Muir Institute, which is a private, nonprofit educational research institution devoted to developing the information base needed to solve environmental problems.

"I am here today because I feel I have been watching the nuclear issue develop all my life. I was born in 1941, in the war period that gave birth to this technology we are trying to manage today. Throughout my life, I have spent a great deal of time on this issue. I gave up a career as a physicist to become a biologist, but I have kept in touch with the nuclear interest area.

"What we see today in these public hearings, and in public political arenas, is a number of competing belief systems. I offer this analysis of the situation because belief systems, the way I define them, are self-reinforcing, social mechanisms. What is a belief? It is a strongly-held concept that excludes competing and contrary beliefs or information that challenges the key belief. These are thinking systems, and thinking systems relate to behavioral systems, and vice versa. There is a good psychological basis for understanding that behavioral systems then come back and give us belief systems. They maintain themselves.

"Now, my belief system says that humans are highly fallible. This has a bearing on the issues here today, because I feel we need to understand what long-term storage is all about. The sabotage question, of course, is dependent on an assessment of where the current society is and where it's going. I think that nuclear waste management facilities will be open to sabotage, just the way nuclear energy production facilities are.

"Now, my belief system also says that the way out of this if for people like myself and yourselves to try to deal with these competing things, and to come up with something in the middle that we can live with for a certain period of time. The time question here is incredibly difficult to deal with. The fact that we are starting to deal with geological time scales seems very illogical to me, because they are outside our normal way of thinking about things. Temporary storage will provide time to switch to less problematic energy sources. Hence, a belief system ends by trying to say; well, this direction is the way to go to solve this problem.

"My ultimate solution at this time is temporary storage, with strict monitoring. I spend my life working in alternative energy development because I feel that the solution to the waste management problem is not to have these wastes in the first place; and I feel that this needs to come out of a commission or an interagency group much like yourselves.

"The belief system that has organized this industry for us in this whole area of atomic development is an analytical process of thinking, and you can see it in the way people present their arguments. They say waste management is a high-level, toxic waste problem, or they say that long-term storage is the problem. They are trying to break this problem down into pieces, and then come up with solutions to each of the pieces. And, of course, there are no solutions to many of these pieces. We hear this from people who are saying there are knowledge gaps. The analytical, scientific, physicist belief systems say that if we put money into this area we will come up with the solutions that we don't have now. I don't believe that is true.

"The worldwide nuclear weapons management aspects need to become part of the waste management considerations. I think we need to, as a nation, come to grips with the idea that we need world communication toward peace if we are to limit this whole problem.

"The time scale is geologic. The error scale is geologic. The toxicity scales are geologic. The lifetimes of the nuclear products are geologic. I have before me a book called *Ecosystem Science*. Paul Erlich, Ann Erlich, and J.P. Holderin are the authors. I have read this book. It points out that some of these nuclear waste products have half-lives of 210,000 years to 900,000 years. Plutonium has a half-life of 24,000 years. Plutonium is very toxic. It is more toxic than any pesticide known today. It is very potent for 24,000 years. This is 600 generations at 30 years a generation. We cannot pledge ourselves to safely store these materials for that long a period of time. Hence, we should eliminate the production of the materials in the first place. There are no solutions to this waste management problem. Cease new research and development of nuclear energy. Commercial development should be discontinued.

"I don't make any money out of nuclear energy. I am from outside that world. I am looking in on that world and I see idiocy. I see real problems. The issue of toxicity, with which I deal professionally all the time, is astronomically beyond anything we deal with in the pesticide management field. Dioxin, the most toxic substance known to the pest management world, doesn't come near plutonium. Plutonium is some number of orders of magnitude greater in toxicity than any of these things. When I actually face the toxicity question, the question of how we are going to store this material without error is always the first and most important question. I don't have an answer.

"I don't believe that we should deliberately manipulate public opinion over this issue, and I think this is what has been going on in terms of having ideas presented to the public by professional nuclear scientists. I would like to have a voice in

WRITTEN STATEMENT SUBMITTED FOR THE RECORD BY
MR. CRAMER

Perspectives on Nuclear Waste Disposal

"For two billion years, nearly 10 tons of reactor fission product waste and several tons of long-lived plutonium have remained locked into the earth at the OKLO Africa uranium mine. Nature has given us an excellent example of how to safely contain reactor waste. Examination of the minute particles of earth within this old reactor show plutonium was completely immobilized for times comparable to its half-life of 24,400 years.

"Within 1000 years, the radioactive hazard from reactor waste will be about the same as that of naturally occurring uranium ores. Miners routinely work 8 hours a day within these ore bodies under proper precautions. The long-lived radioactivity is there only as an impurity, being removed because it is a fuel.

"By comparison with other substances, the toxicity to humans of reactor waste is surprisingly similar. 24% chrome ore is more toxic than waste after 1000 years. Since stainless steel used in cooking pots and table 'silver' is 18% chrome, it is more toxic to humans than 1000-year old nuclear waste.

"If a ton of nuclear reactor waste were buried in a one-ton stainless steel protective container, then after 1000 years THE STAINLESS STEEL PROTECTIVE CONTAINER WOULD BE MORE HAZARDOUS TO HUMANS THAN THE WASTE.

"There are many areas in the United States where the small amount of nuclear waste can be safely buried. For example, 1000-ft. thick salt beds with hundred-foot thick clay above and below are proof against ground water entering a repository. There are many areas in the U.S. containing extensive beds. As the American Physical Society points out 'We conclude that many waste repository sites with satisfactory hydrogeology can be identified in Continental U.S., in a variety of geological formations.'"

Dr. Thomas Najarian (speaking at the August 4 public meeting in Boston):

"I am from Belmont, Massachusetts. I'm a graduate of MIT with a Master's Degree in Chemical Engineering, and a graduate of Harvard Medical School. I am responsible for a study which was published on May 13th, 1978, on nuclear workers at the Portsmouth Naval Shipyard.

"One of the things undermining all the discussions here, and you might find it's one of the most important issues, is the assumption that nuclear waste is harmful. Everyone knows that radiation in high doses is harmful, and nuclear fuel rods do produce high-level radiation. But knowledge as to how much lower-level waste it takes to be harmful to human health is really lacking.

"To my mind, the data is available to find out how harmful these wastes are. But nothing at this point, except for publicity and a few studies done by individuals, is being done to initiate the large scale studies needed to make the decisions as to how long to store wastes, for example. Spent fuel rods contain elements, such as plutonium, which are not normally found in nature, but there is no data that I know of that indicates how the harmful effects of various fission products compare with, for example, data on people who work with nuclear materials now; people who work in various reprocessing plants or storage facilities; or people who work overhauling nuclear reactors, such as in nuclear submarines. They are important groups to study because they come in contact -- not purposefully, but accidentally at times -- with fission products, and they get exposed to gamma radiation as well.

"These groups are just now being studied. The data will probably not be in conclusively for perhaps five years. And yet the earliest indications from both my study and the study by Dr. Mancuso indicated that the radiation amounts these people received, although very small, may be much more harmful than previously suspected. In fact, that was the reason for not studying these groups originally -- because the amounts of radiation were so small compared to the amount of radiation received by A-bomb survivors.

"I would like to see a nuclear waste management decision flexible enough so that, in five years' time when these studies have been completed, when the information is available and felt to be statistically significant by the accumulation of a large data base, you will be able to speak more authoritatively about what kind of safety measures you need in a nuclear waste repository. The question that is raised by this is, 'Is there some exposure going on that's not being taken into account, or is it possible that some minor exposure to some very, very tiny, or even immeasurable, amount of contaminant, such as plutonium is, in fact, responsible for leukemia and other diseases?'"

Mr. Gus Speth (Director, Federal Council on Environmental Quality):

"Does your work support the idea that present radiation standards for nuclear workers are set too liberally?"

Dr. Najarian:

"Again, when you set standards, you have to decide how much disease you're going to accept. You can say the standards are fine if you want to accept the levels and kinds of diseases that are present today in those nuclear workers. Based on an assumption as to how much disease you would accept by the old standards, the present standards would be too high if this data holds up -- probably at least by a factor of 10."

Mr. Gene Cramer (speaking at the July 22 San Francisco public meeting):

"I am Gene Cramer -- I am listed as representing 'self.' While it is true that I am here under my own power, I believe I come closer to representing the silent majority than does any organization that I may belong to. I don't hide the fact that I am a registered professional nuclear engineer, in California, have worked in government research labs, and am presently employed at Southern California Edison Company. I will be reacting here partly as an engineer and partly as a professional student of management currently enrolled in a Ph.D. management course at Claremont College. I will try to make four points fairly quickly. These points are explained in the attached sheet. *(Written statement follows -- Ed.)*

"Number one; reacting to your July issues document, pages 9 to 11 on perspectives, I believe there is, despite the fairness of the presentation, almost total loss of perspective as to nuclear safety and what has happened in the past.

"The second point I will try to make is that, when properly presented with these facts, people do understand the technology and the nontechnology problems, and I believe would tolerate these waste disposal means.

"Number three; I think that the technology has become entangled in what is basically a siting problem; basically a problem of selfishness in a culture, and selfishness in small groups.

"And fourth; as near as I can interpret from the documents I have seen, I think you really need to consult a professional business management consultant.

"First, if we compare the hazard index of nuclear waste versus a couple of other substances, for example, ores that are commonly mined, we see, to most people's surprise, that stainless steel is about as hazardous to an individual, pound-for-pound, as 500-year-old nuclear reactor waste. We see also, that, if you do an analysis of coal ash and its radioactivity content; surprise -- you find out that coal ash is about as radioactive as nuclear waste after the waste has been sitting around for 10,000 years.

"You will also note, by way of experience with that natural reactor in Africa, two billion years of successful waste disposal of tons of plutonium and other fission products. My concern is that if we continue, as we seem to be doing, going into this elaborate program of studies and decision-making, pretty soon somebody will realize that we cannot even afford to bury a stainless steel cooking pot anymore. Think about that a minute. If you bury a ton of nuclear waste and surround it by a ton of stainless steel, after about 500 years there is more danger from the ton of protective stainless steel than the waste you have buried.

"Second, people do understand this, I believe. For about two years I have been presenting facts like this in seminars to people, through my company. These are teacher seminars from the high school to the elementary school level. I also speak to business groups; Kiwanis, Rotarians, and other such groups. In general, when it is properly presented, when the public has a chance to think about it and to react to it, I think they understand. I think they tolerate it. Recently I spent a full morning at Cal State Long Beach with a group of elementary school teachers. I think they understood all of this by the end of the day. They had been previously sensitized by newspapers, but I think they could understand the facts, and they maintained their perspective.

"I will read you a very short KNBC-TV editorial of the 10th of this month. It simply says, 'Hey, in several hundred years these waste materials will be no more radioactive than uranium ore is now. In the meantime they bother no one. The so-called atomic waste problem is about as close to a non-problem as you could get. Let's get on with the show.'

"My third point deals with entanglement in siting selfishness. I believe a whole culture has changed, in the last 20 or 30 years, from a pioneering effort, from a let's-get-on-with-this, from the Christian work ethic, to our attitude of 'Hey, we've got it made; all we have to do is to divide up the accomplishments fairly; I want my piece of the action.' Businesses, and in particular, energy utilities, notice this quite well in the siting process. No one wants anything in their backyard except beauty. They want everything cleaned up.

"I think I can characterize this by saying that you cannot buy off the people's concerns in siting with technology promises. Put very simply, if an electric utility is putting a transmission line through someone's backyard, you cannot buy off those people's concerns about the line by simply saying, 'I'll change the voltage a little bit.' It is a reaction to the whole thing, rather than any specific detail.

"My fourth point was that I think you need a professional business management consultant. I think that, unconsciously, in the United States we have switched over to a public participation, State agency, everybody-into-the-act sort of thing. I think this has been done willy-nilly, without any thought. It is much closer to Japanese-style decision-making. I think you ought to consciously look at this, if you are not already doing it. It has been pointed out that high-technology industry has, by and large, been unsuccessful when they ventured into the market, simply because they are so wrapped up with the technical needs, as they perceive them, that they don't recognize the needs of the business -- or of people generally."

cent, multi-cellular complex -- man. This evolution has been determined by a slow process of genetic mutation induced by natural background radiation, and a natural selection of virile organisms capable of surviving on this planet. Additional, manmade radiation being put to this natural background of evolution is medically contra-indicated. Every textbook on internal medicine, on pediatrics, and on radiology, categorically states that under no circumstances should an individual be exposed to any unnecessary radiation, except that which is essential to making a definitive medical diagnosis.

"All radiation is harmful. Man has achieved his maximum number of advantageous mutations or gene changes to enable him to evolve. Almost all mutations induced now by radiation are deleterious and can induce malignant diseases. Genetic mutations occurring by radioactive contamination of the testicles or the ovaries will increase the incidence of inherited disease. Over 2,000 such diseases are presently described. Most are incurable. Many of these patients are now being kept alive by we in the medical profession -- to reproduce and propagate their abnormal genes.

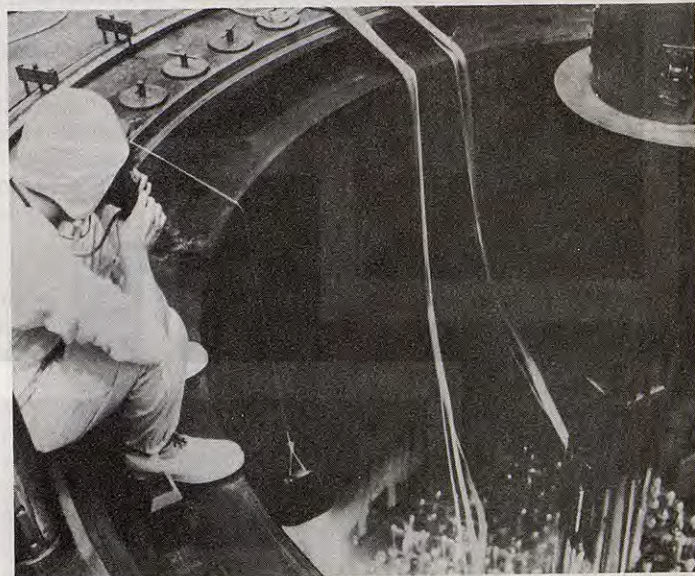
"I treat one of the worst of these diseases -- cystic fibrosis, the most common fatal, inherited disease of childhood. Almost every baby born with cystic fibrosis is doomed to die before the age of 30. Radiation-induced mutation in a cell other than an egg or sperm cell is a potent cause of cancer, and this is well documented throughout the medical literature. Plutonium produced by the nuclear industry is one of the most toxic radioactive materials of all. It is one of the most mutagenic materials that we know. A millionth of a gram of plutonium will cause cancer if a person gets it in their lungs.

"The body sees plutonium as iron. It combines with the iron-transporting protein in the blood and is deposited in the iron-storage cells of the liver and the bone marrow, where it can produce liver cancer, bone cancer, and leukemia. It also crosses the placenta into the developing embryo where, like Thalidomide, it can damage the fetus to produce deformities. It concentrates in the testicles and the ovaries, producing mutations which are passed on from generation to generation.

"Meanwhile, the plutonium lives on to get into other people's testicles and ovaries for a very, very long time. If I die of cancer caused by plutonium, and I'm cremated, the plutonium goes out the chimney with the smoke, to be breathed into somebody else's lungs for many, many years.

"We are talking about the evolution of the human race; and not just us, but animals and plants as well. The military has produced 74 million gallons of high-level nuclear wastes while making their atomic bombs. Why did they make them? They made the bombs to insure our security. We are at a point now where, with the press of a button, in half an hour the human race can be made virtually extinct.

Those that survive initially will almost certainly die of leukemia and other forms of cancer -- 5, 15, 20, or 30 years later. If those people survive to reproduce, the earth may well be inhabited by bands of roving mutants, unrecognizable as human beings. So much for our security.



"You know that military nuclear waste is leaking into the ground of this country now. You know that 430,000 gallons of waste leaked at Hanford, Washington, and that's near the Columbia River. You know that waste is leaking into the Savannah River. You know that several hundreds of kilograms of plutonium are buried as transuranic waste in the soil.

"You know that you dug up soil from Spain when two atomic bombs were dropped there, and the earth was heavily contaminated. That plutonium-contaminated earth was buried straight into the ground at Barnwell, South Carolina, where there is four inches of rain a month, and it will inevitably get into the food chains. You know that the radioactive material produced by nuclear power and nuclear weapons production concentrates in the food chain. You know that you can't taste Strontium 90 cheese. You know that we can't tell, when the cancer develops, if that cancer was caused by a piece of cheese the patient ate 20 years ago. You call this simply a medical problem.

"Yet the Federal government says it has to take charge of all the nuclear waste, not just in this country, but throughout the world, because we don't want countries like Iran, Pakistan, or Brazil making nuclear weapons from spent reactor fuel. So what does President Carter suggest? He suggests that it all be brought back to America, and stored here. The Federal government takes charge of it. Do you really think Americans will accept that?

"The United States has only just celebrated its bicentennial. We are talking about what the Federal government is going to be like 500 years from now, or a thousand years from now! How can we guarantee the stability of this Government of the

Mr. LeGassie:

"I just want to note that this witness is an example of the fact that one person can have a significant effect on his society and the world in which he lives. I think the witness' work has raised a very important question, and he is to be commended for the dedication with which he approached it. He has gotten the attention of the Federal government on this matter and, as he's indicated, a lot of work is starting. I'd like to say that, from where I sit, it's a privilege to have him up here to speak at these hearings."

Dr. Najarian:

"I would be very happy to be present on the day when one will be able to walk down the streets and have absolutely no air pollution from fossil fuels. Perhaps, when it's finally studied, the effect of radiation will be found to be as small as it was supposed to be. If it is, nuclear power may be a very viable alternative to the pollution of fossil fuels."

Dr. Graham Foster (speaking at the July 24 Denver public meeting):

"One of the saddest things about these public inquiries is that there is no effective way to deal with the welter of misinformation you have just heard. I am here to represent a small, almost unknown, organization called Americans for Rational Energy Alternatives. My technical qualifications are a Ph.D. in nuclear physics and 22 years of work experience, first at Hanford and now at the Los Alamos Scientific Laboratory.

"To address the direct purpose of these hearings, I have read the July 3rd draft of this joint task force report and I find it, in general, excellent. There is one large omission; possibly it wasn't appropriate for the report in the first place, but I think it is appropriate. The report gives lots of comparisons of risks and things like that, and internal perspectives. But it has no external perspective. There is nothing in it that President Carter or any of the people present here can use to assess the magnitude of the nuclear waste problem in terms of problems that are familiar in our everyday lives. So, I am going to give you some examples that I think might help.

"The entire stock of high-level nuclear waste in the United States today, after 33 years of reactor operation, contains the same number of lethal doses for human beings as are contained in the liquid chlorine in three railroad tank cars. You all remember that, last February, eight people were killed when a train was derailed in rural Florida -- and it is fortunate that it was in rural Florida. One of six tank cars of chlorine in that freight train ruptured immediately and killed eight people. There are 39,000 tank car-

loads of chlorine traveling our railroads every year. The point that I am making -- and it should be obvious -- is that the magnitude of the hazard from nuclear waste is dwarfed by the hazard from a common chemical operation that most of us are unaware of. And that, in turn, if you look at the statistics for the last 75 years, is dwarfed by the hazards associated with driving automobiles or inhaling cigarette smoke. It just isn't that big a deal. This is a big country; it has big problems. The nuclear waste problem, looked at in perspective, is like all other problems in that it is something to be worked on.

"The impression seems to be universal that nobody knows anything about real-life burial of high-level nuclear waste. Twenty years ago, the Canadians at the Chalk River Laboratory made up a primitive batch of waste glass with 15 percent high-level waste in it and buried it, not carefully, but below the water table -- right in the ground water -- with a ring of instruments around it to find out how the radioactivity would leach out of the glass and spread through the soil. The experiment was a failure. Two years later, they buried several tons more waste deliberately designed so that it leaked five times as easily, and then they were able to get good enough readings to do some serious calculations. There is a measurement going on at the Nevada test site right now, pumping water out of a well 90 meters away from the site of an underground nuclear explosion. That, also, is showing extraordinarily slow migration under the most extreme conditions of ground water flow.

"I am disappointed that this joint task force report made no mention of Professor Cohen's monumental article in *Reviews of Modern Physics*. It gives an essentially iron-clad prescription for setting an upper limit on the possible hazard to people from buried waste, and is based on the known rate at which people in this country are killed by radium leaching out of the soil -- and there is an incredible amount of radium in the soil of the United States.

"Finally, one quick point about the Waste Isolation Pilot Project. If high-level waste is, in fact, buried there some 2,600 feet underground, after only 500 years of decay the hazard presented by that waste to the human population will be only three times that of the radium that is already in the rocks overlying the burial site."

Dr. Helen Caldicott (speaking at the August 4 public meeting in Boston):

"Gentlemen of the panel; I am a pediatrician, and I am a mother. The time has come for mankind to assess the impact of radioactive nuclear wastes upon the evolutionary processes of this planet.

"Biological systems have taken billions of years to evolve from single-cell organisms to that magnifi-

Dr. Caldicott:

"If we spent, not a mere 3 percent of the budget on solar power, but the majority of the budget on solar power, it could well be here within a transitional period of twenty years. We really should be utilizing solar power. And we would need to couple that with very effective energy conservation. You know that Sweden, West Germany, and other modern, industrialized countries use 50 percent of the energy that this country uses on a per capita basis to maintain a similar standard of living. Then I would say that coal can be cleaned up, 95 or 98 percent, by the use of scrubbers. That doesn't get the CO₂; I agree. But it does get the particulate matter and the sulfur. The CO₂ is a problem, but again this would be only an interim measure. We could use coal power for the next 20 years, and use that time to fully develop solar energy.

"Speaking as a doctor who sees little children dying of leukemia, and who cares deeply about the value of and the essence of life, I'd rather have a candle to read by at night. It seems that we just have to have big industries and lots of money and all that. What are we talking about? What are we trying to achieve in our lives? Is it just to make a lot of money? Do we get happiness by that? We really have to examine ourselves. We can call nuclear power an interim measure, but that will not alleviate the long-term toxicity of the wastes we'll produce. The Congress has for over a year now been debating the subject of controlled genetic engineering. What we are talking about here today is uncontrolled 'genetic engineering.'"

Dr. Marvin Goldman (speaking at the July 22 San Francisco public meeting):

"I am a radio-biologist by profession, and for the last 27 years have been engaged in research on the effects of low-level radiation from radioactive particles such as are associated with nuclear wastes. I and several thousand others like myself have been performing biomedical research to provide information on the consequences of potential radiation exposure. I have come here today as a private citizen, however, because I am disturbed by what appears to be an appalling lack of perspective on what we do know and what we do not know about the consequences of such exposures.

"Since I am not an engineer, I can't speak authoritatively about the various engineering, chemical and geologic options that must go into the development of a defensible, acceptable strategy for ultimate disposal of radioactive wastes. The public will ultimately decide what is acceptable, but I am very concerned that their decision is going to be hampered if only emotional and extreme opinion are the basis for the decision-making process.

"I am pleased, and at the same time a bit disappointed, that these hearings are now being held; pleased in that I welcome the opportunity for a compilation and balancing of the various views held by the so-called experts and the general public on this complex issue, and somewhat disappointed that it has taken so long for such a hearing process to finally be promulgated. While I fully respect the rights of the critics of nuclear power to voice their opinions, I am increasingly disturbed at the lack of opportunity provided in the public media for the other side to be heard, particularly in the State of California, and especially in this part of our State.

"A great deal of research effort has already been invested in various aspects of radiation studies, and while I in no way wish to minimize the magnitude of the problems yet to be solved, I feel that a balanced-perspective view should include some public disclosure of the information that we already have accumulated. For example, few people know that some 1.8 billion years ago a natural concentration of uranium in Gabon, Africa, underwent fissioning, producing many, many pounds of plutonium 239, and that recent geologic studies at the site of this 'natural reactor' have disclosed that none of the plutonium which was generated and has long since decayed ever left the site at which it was generated. This is not to say that this is the appropriate place in which to put wastes containing plutonium, but it tells me that there is no certainty that buried plutonium is indeed going to migrate and become environmentally hazardous.

"In my own studies I have found that plutonium is indeed an exceedingly toxic metal, but that does not say that it would be a very great hazard if properly managed, contained and confined. Has the public been made fully aware of the fact that other alpha particles are present in every gram of soil, in every gram of food, water, and indeed in the air which we breathe? These alpha particles are quite similar in their radiation properties to those alpha particles generated by plutonium, and have always been part of this earth's natural, background environment. It is only when the concentration of radioactivity in living systems reaches certain high levels that biologic effects are seen. There are firm data in many different studies that demonstrate the magnitude of effectiveness of radiation particles from plutonium, or from radium, or from radio-strontium. Many scientists, including myself, have devoted their entire careers to attempting to throw some light rather than some heat on this subject, and yet most of what we have done received little in the way of any publicity. What we do see, instead, are the criticisms of our studies. I think it is socially irresponsible to merely present criticism of studies without also showing what the studies themselves did indeed show. The errors of omission in science can be far more devastating than the errors of commission.

United States of America, let alone that of any other government in the world? We are talking about eons of time. Even the most brilliant scientist may honestly think he's developed a container that will remain intact for a half million years. He's going to be dead in 30 years. He will never live to verify his hypothesis. I am a scientist. Many of you are too. You know damn well that we will never know if we are going to store this waste safely.

"From a medical point of view, we are doomed in the future to epidemics of leukemia and other cancers. In the Deutch Report they are already talking about



areas being 'grandfathered,' which means that the area's test is so radioactive they will have to exclude it from the regulations, because they can't clean it up.

"I predict that, in the future, all areas where radioactive waste is to be stored will have to be 'grandfathered.' You talk about regulations and you write them down on bits of paper. But when it comes to actually implementing those regulations, you know as well as I do that nuclear power plants leak radiation. You look at the *New York Times*, in the back pages, and there are always reports of leakage. But you say it's safe. You know it's not safe. You know it's leaking now, as it has leaked in the past, and inevitably will leak in the future.

"We are talking about the survival of life on earth; about the very basic building blocks of life. The President called for maximum public participation in this debate, yet we are given five minutes to participate. In your 'professional academic committee' there were physicists, and there were engineers, but there was not one academic representative from the medical profession; not one

biologist or one geneticist. This issue of nuclear waste is a medical issue. Medically, I would suggest that we absolutely stop nuclear power immediately and produce no more nuclear waste.

"Second, we must stop making atomic bombs. This country has enough bombs to kill every person on earth several times over. Brezhnev is treated with cortisone; a good drug, but it occasionally causes acute psychosis. You know that button could be pressed at any time. Your satellites will pick it up, and what will you do? Press your button? We are living on the very precipice of extinction. Where are we going? Is *this* for our security and for the security of our children and our descendants?

"For this society, and every other country in the world, to deny the strongest primitive instinct -- survival -- means that we, as the human race are, at this point in time, mentally sick. You men have the most incredible responsibility; to make the right decision. I don't think we are ever going to find a way to store this waste safely. I think we are condemning future generations to incredible illness.

"Imagine the cost to society. Imagine our descendants waking up in the morning to a society with radioactive vats leaking all over the countryside, the food contaminated, the children being born deformed or dying of leukemia and other cancers. What we have done already is irreversible.

"I appeal to your sense of goodness; to your sense of love for your children and for humanity. We all have that urge to do the right thing for the human race. I beg you on my knees as a physician, an internist, and a pediatrician. Thank you."

Dr. John Deutch (Director, DOE Office of Energy Research):

"DOE's Deputy Secretary, Jack O'Leary, keeps starting off his speeches about energy requirements in this country by saying that he doesn't like nuclear power. He doesn't like coal-burning either. He says they both have a whole range of dangers for human health if one looks at the entire cycle, from mining to the actual use of nuclear fuel rods and the shipment of the spent fuel for storage at some site away from the reactor. All of that troubles him quite a lot, and it's a worry which I certainly share. I certainly am aware of the biological dangers of plutonium and of radioactivity generally. I think we all are.

"The question I would ask if you have an opinion about is, 'If we are now converting to coal in great quantities -- and this will be increasing in future years -- what will be the long-term health effects?' Aren't we in a situation where both coal and nuclear look terrible? Or do you feel that coal, when you look at the entire cycle, including production of CO₂, is clearly favored from a point of view of human health?"

that geologic disposal is an acceptable way to proceed and then obtained the endorsement of the President and the entire Administration. Such a conclusion would be entirely consistent with the DOE Task Force Report and other eminent bodies as discussed above.

"The important point to recognize is that a decision that we are going to dispose of waste geologically renders a solution to the problem. That still leaves a lot of other specifics--site selection and other things--but, nonetheless, it is the solution. Unfortunately, a review of preliminary draft documents released by the Interagency Review Group suggests that such a positive conclusion may not be forthcoming. In a draft document put together by the Office of Science and Technology Policy and entitled, *Isolation of Radioactive Waste in Geologic Repositories: Status of Scientific and Technological Knowledge*, a long list of gaps in our current knowledge about geologic disposal is put forth. What is missing in this document is an emphasis on the fact that none of the so-called knowledge gaps is sufficient to preclude geologic disposal. In fact, there are so many candidates for disposal media that we are almost at a loss to select one. They include bedded salt, domed salt, granite, shales, deep ocean sediments, and melted rock cavities. Surely one of these, and probably every one of these, would be an acceptable means of disposal.

"Of these media, salt has been the most heavily studied. Not surprisingly, all of this study has led to further questions. That is what good research always does and that is why there are more questions raised about salt than about other geological media. Nevertheless, we believe that enough information is now available to substantiate a decision to proceed with the first geologic repository in salt. While salt may not turn out to be the optimum disposal medium, it will certainly prove adequate. Research should continue on other media for subsequent repositories.

"It must be realized that an answer to every question which can possibly be raised is not a prerequisite to a decision to proceed with actual waste disposal. I'm disturbed with the tendency, in reading some of the documents that are coming out of the review group, to require us to answer every single question before we proceed to take any action.

"Although we concur with the DOE Task Force finding that reprocessing is not required for the safe disposal of commercial spent fuel, we believe that reprocessing can significantly ease the task of waste disposal by reducing the volumes of material which must be contained and by reducing the amount of heat which will be generated in the repository. Recognition of this factor should be part of the work product of the Interagency Review Group. I'm very sorry to see that neither Dr. Deutch or Dr. Nye are here to discuss this issue, which was brought up briefly this morning.

"From the standpoint of disposal in geologic formations, there are differences between solidified, high-level wastes from spent fuel reprocessing and unprocessed spent fuel. These differences are matters of degree and not of kind. The major differences are those related to total thermal output and contained plutonium. Because of the roughly 200 times more plutonium in the spent fuel as compared with solidified high-level wastes, the total integrated thermal output of the spent fuel is greater. This increased thermal loading must be taken into account in the design of the repository, primarily through increased spacing between waste canisters. And it is partly the recognition of this which has led to some of the questions being raised about salt.

"Because of the larger quantity of transuranics contained in the spent fuel, the requirement for the time period of containment is longer for spent fuel than for reprocessing waste. For example, if the capability of the naturally-occurring ore body, from whence the fuel came, to contaminate water or air is used as the reference base, high-level waste from that fuel would have to be contained about 500 years to be equivalent to the ore body in contaminating capacity, while the spent fuel would have to be contained about 10,000 years to decay similarly. This indicates to me that one easy way to help yourself along in the solution of the waste disposal problem is to do reprocessing. For this reason, we believe that vitrified high-level waste from reprocessed spent fuel represents a superior waste form compared to unprocessed spent fuel. I think it's necessary to recognize this fact as a technical reality, even if it does not suit the political realities of the time.

"It should be noted that geologic containment of nuclear waste is not as some have erroneously implied, 'A million-year problem.' We're talking here about a 500-to-10,000-year problem, depending upon the waste form which is being disposed. While these time spans may seem long, they are short in terms of geologic history. We are positive that a geologic repository can be designed to contain wastes for these time periods. A recognition of the fact that we only need to make containment for approximately 500 years would lead to a resolution of many of the issues raised by geologists in the OSTP policy report.

"The public misperception that there is no solution to the nuclear waste issue is reinforced by the lack of a definitive schedule for the licensing, construction and operation of a commercial waste repository. We believe that such a schedule is a minimum requirement for public and utility confidence in the Federal government's commitment to carrying out its responsibility to dispose of nuclear wastes. We are disturbed by the fact that the earliest date for an operating repository has slipped from 1985 to 1988, with the potential to slip further--to 1993. We strongly urge that there be established a definitive schedule for implementation of commercial nuclear waste disposal.

"The problem in nuclear waste management, in my view, is really a problem of low-level radiation risk assessment. As a health protection scientist, I have been trained to be what we call conservative. This much maligned word 'conservatism' requires some quantitative input. To me, it makes no sense to pick the worst-case analysis at each step of the nuclear fuel cycle evaluation, because the product of too many conservatives can be the acceptance of a risk estimate which is so far from our best judgment as to be difficult to defend.

"While we would all like to think that our activities have such conservatism as to impart no risk at all, there is truly no such a thing as zero risk. Perhaps the nuclear risk assessment, in terms of health effects per unit of energy generated, has gone further than any other aspect of our complex society. Because of the extensive data base that has already been derived, we know more about this risk than any other. Of course, this is a mixed blessing. In the eyes of the public it is often translated as a perceived risk in a vacuum, and because comparable data on other risks, especially for cancer induction, are not as well studied, the radiation cancer risk stands out in a peculiar way. We are just now looking at the comparable risks from coal fly ash, saccharin, hair sprays, charcoal broiled hamburgers and children's pajamas. Society seems better able to cope with acute risks, such as accidents, than it is with latent or delayed risks, such as cancer. Not that I want to play down the dread fear with which we all regard this disease, but just to point out that its radiation induction risk is understood a few decades before that of the other potential agents.

"My scientific evaluation of the situation regarding radiation risks is that, although we have fairly impressive evidence that the straight-line dose-effect model is very conservative, its literal application suggests that a rem -- that is a unit of radiation absorption -- of exposure would increase subsequent cancer risk by about one in 10,000 over the national rate. That is, for a million persons absorbing a rem, we may find in that population a subsequent increase of 100 lethal cancers over that which normally would have been expected. Every proposal for nuclear waste management that I have reviewed involves radiation doses thousands of times smaller, and thus poses an exceedingly minute risk, but, of course, it is not zero. Based on such information, our current national and international standards are indeed quite conservative, or safe, if you will. That is, there is a safety factor, in my opinion, of at least 100 and perhaps over 1,000.

"Whatever history may say of what we do, one immutable fact is that radioactive wastes have been generated or are being generated and must ultimately be disposed of. I believe that the health risks associated with nuclear waste disposal are small, manageable, and to a large extent understood. The technology exists to solve the

problem, and the public has a right to know where the facts end and where the speculation begins. I would like to see us stop making a political football of this, and to get on with the work."

Dr. Alan Hanson (speaking at the August 4 Boston public meeting):

"I am a Nuclear Engineer. I hold a Doctorate from MIT and I am currently an employee of the Yankee Atomic Electric Company. Yankee Atomic Electric Company has the primary responsibility for the safe and efficient operation of three nuclear reactors in New England; namely, Yankee Rowe, Vermont Yankee and Maine Yankee.

"As a representative of Yankee Atomic, I welcome the opportunity to provide comments to the Inter-agency Nuclear Waste Management Review Group. We are convinced of the need to vigorously pursue nuclear power as a part of the National Energy Plan. Furthermore, we are concerned about the lack of effective Federal action to promptly address and resolve public concerns regarding the adequacy of Federal programs for radioactive waste management.

"Because of our concern with the issue of nuclear waste disposal, we have followed with interest the progress of the DOE Task Force for review of nuclear waste management and its successor, the Inter-agency Review Group. In part, we are in agreement with the findings of the DOE Task Force; and, in particular, we agree with the finding that there appears to be a substantive consensus and valid technical basis for the view that present plans and actions should rely on geological containment of waste, which can be achieved in a safe and environmentally acceptable manner. This finding is another affirmation of the validity of the geological disposal concept which has been previously supported by several independent, authoritative groups, including the National Academy of Science/National Research Council, the American Physical Society Study Group on Nuclear Fuel Cycles and Waste Management, and the Ford Foundation's Nuclear Energy Policy Study Group.

"Much of the public concern with respect to nuclear waste disposal revolves around the perception that there is no solution to the problem. This is a misconception. Fundamentally, there are only three ways by which one can dispose of nuclear waste, if surface storage of spent fuel or as liquid reprocessing waste in tanks is excluded. These disposal methods are: Emplacement in geologic repositories; ejection into space; partitioning and transmutation of selected radionuclides. Since the risks and cost of space disposal are prohibitive at this time, and since the capability to transmute large quantities of waste is unavailable and probably prohibitive, the only available method for waste disposal is emplacement in geologic repositories. It would be an enormous step forward if the Interagency Review Group were to conclude

- Overall scientific and technological knowledge is adequate to proceed with region selection and site characterization, despite the limitations in our current knowledge and modeling capability. Successful isolation of radioactive wastes from the biosphere appears technically feasible for periods of thousands of years provided that the systems view is utilized rigorously.

- Detailed studies of specific, potential repository sites in different geologic environments should begin immediately. Generic studies of geologic media or risk assessment analyses of hypothetical sites, while useful for site selection, are not sufficient for some aspects of repository design or for site suitability determination.

- The actinide activity in TRU wastes and HLW suggest that both waste types present problems of comparable magnitude for the very long term.

- The degree of long-term isolation provided by a repository, viewed as a system, and the effects of changes in repository design, geology, climate and human activities on the public health and safety can only be assessed through analytical modeling.

- The effects of future human activity must be evaluated more carefully.

- Reprocessing is not required to assure disposal of commercial spent fuel in appropriately chosen geologic environments. Moreover, current United States repository designs are and will continue to be based on the ability to receive either solidified reprocessing waste or discarded spent fuel as a waste material. The question of whether commercial reprocessing will be initiated in the United States, while an important issue, is therefore not fundamentally related to the issue of safe waste disposal.

"Because the necessary isolation periods for waste disposal are so long, no demonstration can prove the presumption of safety. Thus, a social consensus, based on scientific evidence, must be obtained through:

- Dissemination of fundamental scientific information.

- The development, analysis, and near-term validation of long-term predictive models.

- Extensive, independent, objective review of results by scientific experts, and of proposed facilities and operations through the licensing process.

- Practical experience, including careful monitoring of the isolation systems.

- A demonstrated capability to take any needed corrective or mitigating actions.

- An ongoing R&D program to increase the state-of-the-art of knowledge.

"Only if such a social consensus is obtained, can disposal of HLW and TRU waste in geologic formations actually be implemented and the public be confident that nuclear waste can be safely isolated in this way over very long periods of time.

"With respect to other waste types, technologies exist for the management and disposal of Low-Level Waste (LLW), uranium mill tailings, and for waste from Decontamination and Decommissioning (D&D). However, existing practice must be improved considerably to further reduce the potential for public hazard associated with these materials.

"Most LLW, which is found in a wide variety of forms, remains radioactive for up to several hundred years. The current means of disposing of this waste is through shallow-land burial. Radionuclides in low concentrations have migrated from the burial trenches at a few LLW sites. Studies to date conclude that such migration does not pose any present significant threat to public health and safety. Monitoring of future radionuclide migration from those sites over periods of decades should be considered as a potential regulatory requirement. In the future, siting of LLW disposal facilities should give much greater attention to the hydrologic characteristics of proposed locations than has been the case in the past. NRC and DOE should take appropriate action to assure that this occurs.

"Numerous technical approaches to LLW disposal have been proposed as alternatives to conventional shallow-land burial. Some of these require only a decision to use them and location of a suitable site to be implemented immediately. Others require additional technology development and perhaps demonstration before their feasibility and safety could be assured. R&D for improved methods of shallow-land burial of LLW and of alternative methods of disposal should be accelerated because shallow-land burial, as currently practiced, may not be an adequate disposal method for all LLW in the future.

"Compared with other types of nuclear waste, uranium mill tailings are generated in large volume, about 10-15 million tons annually. Although tailings are a natural product of mining and milling, they are hazardous because they contain long-lived radioisotopes and because they have been left in waste piles where humans may come in contact with them.

"The relative magnitude of actinide elements in mill tailings, HLW, and TRU wastes, per unit of energy generated, suggests that these waste streams may present problems of comparable magnitude for the very long term, that is, beyond a period of a thousand years. By virtue of their presence at the surface, the actinide elements in mill tailings may constitute a greater potential problem than those in deeply buried HLW and TRU wastes. Thus, disposal of these tailings must be managed as carefully as that for the HLW and TRU wastes."

with well-defined target dates and milestones, and with a program to continuously coordinate the interactions of all Federal agencies with responsibility in this area. Furthermore, the public must be kept well informed of the progress being made to actually implement nuclear waste disposal.

"From the beginning of the commercial use of nuclear fuel for the production of electric power, it was planned that the fuel cycle would be closed by reprocessing to recover residual uranium and plutonium, which could then be recycled into fresh light-water reactor fuel or used to fuel breeder reactors. Thus, there was no perceived need to design for long-term reactor storage of large quantities of spent fuel. The Administration's decision to indefinitely defer spent fuel reprocessing had the effect of increasing the need for spent fuel storage space. A delay in the operational start-up of the first repository also increases the need for spent fuel storage space. Without spent fuel storage space, reactors would have to cease operation. Several plants could be in this untenable position in the early 1980s.

"The Department of Energy has announced and proposed to implement a new spent fuel policy under which the government offers to take title to U.S. commercial spent fuel upon delivery to a government-approved site and payment of a one-time, fixed fee to cover storage and disposal. Yankee Atomic supports this spent fuel policy and urges the Interagency Review Group to do likewise. In particular, we believe the Department of Energy must proceed promptly with the establishment of an away-from-reactor storage facility to be operational by 1983. Work must begin immediately and proceed expeditiously if the 1983 date is to be met.

"In summary, Yankee Atomic believes that:

1. Geologic disposal is a safe and environmentally-acceptable method to dispose of high-level nuclear wastes.
2. Rock salt can be an acceptable medium in which to establish the first commercial waste repository.
3. Fuel reprocessing can significantly ease the task of waste disposal by reducing waste volume and heat load.
4. The government must establish a definitive schedule for implementation of commercial nuclear waste disposal with well-defined target dates and milestones.
5. The government should proceed rapidly to provide away-from-reactor interim storage space for spent fuel which will continue to accumulate because of deferrals in reprocessing and repository delays.

Yankee Atomic would be pleased to provide further input to the Interagency Review Group as your work progresses."

The full transcripts of these meetings are available for public review in the Department of Energy's Freedom of Information Reading Room, Room 2107, Federal Building, 12th Street at Pennsylvania Ave., N.W., Washington, D.C.

EXCERPTS FROM THE DRAFT IRG REPORT TO THE PRESIDENT

-- SUBMITTED FOR PUBLIC REVIEW ON OCTOBER 19, 1978

"The waste generated by nuclear power must be managed so as to protect current and future generations."

"With these words in his April, 1977, National Energy Plan, President Carter signaled his determination to develop a national nuclear waste management policy and program. Recognizing the numerous Federal agencies, as well as State and local interests, involved in such a program, the President established an Interagency Review Group (IRG) and charged it with developing a strategy for dealing with the waste management problem.

"In carrying out the Presidential mandate, the IRG has attempted, by a variety of means, to obtain a broad range of inputs and views from many sources, including Congress, State and local governments, Indian nations, industry, the scientific and technical community, public interest and environmental organizations, and the public.

"This draft report presents the tentative findings of the IRG, based on consideration of the possible strategies which have been identified for managing nuclear wastes, and is issued for comment by members of the public. When these comments have been received, reviewed and incorporated, as appropriate, the report will be forwarded to the President for his consideration and guidance for further action.

Technical Findings And Conclusions

"Because of the need to isolate High-Level Wastes (HLW) and Transuranic (TRU) waste from the biosphere for relatively long periods of time, and because disposal in mined repositories is the nearest-term option, the IRG carefully reviewed the present status of scientific and technological knowledge pertinent to mined repositories. The IRG review identified a number of important technical findings which it believes to represent the views of a majority of informed technical experts:

- A systems approach should be used to select the geologic environment, repository site, and waste form. A systems approach recognizes that, over thousands of years, the fate of radionuclides in a repository will be determined by the natural geologic environment, by the physical and chemical properties of the medium chosen for waste emplacement, by the waste form itself, and other engineered barriers. If carefully selected, these factors can and should provide multiple, and to some extent independent, natural and engineered barriers to the release of radionuclides to the biosphere.

paration of the documents, detailing the kind of information needed, have been developed by the staff to aid companies in preparing acceptable applications.

The staff reviews a construction permit application to determine if the public health and safety will be fully protected. If any portion of the application is considered to be inadequate, the staff requests the applicant to make appropriate modifications or provide needed additional information. The application is reviewed to determine that the plant design is consistent with NRC rules and regulations. Design methods and procedures of calculations are examined to establish their validity. Checks of actual calculations and other procedures of design and analysis are made by the staff to establish the validity of the applicant's design and to determine that the applicant has conducted his analysis and evaluation in sufficient depth and breadth to support required findings in respect to safety.

With regard to accident evaluation, there are specific design features which must be an integral part of nuclear power plants and whose design basis assumes that there is a release from the reactor pressure vessel of the fission products contained in the nuclear core. This assumption is made on a deterministic basis (i.e., no rational mechanism is assumed to be required to obtain this release), so as to impose extremely conservative design conditions on the engineered safety measures which are physically incorporated in the power plant to mitigate the consequences of any postulated accident. However, this assumption implies that there is a complete failure of the safety systems which are specifically designed to prevent this release of fission products from the reactor core. This method of designing safety systems to withstand postulated worst-case accidents, then assuming a failure of these systems and designing physically separate backup systems, which are diverse in principle, is known as "defense in depth."

Some of the engineered safety systems which are typically incorporated into the plant design and which mitigate the consequences of the postulated accident are; the primary containment, the secondary containment, containment sprays, and charcoal filters. Prior to licensing a nuclear power plant, the NRC staff is required to demonstrate that the individual doses received by the public at specified distances from the facility following the design basis accident (i.e., the fission product release from the reactor pressure vessel) are within the guideline values contained in 10 CFR, Part 100. These specified distances are identified as the radius of the exclusion area and the radius of the low-population zone. Typical values of these distances are about 1/2 mile for the exclusion area and about 3 to 5 miles for the low-population zone. These distances vary with plant site and are dependent on the power level of a facility, the engineered safety features, and the pertinent meteorological conditions of the plant site.

In addition to the safety review of nuclear power plant applications, the NRC technical staff conducts evaluations of potential safety problems that may apply to many reactors of a given design type. The detailed review and independent analyses of emergency core cooling system (ECCS) performance, anticipated transients without scram (ATWS), and containment pressure are examples of this type of generic study. The staff also conducts engineering audits of reactor vendors and architect-engineer design calculations and procedures to assure conformance with safety design practice. The safety review of problems of operating reactors are another means of ensuring safe design by applying the findings reached in these reviews to the licensing process.

The licensing process includes the consideration of programs proposed by an applicant for a construction permit to verify plant design features and to confirm design margins. Data obtained from research and development programs on particular facilities and from the Commission's safety research program are factored into these licensing reviews.

When the review and evaluation of the application progresses to the point that the staff concludes that acceptable criteria, preliminary design information and financial information are documented in the application, a Safety Evaluation Report is prepared. This report represents a summary of the review and evaluation of the application by the staff relative to the anticipated effect of the proposed facility on the public health and safety.

When the construction of the nuclear facility has progressed to the point where final design information and plans for operation are ready, the applicant submits the Final Safety Analysis Report (FSAR) in support of an application for an operating license. The FSAR sets forth the pertinent details on the final design of the facility, including final containment design, design of the nuclear core, and waste handling system. The FSAR also supplies plans for operation and procedures for coping with emergencies. Again, the staff makes a detailed review of the information. Amendments to the application and reports may be submitted from time to time. The staff again prepares a Safety Evaluation Report (re the operating license) as in the construction permit stage.

Each license for operation of a nuclear reactor contains Technical Specifications, which set forth the particular safety and environmental protection measures to be imposed upon the facility and the conditions of its operation that are to be met in order to assure protection of the health and safety of the public and of the surrounding environment.

Through its inspection and enforcement program, the NRC maintains surveillance over construction and operation of a plant throughout its lifetime to assure compliance with Commission regulations for the protection of public health and safety and the environment.

The report also covers in detail:

"Technical Strategies for High-Level and Trans-uranic Wastes," "Technical Strategies for Other Waste Types," "Institutional Issues," and "Management Considerations."

Copies of the full draft report are available for public sale through: the National Technical Information Service (NTIS), U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. There are two volumes. *Report to the President by the Interagency Review Group on Nuclear Waste Management* costs \$9.00 for the printed copy and \$3.00 in microfiche. The order number is TID-28817. *Subgroup Report on Alternative Technology Strategies for the Isolation of Nuclear Waste* costs \$9.50 for the printed copy and \$3.00 in microfiche. The order number is TID-28818. Both documents are dated October, 1978.



NRC ANSWERS NUCLEAR QUESTIONS RAISED AT DOE MEETING

On December 13, 1977, the first public meeting in DOE's "Consumer Information Series" was held at the GSA Auditorium in Washington, D.C. Among the many questions posed by representatives of consumer and public interest groups were four which were subsequently sent to the Nuclear Regulatory Commission (NRC) for answers.

NRC Chairman Joseph M. Hendrie, in a letter to DOE's Office of Consumer Affairs, has provided those answers. We have not had an opportunity in previous editions of the "Consumer Briefing Summary" to publish this material.

Question 1: *Taking into consideration the number of health and safety concerns of citizens, how can the government prove to the people that nuclear energy is safe?*

Answer: It should be recognized that no human endeavor is risk-free and it is possible, although the probability is low, that there could be a power reactor accident which could have a relatively significant impact on the public health and safety -- just as there have been from dam breaks, explosions, railroad tank car ruptures, fires, and other non-nuclear-related events.

In order to assure the public that their health and safety is being fully protected, a concerted effort is needed to answer their questions about the use of nuclear fission to produce electricity. These questions, which must be addressed in the full light of public scrutiny, include development of a proven

method or methods of disposing of high-level radioactive wastes; "fixes" for generic safety-related problems which have arisen as the result of the increasing amount of experience with operating reactors; accumulation of more data on the effects of exposures to very small amounts of radiation; and answering, to the public's satisfaction, questions related to the adequacy of measures taken to protect nuclear facilities from sabotage and nuclear materials from theft or diversion, as well as the adequacy of requirements to protect the public from the consequences of the release of any kind of radioactive material as the result of a transportation accident.

Question 2 (a): *Should we be developing new nuclear plants when the plans for safety of plants and workers are not fully developed?*

Answer: The following description of the NRC Safety Review Process is provided by NRC in response to this question. It indicates that the safety review is comprehensive and adequate to assure safe design and operation of nuclear power plants.

INSURING SAFE DESIGN OF NUCLEAR POWER PLANTS (NRC -- February, 1977)

The NRC conducts a detailed review of all nuclear power plant applications to insure that components, systems, and structures important to safety are designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed. These reviews are conducted by some 50 different technical disciplines organized into 30 sections in 18 functional branches within the Office of Nuclear Reactor Regulation.

The safety portion of the application for a nuclear power plant is organized in accordance with a Regulatory Guide, the Standard Format and Content of Safety Analysis Reports, which describes the informational needs of the NRC staff in reviewing these applications. The conduct of the safety review is in accordance with the Standard Review Plan, which describes in some detail how the safety review of LWR (Light-Water Reactors) applications is accomplished and which criteria are applied in the acceptance of systems, components, and structures important to safety. The criteria used in the review process include NRC Regulations and Regulatory Guides, and industry standards developed in conjunction with the NRC.

When a nuclear power plant application is submitted, it is first subjected to a preliminary review to determine whether it contains sufficient information to satisfy the Commission requirements for a detailed review. If the application is not sufficiently complete, the staff makes specific requests for additional information. The application is formally docketed only if it meets certain minimum acceptance criteria. In addition, when the PSAR is submitted, a substantive review and inspection of the applicant's quality assurance program covering design and procurement is conducted. Guides for the pre-

they are available for sale to any member of the public through the NRC's Division of Technical Information and Document Control and from the National Technical Information Service, Department of Commerce. All of these reports also may be seen and copied in NRC's Public Document Room in Washington, D.C.

Results of NRC-sponsored research are also published periodically in the journal, *Nuclear Safety*, which is supported by the NRC; and results are also presented at various scientific meetings and published in the open literature. In addition, the NRC conducts an annual Water Reactor Safety Information Meeting to discuss results of all its safety programs over the past year. This meeting is open to any member of the public.

Question 3 (b): *And, in particular, since there is a major criticism of these study efforts, namely of how the results can be reliable and fully extrapolated to the full-scale, commercial reactors, and how the two agencies' combined efforts are planning to meet the criticisms of the lack of comparability in so many aspects?*

Answer: To answer this question, it is necessary to show how the safety research program is related to safety evaluation in the reactor licensing process. The design basis loss-of-coolant accident (LOCA) is used as an example. An Emergency Core Cooling System (ECCS) is required and provided to cool the core in the event of a LOCA.

The basic way in which the adequacy of reactor safety systems (such as the ECCS) for potential accident conditions (such as a LOCA) are evaluated in NRC's licensing process is by means of computer codes which use conservative assumptions -- the so-called evaluation models. The principal conservative assumptions used for ECCS evaluation are stated in Appendix K to 10 CFR 50 of the NRC Regulations. They were selected as the result of a rule-making hearing that involved extensive public participation. They were based on the best theoretical and experimental evidence then available, plus a good deal of judgment where knowledge was incomplete. The assumptions delineated in Appendix K were selected with the full knowledge that it was not then possible to predict the realistic behavior of all the phenomena involved in a LOCA; however, there was sufficient information available to establish conservative assumptions where needed to help insure that the evaluation model yielded overall conservative predictions of accident behavior.

NRC's research program is directed toward obtaining additional data and developing improved models that will eliminate these types of uncertainties and predict accident behavior more realistically. To do this, experiments are being run at small-scale, mid-scale, and near full scale, on the individual phenomena as a function of scale. Furthermore, experiments of integrated LOCA-ECCS phenomena are being made at small-scale and mid-scale to help insure that unexpected phenomena that might be revealed in integral system testing are also covered by the mo-

del. In spite of this, extrapolation of these models to full-scale reactors will be needed to predict this behavior realistically, and some degree of judgment will have to be applied in making such extrapolations and predictions. Such extrapolation and judgment will always be needed to evaluate the wide variety of different postulated accident conditions that must be considered.

The difference in performance predicted for LOCA-ECCS by the evaluation model and the realistic model can be thought of as defining the margin of safety provided in ECCS performance. So far, our research results have indicated that many of the evaluation model assumptions have significant conservatism, and thus have generally confirmed the overall adequacy of currently used evaluation models. In a few cases, where research results have indicated the need for additional or more restrictive features in the evaluation model, the NRC licensing staff has improved them as appropriate.

Question 4: *Has there ever been a full-scale implementation of an evacuation of the NRC-determined "low-population zone" which surrounds every licensed commercial reactor? If not, how do you know that the "low-population zone" presents a workable approach to nuclear safety?*

Answer: As far as we are aware, there has never been a full-scale implementation of an evacuation of the Low-population Zones which surround every licensed commercial reactor. The Low-population Zone is not, in itself, the total approach to nuclear safety. Nuclear safety encompasses the evaluation of site suitability, plant designs, engineered safeguards, required testing programs, quality assurance, and training of competent operators, all of which provide substantial assurance that accidents with serious consequences to the public health and safety are not likely to occur.

Evacuation, which is one protective measure identified in the emergency planning process, is a protective measure which has been used for a number of regularly occurring natural and "man-made" events -- such as hurricanes, floods, and chemical releases to the environment and, under some circumstances, sheltering may be a preferable protective measure to evacuation. For emergency planning supportive of nuclear facilities, the key to the implementation of any protective measures is an effective notification scheme between the facility operator and off-site governmental organizations which have the responsibility to implement protective measures.

It is unlikely that, in the event of a radiological release from a nuclear power facility, the implementation of protective measures would involve the entire Low-population Zone. The implementation of protective measures (not just evacuation) more likely would involve a portion of the Low-population Zone and could conceivably involve areas beyond the zone under some conditions. An example of this would be the control of the distribution of milk or other foodstuffs in agricultural production areas

Question 2 (b): *There have been reports of accidents at nuclear plants that have not been reported. What are the facts?*

Answer: Reactor plant licensees, vendors, contractors, and designers are required to report a wide spectrum of events and situations related to nuclear plant safety. The requirement for submittal of these reports to the NRC is stated in the plant technical specifications and in Parts 20, 21, and 50 of the Code of Federal Regulations. These licensee reports are made available to the public by placing copies in Public Document Rooms. During 1977 approximately 2,950 of these reports were submitted relating to reportable incidents, events or conditions at 65 operating reactor facilities. The types of incidents or events which are required to be reported to the NRC range from those posing a direct hazard to public health and safety, to relatively minor plant problems such as instrument set-point drifts. NRC review and analysis of these reports and other licensee information includes an evaluation of significance in accordance with Section 208 of the Reorganization Act of 1974. This evaluation resulted in identification of 5 incidents or events during 1977 related to operating power plants which are considered by the Commission to be sufficiently "significant from the standpoint of public health or safety" for inclusion in the quarterly report to Congress as "Abnormal Occurrences."

The remainder of these reports, although of lesser significance than those classified by the NRC as "Abnormal Occurrences," are considered to be important for the regulatory process. This importance is based on the precept that the utility has the primary responsibility for safe plant operation. It is the NRC's role to verify that these responsibilities are fulfilled. The NRC verifies the safety of plant operations through a program of inspections which includes among other things evaluation of licensee reports and review of licensee adherence to reporting requirements. While there have been instances in which noncompliance with NRC reporting requirements have been identified by NRC inspectors, no instances have been identified which were considered significant to public health and safety equivalent to an Abnormal Occurrence.

In summary, operating power plant licensees have generally been found to satisfactorily meet the reporting requirements.

Question 2 (c): *Has an independent study been made to research the safety of existing plants? Do you contemplate initiating such a study?*

Answer: A study has already been performed covering the safety of nuclear power plants and the results were published in October of 1975, in a report entitled, "Reactor Safety Study -- An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants," (WASH-1400). This study was started in 1972 under the sponsorship of the U.S. Atomic Energy Commission and was completed in 1975 under

the sponsorship of the U.S. Nuclear Regulatory Commission. It was performed by an ad hoc group organized to be independent of the AEC and NRC organizations. The study group was under the direction of Professor Norman C. Rasmussen of the Massachusetts Institute of Technology and, although he reported to the Commissioners, he received no technical direction from them. The group assisting him consisted of some 50 full-time people and 50 part-time consultants. Of these, 8 were AEC-NRC employees and most of the others were drawn from AEC National Laboratories and private companies.

A draft of the report was circulated to persons and organizations representing a wide variety of viewpoints, including both those who were supportive and those who were critical of nuclear power. Comments from these individuals and organizations were taken into account in preparing the final report. Furthermore, an independent advisory committee to the NRC, the Risk Assessment Review Group, is now reviewing the final report in regard to the validity of peer comments, and the developments that have taken place in risk assessment methodology since its publication. It will also delineate those areas of nuclear safety that were covered and those not covered in the report. The NRC is planning to perform a reassessment of reactor accident risks in the early 1980's.

Question 3 (a): *In light of DOE's cooperative efforts with the NRC in developing the safety tests for the light-water reactors, I would like to know what plans there are to inform the public, on a continuing basis, of the status of the various safety programs that are involved with the current safety of light-water reactors.*

Answer: Although a large share of NRC's reactor safety research program is performed at DOE laboratories, the work is managed by technical experts in the NRC Office of Nuclear Regulatory Research. Thus, the work being performed is defined, monitored, and analyzed under the management of NRC personnel to assure its competence and objectivity.

In the course of managing this work, input information covering a wide spectrum of technical disciplines is also obtained by means of Research Review Groups (RRG's). RRG's have been established for each significant area of research and these groups obtain opinions from highly qualified technical consultants from universities, DOE laboratories, and industry. However, the final decisions affecting guidance of technical programs are made by NRC personnel.

It is NRC's policy to make available to the public in a free and open manner all of the information that is developed from its research programs. Our policy requires that, within two weeks after the completion of any significant experiment, a Quick Look Report is published and is immediately placed in the Public Documents Room. Later, analyses of experimental results are published in periodic or topical reports. These reports are distributed to a wide variety of government, private industry, university, and public interest groups. In addition,

table as repository locations. DOE expects that such a determination will require at least two more years of study, during which time there will be many opportunities for the States involved to contribute to plans, evaluations, and decisions.

The draft report has been distributed throughout Texas, Louisiana, and Mississippi. Copies are also available for public inspection at each of DOE's ten Regional Offices around the country. Check your local telephone directory for the address and phone number of the one nearest you.

DOE ISSUES REPORT ON NUCLEAR INVENTORY DIFFERENCES

The Department of Energy has made public a report on strategic special nuclear material inventory differences in its facilities for the period April 1, 1977 through September 30, 1977.

The first Inventory Difference (ID) report was issued in August, 1977, by the Energy Research and Development Administration (ERDA), which became part of the new DOE. In January, 1978, DOE issued its first semi-annual ID report covering the period October 1, 1976 to March 31, 1977.

All three reports are available for public review at DOE reading rooms. Single copies of the new report may be obtained by writing to: Division of Nuclear Safeguards and Security, Department of Energy, Washington, D.C. 20545.

GUIDE FOR SUBMISSION OF UNSOLICITED PROPOSALS

DOE's *Guide for Submission of Unsolicited Proposals* is now available to the public. The Guide will assist organizations and individuals who wish to submit energy research proposals related to the development and conservation of efficient and reliable energy sources. When a prospective contractor submits a proposal solely on his own initiative and not in response to a formal government request, the proposal is considered to be an unsolicited proposal.

Copies of the Guide may be obtained, at \$1.30 per copy, from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Please refer to Stock Number 061-000-00140-9.

NATIONAL ENERGY EDUCATION, BUSINESS, AND LABOR CONFERENCE

DOE's Office of Education, Business, and Labor Affairs (EBLA) is sponsoring the *National Energy Education, Business, and Labor Conference* at the Washington Hilton Hotel in Washington, D.C. January 15 - 17, 1979. It will focus on energy-related vocational and technician training, employment, and public energy awareness. The objective of the Conference is to bring together educators, business,

labor, and public interest groups to consider their roles in achieving the dual national goals of increased energy production and energy conservation.

The registration fee will be approximately \$30 and will include two working luncheons, task force reports, and other Conference-generated publications. *For further information, please contact:*

Ms. Revonda J. Williams, Program Manager, Vocational/Technical Education, Education Programs Division, EBLA/IR, U.S. Department of Energy, 400 1st St., N.W., Washington, D.C. 20545. (202) 376-9211.

PUBLIC MEETINGS -- "NEP 2" OUTREACH PLAN

To ensure public participation in development of the National Energy Plan II (NEP 2), the Department of Energy will conduct a two-phased outreach program of public meetings during the last week in November and the first two weeks in December, 1978. In addition, the public will be given opportunities to submit written comments on material circulated by mailings or other means. The Department will take such comments into appropriate consideration throughout the various stages of preparing the NEP 2 plan.

Constituency Meetings in Washington, D.C.

Small-group meetings will be held with the *representatives of major constituency groups*; i.e., education, labor, consumers, energy producers, environmentalists, State and local government, business/industry (including small business), during the last week in November in Washington, D.C. -- at the Department of Energy's Forrestal Building Auditorium.

These meetings will provide opportunity for policy discussions, with knowledgeable constituency representatives, on the general direction of long-range energy policies, and on the following specific issues: Refinery Policy; Crude Oil Pricing; Gas Hook-ups; West Coast Crude Oil Distribution; Auto Efficiency; Alcohol Fuels, and Synthetic Liquids Utilization.

The D.C. meetings will be in the form of roundtable conversations led by the DOE Assistant Secretary for Policy and Evaluation. The public is invited to listen and to participate in the discussions. Verbatim transcripts of the sessions will be available for public review in the DOE Office of Policy and Evaluation, the Office of Consumer Affairs, and the DOE Freedom of Information Office.

For further information on these meetings in Washington, D.C., contact: Karl Conrad at (202) 252-5877.

Public Meetings in the Regions

Six one-day *public* meetings will be held in San Francisco, Dallas, Denver, Omaha, Boston, and Washington, D.C. All those who indicate, through the

surrounding a nuclear facility. The U.S. Department of Health, Education and Welfare's Food and Drug Administration (Bureau of Radiological Health) is currently developing Protective Action Guides for this purpose, which do not relate to the concept of Low-population Zones established for reactor siting purposes. Also, the U.S. Environmental Protection Agency has already developed Protective Action Guides for thyroid and whole-body radiological exposure via an airborne radiological release from a nuclear facility.

These guides have been promulgated as EPA guidance to States and local governments developing emergency plans supportive of nuclear facilities. A partial objective of these guides is to plan for radiological dose savings in the environs of nuclear facilities, as opposed to the concept of Low-population Zones which are established for site and reactor suitability, using predetermined exposure guidelines.

The NRC and other Federal agencies provide a variety of training programs for State and local government organizations in the radiological emergency response area. These training programs, offered at no cost to the States and local governments, contribute to their overall emergency response posture.

Finally, the matter of the Low-population Zones around licensed commercial nuclear facilities, as these zones relate to emergency planning and preparedness activities of the States and their local governments, is being reviewed and studied by a special NRC/EPA Task Force on Emergency Planning as a part of developing additional emergency planning guidance for States and local governments. The Task Force expects to have a final report on this matter with its recommendations before the Commission and EPA management during the Spring of 1978.*

* - Material prepared by NRC during February, 1978.

For further information about this or any of the other questions presented here, contact the NRC's Mr. Christian Lotze at (202) 492-7721. The mailing address is: United States Nuclear Regulatory Commission, Washington, D.C. 20555.

NUCLEAR WASTE REPORT AVAILABLE IN DOE PUBLIC

READING ROOMS

The 24-volume, 4,000-page report, *Radioactive Waste Isolation in Geologic Formations*, is available for public inspection in DOE Reading Rooms in several locations around the country. The entire report has been placed in the DOE Public Document Room at 20 Massachusetts Ave., N.W., Washington, D.C., and in DOE waste repository libraries in Albuquerque, N.M.; Idaho Falls, Idaho; Las Vegas, Nevada; Savannah River Plant at Aiken, S.C.; Richland, Washington; and the Chicago Operations Office in Argonne, Illinois.

The executive summaries, *Technical Report for GEIS -- Radioactive Waste Isolation in Geologic Formations*, Y/OWI/TM-36, Volumes 1 through 23, plus Volume 24, Y/OWI/TM-44, may be purchased from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22151, at prices ranging from \$5.25 to \$12.50 for individual volumes.

DOE ISSUES REPORT ON ESTIMATES OF CHARGES FOR SPENT

NUCLEAR FUEL STORAGE/DISPOSAL

The Department of Energy has issued a report describing preliminary estimates of charges for spent nuclear reactor fuel storage and disposal services.

The DOE program for spent fuel management is a result of a Presidentially-approved policy announced October 18, 1977. It specifies that the Federal Government, under certain conditions, would take title to and store spent fuel from private nuclear reactors for a one-time charge.

DOE is inviting public comment on estimates of the charges and on methods employed in arriving at the results. The report, "Preliminary Estimates of the Charge for Spent Fuel Storage and Disposal Services," carries the publication number "DOE/ET-0055," and was prepared by the Office of Energy Research and the Office of the Assistant Secretary for Energy Technology, DOE.

To obtain copies, or to comment on the preliminary estimates of charges for spent fuel storage and disposal services, write to:

Mr. Michael J. Lawrence
Acting Director for Fuel Storage and Transfer
Office of Nuclear Waste Management
Mail Stop B-107
U.S. Department of Energy
Washington, D.C. 20545

DRAFT GEOLOGICAL REPORT ON NUCLEAR WASTE TERMINAL

STORAGE

DOE is seeking public review and comment in Texas, Louisiana, and Mississippi, on its draft report, "Geologic Evaluation of Gulf Coast Salt Domes." The report was prepared under subcontract to DOE by the Law Engineering Testing Company, as part of a national program to dispose of high-level radioactive waste from civilian nuclear power generation.

As part of this program, promising rock formations are being studied in several major regions within the continental U.S. to determine their suitability for deep geologic containment of nuclear wastes. This draft report is the result of a preliminary geologic evaluation of the interior salt domes of the Gulf Coast area. The report neither concludes nor recommends that the identified sites are accep-

DOE Regional Offices, an interest in participating will receive copies of the NEP 2 Outline and Issue Papers. At each regional meeting, the issues will be discussed in depth, in roundtable style, and several hours will be set aside for formal presentations by anyone who wishes to be heard on any of the issues. Each meeting will open with a half-day general discussion of long-range energy policy. For further information about the *regional meetings*, contact the responsible official, as noted below.

Schedule of Regional Meetings

- Dec. 5 Ballroom East
Hyatt on Union Square
345 Stockton
San Francisco, California
Contact: Robert Laffel/(415) 556-7157
- Dec. 6 Adolphus Hotel
French Room
1321 Commerce Street
Dallas, Texas
Contact: Grace Morrison/(214) 749-7629
- Dec. 7 Main Auditorium
University of Denver College of Law
200 West 14th Avenue
Denver, Colorado
Contact: C. Dale Eriksen/(303) 234-2420
- Dec. 12 The Holiday Inn
3321 South 72nd Street
Omaha, Nebraska
Contact: June Heard/(816) 374-5533
- Dec. 14 John W. McCormack Post Office and
Courthouse, Room 208
Post Office Square
Boston, Massachusetts
Contact: Roberta Walsh/(617) 223-5257

Verbatim transcripts of the regional meetings will be made, and copies will be available for public review in the DOE Office of Policy Evaluation, the Office of Consumer Affairs, and the Freedom of Information Office, Washington, D.C.

PUBLIC MEETINGS ON NATIONAL CONSUMER COOPERATIVE BANK

The National Consumer Cooperative Bank Act, recently passed by the Congress and signed into law by the President, will make available as much as \$3 billion over 5 years for local community development, neighborhood revitalization and economic development activities in many urban and rural areas. The Co-op Bank has three main components: a general fund which will supply direct, market-rate loans to cooperatives; a Self-help Development Fund which will make low-interest loans to low-income cooperatives; and technical assistance for all cooperatives. A special provision requires that 35 percent of the Bank's capital be allocated to low-income communities.

An Interagency Task Force, which is developing regulations for the Bank, is planning a series of nationwide public meetings in December to obtain public input on issues which will guide the Task Force in developing regulations. The Department of Energy will coordinate one of those meetings, to be held in Omaha, Nebraska on December 11, 1978 -- from 9:00 a.m. to 5:00 p.m. at the Holiday Inn Central, 3321 South 72nd Street, Omaha, Nebraska 68124. For information regarding the Omaha meeting, contact: Ms. June Heard, DOE Region VII, 324 East 11th Street, Kansas City, Missouri 64106. Telephone: (816) 374-5533. For information on the other meetings, contact: Ms. Tobi Steinberg, Community Services Administration, Room 238, 1200 19th Street, N.W., Washington, D.C. 20506. Telephone: (202) 632-8322.

DEPARTMENT OF ENERGY
OFFICE OF CONSUMER AFFAIRS
WASHINGTON, D.C. 20585

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LWV OF TEXAS
PENTHOUSE SUITE 109
AUSTIN TX 78701



memorandum

DEC 11 1978

December 6, 1978

TO: Betty Anderson, President, LWV of Texas

FROM: Florence M. Chichester, Director, Energy Education Outreach Program.

RE: Final approval of project, funding and miscellaneous.

The League's national energy committee at its November 14-16 meeting gave final approval to the phase II energy education project proposed by your League. Any specific comments made by the committee on your League's project are attached as an addendum to this memorandum.

An advance of \$2,000, half of the funds granted to your League, is being mailed today to the LWV of Texas treasurer. If your board has appointed a separate project treasurer, the state treasurer should enter this check into the state League records before forwarding the funds to the project treasurer. We are sending the project's treasurer (whether the state treasurer or an appointed treasurer) 20 vouchers and a copy of the November 1977 project guidelines to use until the revised guidelines and vouchers are completed and mailed in mid-January. The new guidelines will be similar to the old but will incorporate the changes discussed at the October 18-20, 1978 Training Conference. I do want to emphasize that a record of every project expenditure must be kept and a receipt for every expenditure over \$5.00 must be attached to the voucher on which it is recorded.

Enclosed for your files is a copy of the final report to the Department of Energy of the LWVEF's Phase I Energy Education Program. A copy of that report is also being sent to the phase I LWV of Texas project manager. All those who attended the Training Conference will receive a copy of the final report and the summary minutes of the conference. Finally, we are mailing each of the phase II project managers one of the LWV of Virginia's energy bibliographies developed for its phase I library packet project. Fran Kieffer, Virginia project manager, spoke at the conference and promised copies of the bibliography to the managers.

If you, the project manager, or the treasurer have any questions please call or write me or the program assistant, Ann Weninger, at the League's national office, address and phone number above, extension 229. Best wishes on the success of your League's project. We are pleased to be working with you again.

* * * * *

enclosure: (Phase I final report)

cc: Phase II project Manager (with phase I final report conference minutes,
LWV of Virginia bibliography, and November 1977 phase I guidelines)
Conference coparticipant (with phase I final report, conference minutes)
State treasurer (with advance check)
Project treasurer (with November 1977 Phase I guidelines, 20 vouchers)

LWV of Texas

December 6, 1978

Addendum to Energy Education Memo: Committee comments

The committee is very pleased at the cooperation between your League and the LWV of New Mexico.

In your budget you have listed several direct cost items (postage, copying, etc.) under overhead. Tangible, direct cost items are to be budgeted separately. The overhead item is intended to cover indirect costs to the state League, such as board time at meetings and a proportion of board expenses. The overhead charge need not be the 8-10% we suggested/ If the managers and the state board wish to establish a lower figure.

Please give some thought and discuss with the station personnel the question of whether sixty minutes is a realistic length for the documentary. Will the content be sufficiently interesting and the format professional enough to hold the audience for an hour.

Finally, please make clear to the station that the LWV is to have control over the film content and will own the final product. If necessary, you should execute a formal agreement with them covering this matter. If we can be of help, please contact us.

Florence Chichester

cc: project manager



December 11, 1978

V. V. McGrew, Jr.
Texas-Oklahoma Government Relations Coordinator
EXXON U.S.A.
P.O. Box 2180
Houston, Texas 77001

Dear Mr. McGrew:

We appreciate EXXON's contribution to the League of Women Voters of Texas energy education project.

The television documentary on the nuclear waste disposal issue should be ready for distribution in early summer. Directors Pat Bruno and Pat Nickell of Lubbock have interviewed persons in Washington, D.C. and Austin; and plan trips to Denver, Houston, and New Mexico to collect additional material.

The disposal of nuclear wastes in the Carlsbad, New Mexico, area is of particular concern to West Texans, and we believe this will be an opportunity to present a balanced, objective view of the issue. Thank you for your interest in the project; we will keep you posted on the progress of the film.

Sincerely,

Betty Anderson
President

BA:j1

bcc: B. Anderson ✓
Pat Bruno
L. Keever
S.O.

*I'll send Pat's copy with
the check - whenever it
arrives.*

J.



League of Women Voters
Education Fund

1730 M STREET, N.W., WASHINGTON, D. C. 20036

Texas

2
BA
CS
SO

OCT 16 1978

Laura?

October 12, 1978

V. V. McGrew, Jr.
Texas-Oklahoma Government Relations
Coordinator,
EXXON USA
P.O. Box 2180
Houston, TX 77001

Dear Mr. McGrew:

Enclosed is a copy of the preliminary energy education project proposal that was prepared by the League of Women Voters of Texas.

This material should have been mailed to you along with the carbon of the letter notifying the Texas League that they had been awarded the grant.

A copy of this letter is being sent to the LWV of Texas to notify them of whom to contact regarding EXXON's contribution.

Sincerely,

Isabelle Weber, Coordinator
Energy Department

enclosure

cc: LWV TX

C
O
P
Y

M
V. V. McGrew, Jr.
Texas-Oklahoma Government Relations Coordinator
EXXON USA
P.O. Box 2180
Houston, TX 77001

Dear Mr. McGrew:

the LWV-Tx.
We appreciate EXXON's contribution toward ~~our~~ energy education project

The television documentary on the nuclear ~~vs~~ waste disposal issue should be ready for distribution in early summer. Directors Pat Bruno and Pat Nickell of Lubbock have interviewed persons in Washington D.C. and Austin and plan trips to Denver, Houston, and New Mexico for other material.

The disposal of nuclear wastes in the Carlsbad, NM area is of particular concern to West Texans, and we believe this will be an opportunity to present a balanced objective view of the question. We appreciate your interest in the project, and we will try to keep you posted with the progress.

S/BA

LEAGUE OF WOMEN VOTERS OF NEW MEXICO

La Palabra

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Austin, Texas 78701

VOL. 26 NO. 3 NOVEMBER-DECEMBER 1978

PRESIDENT

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2025 O'Donnell Drive
Las Cruces, NM 88001

EDITOR

Edith Kirkpatrick
3409 Mary Ellen, NE
Albuquerque, NM 87111

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Farmington

Muriel Hartz
1808 Chilton Ct.
87401

Gallup

Mary Lou Sullenberger
1406 Kit Carson
87301

Greater Las Cruces

Jo-Carol Ropp
1040 Larry Drive
88001

Los Alamos

Lonna Evans
320 Joya Loop
87544

Santa Fe County

Joan Konopak
Route 1, Box 176
87501

PROVISIONAL LEAGUE

Southern Sandoval County

Laina Kiljonen
4111 La Merced Ct. SE
Rio Rancho, NM 87124

STATE UNIT AT LARGE

Las Vegas/San Miguel

Dome Gilbert
Box 1262
87701

Workshop Highlights

The provisional League of Southern Sandoval County ably hosted the LWV/NM Fall Workshop held in Rio Rancho on October 7. Participating in the workshop were approximately 50 members representing the six local Leagues and one provisional League in New Mexico.

Morning sessions were devoted to discussions about juvenile justice, natural resources, election reform, legislative action priorities for the coming year, and State Board reorganization. Those who attended the afternoon session talked about how to handle program planning and reviewed backgrounds of the issues. Because planning for state and local programs should be done in the next month or two, local Leagues will soon be seeing benefits from this workshop.

Guest speaker following the luncheon was Marianna Ray, research director of Americans for Indian Opportunity. Mrs. Ray raised the question, "What can A.I.O. do, what can we all do to mitigate the negative aspects of energy developments on Indian lands?" She went on to stress the importance of cooperation between cities, counties, the state, and the Indian tribes in the energy field. She also emphasized the importance to Indian tribes of achieving maximum return for their natural resource development, not only for economic but for social benefits as well.

Summaries of the workshop discussions are reported below by a representative of each group.

THE JUVENILE JUSTICE ACTION WORKSHOP addressed four topics: communications, priorities, public education, and relationships with other organizations. A good deal of time was spent on communications, the perennial bugabear of state action. We agreed that each League should receive copies of all JJ bills as soon as possible so that they may be familiar with them. Following the weekly meeting of the legislative policy committee, local Leagues will be notified which of the bills we support (oppose), why, and the type of action desired. Normally this action

(continued on last page)

LWV/NM Receives \$4000

Grant for Nuclear Waste Disposal Information Project

The League of Women Voters of New Mexico is one of 20 state Leagues chosen by LWV/US to receive \$4,000 in pass-through funds from the Department of Energy as part of the LWVEF's Energy Education Program, Phase II. These funds will be used to publish 1,000 copies of "Nuclear Waste Disposal: What's the Problem?" written by Marianne Thaeler, State NR Coordinator, and to put on a conference for Leaguers and community leaders tentatively on the theme: "Citizens and the Nuclear Waste Issue: What Do We Need to Know? How Can We Be Effective?"

Mary Reynolds of Las Cruces, an assistant in the Office of Grants and Contracts at NMSU, is project coordinator. Consultant is Alex Burr, physicist and Radiological Officer at NMSU (and husband of state president Marjorie Burr). These two League members attended a Project Workshop in Washington in October where they coordinated efforts with LWV/Texas who grant will be used to produce a documentary for television on the nuclear waste disposal issue.

LWV/NM has also received a \$300 pass-through grant from LWVEF for travel related to NR education. Marianne Thaeler will use this money for interviews in final research and coordination of the nuclear waste disposal publication.

The timetable for the project calls for publication of "Nuclear Waste Disposal: What's the Problem?" in February. The conference on the issue is tentatively scheduled for April 1979. The television documentary produced by LWV/Texas should be ready for distribution in early summer.

President's Message

"What's in US for YOU?" is the title of a League membership recruitment filmstrip used by some local Leagues in New Mexico recently. The theme of the filmstrip is that what you get out of League is the opportunity to become informed and effective on the important issues in your community, state and nation.

That complements what I think people get out of League — which is, whatever they put into it. It's when "You" becomes "US" and we work together on important projects and vital issues, that you, and we, start reaping the benefits.

I hope you share with me the feeling of pride when candidates who appeared on "Candidates '78" said, "Thank you for the opportunity," or better yet, when viewers said, "I hadn't realized..." Then there's the thrill of having one of our projects, nuclear waste disposal information, selected as one worthy of a \$4,000 grant. There's the satisfaction of having in hand (and soon in publication for you) an update of our state finance position, so that we have background to participate in what is developing as "the great tax debate." (Did you know that the Legislative Property Tax Code Study Committee has issued a policy statement calling for the eventual replacement or abolition of the property tax in New Mexico?)

Our ideas still outrun our people—power and funds at the state level. The State Board has come up with ideas for day-care workshops throughout the state, publication of a political directory of re-organized state government, a "Proposition 13 and New Mexico State Taxes" brochure, and a comprehensive publication on juvenile justice. Their execution awaits only the money to finance them, and then the people to do the work.

The Fall Workshop at Rio Rancho seemed to spark some of the ideas — opportunities for League involvement and potentials for League action. I hope the participants have transferred some of the enthusiasm to their local Leagues and that you respond with program ideas and more possible projects.

What's in US for YOU? Well, that depends on you. There are candidates meetings and voter information and publications on issues for all. But there's a lot more in terms of education, service, satisfaction, for anyone who wants it.

Marjorie Burr

Day Care Centers: Check 'Em Out!

"Check 'em Out Before You Check 'em In" was the theme of the second Day Care/Pre-School Fair sponsored by the Albuquerque/Bernalillo County LWV in August. Purpose of the fair, held at Coronado Shopping Center, was to demonstrate to the public that, as consumers, they must visit and evaluate several day care centers or homes before enrolling a child. . . "A license is no guarantee of quality." To help them to do this, interested parents were given a checklist, "What is Good Child Care," compiled by the LWV/ABC.

The Fair is a "doing" event which shows and provides activities that children can do in day care centers. This makes the Fair appealing to the public, the shopping center host, and the press; and it focuses public attention on the League of Women Voters and its activities. Fees charged participants of the Fair netted about \$340 for the League. In addition to the day care exhibits, there were a voter registration booth and a membership booth.

ACTION UP-DATE

Juvenile Justice

LWV/NM was invited to participate in a Juvenile Workshop conducted by the New Mexico Correction Commission September 28. The workshop was attended by Viva Fisk, Mary Anne Norton, and Mary Ellen Yuhas, all of Albuquerque, and by Ruth White of Santa Fe. In a prepared statement, Norton observed that, "The League is concerned that State government is paying insufficient attention to the needs of troubled children. The approach to the problem is fragmented, uncoordinated and drastically underfunded."

* * * * *

On September 29 and 30, nine Leaguers from Farmington, Las Cruces, Albuquerque, Santa Fe, and Los Alamos attended the Children's Justice Forum at the Albuquerque Convention Center. Representatives of each state agency dealing with juveniles outlined their programs during a morning panel discussion. Later in the day, Sen. Caleb Chandler and Rep. Ray Sanchez debated pro's and con's of the present Children's Code. During a luncheon address, Ken Wooden, of the National Coalition for Children's Justice, announced that \$160,000 in seed money was being allocated to the New Mexico Coalition to fund lobbying in behalf of juveniles.

The Albuquerque League has made up a "how to" sheet and would be happy to provide technical assistance and copies of their checklist and to lend their display to any other Leagues interested in sponsoring a Day Care Fair. For further information, write to Mary Novotny, 3900 Inca NE, Albuquerque, NM 87111.

The Albuquerque committee now plans to study the feasibility of obtaining private and federal funds to recruit, train, and regularly supervise a pool of family day care homes for industrial day care and latchkey needs.

ACTION 1979

Join the Lobby Corps

The campaign dust will settle and the last vote will be counted. The holidays will be over and the last ornament will be put away. That's when League members become busier than ever, working to influence legislation which is of particular interest to League. This year, as always, those interests are many and varied.

Much activity has occurred since the 1978 legislative session in the area of juvenile justice, and here the emphasis will be placed on efforts to provide adequate legislation for funding for juvenile services. In the area of natural resources, legislation to require a deposit on beverage bottles and cans will be emphasized. The election code will also receive attention.

A legislative secretary will be hired to provide support for the lobbying corps by keeping track of legislation and providing secretarial assistance. Following League interests involves observing meetings, talking to policy makers, and testifying at meetings. Sometimes all three of these activities are done by one person, but this year plans are to involve League members in all areas of lobbying.

If you would like to learn about the legislative process by watching what is happening, there are jobs waiting for you. If you would like to talk to policymakers in attempts to influence decisions, there are jobs waiting for you. If you would like to testify before committees, be sure to let someone know. League needs your help. No matter what your interest or available time, there is a place for you in the League lobby corp.

Complete preparation for lobbying will be offered so don't dismiss the idea because you aren't familiar with League positions, or because you have never been to the capitol, or for any of the 169 reasons you have just thought of for not volunteering. Call Mary Kidman, 672-1518, or write her at 400 Cheryl, Los Alamos, NM 87544, to let her know how you want to participate in the 1979 League lobby corps.

New Mexico LaPalabra

Vol. 26

November—December 1978

No. 3

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Published: 237 DeVargas Street / Santa Fe, New Mexico 87501



MAR 23 1979

Anderson
Please
Return

STATEMENT ON PROPOSED HAZARDOUS WASTE GUIDELINES
AND REGULATIONS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BY

HESTER McNULTY, NATURAL RESOURCES COORDINATOR

LEAGUE OF WOMEN VOTERS OF THE UNITED STATES

PUBLIC HEARING -- DENVER, COLORADO

MARCH 7, 1979

I am Hester McNulty, speaking for the League of Women Voters of the United States. We are pleased to have this opportunity to comment on the proposed hazardous waste guidelines and regulations.

The League is a volunteer citizen organization with members in all fifty states, the District of Columbia, the Virgin Islands and Puerto Rico. The League's members in over 1,350 communities are deeply involved in finding solutions to solid waste problems.

We would like to commend EPA for an excellent job in providing supplementary explanatory information. Considering the difficult and technical nature of the regulations, we are especially pleased with the lucid introduction to Section 3001. However, we question the wisdom of dividing the hearings into separate days for each section of the proposed regulations. This means that all those interested in testifying on two or more sections must appear two or

three times. Such an arrangement is likely to dampen meaningful public involvement in the hearing process.

The League has been involved in the protection of our land, air and water resources for a number of years. Our members, after two years of study, agreed that wastes which cannot be reused must be safely disposed of. The League supported the passage of the Resource Conservation and Recovery Act (RCRA), and were especially supportive of its provisions for hazardous waste management. We have examined the proposed regulations in light of the principal objectives of the Act -- to protect human health and the environment.

Our comments are directed primarily to Subparts B and D of the proposed regulations. Regarding Section 3001 and Subpart A, we commend you for your lists of specific materials and the characteristics of these materials, but we urge you to constantly update the lists and consider other materials.

Section 3002

Subpart B -- Standards Applicable to Generators of Hazardous Waste

The League does not agree with the exemption from these regulatory requirements of hazardous waste generators that produce 100 kilograms or less per month.

The League's opinion on this issue is based on three considerations. One, the degree of hazard associated with a particular waste is often more closely related to concentration than volume. Two, the small generator exemption sidesteps a major objective of RCRA, namely, to track hazardous wastes from their creation to their disposal through a manifest system. Three, there is no foundation in the Act for a blanket exemption.

We find no support for this exemption in Section 3002 of RCRA which states

that the standards will apply to generators identified or listed under Subtitle C of the Act. In fact, Section 3002(5) requires that the manifest system be applied to all wastes identified under Subtitle C:

...standards shall establish requirements respecting...
(the) use of a manifest system to assure that all such
hazardous waste generated is designed for treatment,
storage or disposal in...facilities for which a permit
has been issued....

In addition, EPA notes in the explanatory information that it has limited data on the numbers of small generators, the amount and types of wastes generated, and the impact of these wastes on human health and the environment. By requiring generators of 100 kilograms or less per month to comply with the requirements of Subpart B, EPA will acquire the essential information that it currently lacks. For instance, the requirements would allow EPA to pinpoint the small generators' disposal sites to determine which ones are relied on heavily for disposal of their hazardous wastes. So that the requirements under Subpart B may not be burdensome to generators of 100 kilograms or less per month of hazardous wastes, we would urge EPA to keep recordkeeping to a minimum and to simplify procedures.

Further, the League believes that proposed section 250.29(1) which allows small generators to dispose in sanitary landfills approved pursuant to Section 4004 of the Act is inconsistent with RCRA. Subtitle C's section 3002(5) plainly states, "[A]ll such hazardous waste generated is designated for treatment, storage, or disposal in...facilities...for which a permit has been issued as provided in this subtitle." It does not include sanitary landfills developed pursuant to Subtitle D of RCRA.

Since approximately 67 percent of the hazardous waste is produced in ten of

the fifty states, we are also concerned that if generators of 100 kilograms or less per month are allowed to dispose of their wastes in sanitary landfills as opposed to hazardous waste sites, some sanitary landfills may receive many contributions of 100 kilograms or less of hazardous wastes, thereby becoming in the aggregate major resting places for these substances. Because these landfills will not be as stringently developed and managed as hazardous waste sites, they may pose serious problems to public health and the environment.

The proposed regulations (section 250.27) also allow the hazardous waste generator to request that certain information be kept confidential. The regulations should clearly impose a heavy burden on the disposer to demonstrate the need for secrecy, lest this section become a loophole for avoiding the intent of RCRA.

✓ Section 3004

Subpart D -- Standards Applicable to Owners and Operators of Hazardous
Waste Treatment, Storage, and Disposal Facilities

The League agrees with most of the provisions in this subpart. However, we do not believe that the NOTES in this subpart, which substitute performance standards for environmentally sound facility siting, will accomplish the stated goals of RCRA.

We are especially concerned about the NOTE that allows a hazardous waste facility to be located in the recharge zone of a sole source aquifer. We believe the intent of both the Safe Drinking Water Act and RCRA would be negated by the location of any hazardous waste facility in such recharge areas.

Because of the limited supplies of drinking water sources, it is imperative that EPA regulations ensure their protection.

We question that EPA can predict with any certainty adequate resources over the long term -- at either the EPA or the state level -- to ensure that the operation, maintenance, and monitoring of a facility will protect a sole source aquifer. The potential social, environmental and economic costs outweigh short-term accommodation. The League strongly urges that no facilities be permitted in the recharge zone of sole source aquifers.

Additionally, we are concerned with the facility exemptions permitted in floodplains, wetlands, and high hazard coastal areas. Because of the very nature of hazardous materials, there will be a latent threat to fragile ecosystems, water resources, and human health, if facilities are located in these areas. Performance standards at the time a permit is issued cannot ensure future reliability. We ask that EPA remove these exemptions from the regulations as the intent of RCRA is protection of human health and the environment.

We also think that the proposed NOTES providing exemptions for land farms (section 250.45-5) present an unnecessary risk, particularly to ground and surface water quality and may lead to possible contamination of public water supplies. Demonstration of performance to the regional administrator when a permit is issued does not preclude future contamination. For instance, it is almost impossible to predict with certainty that there will be no direct contact with the water table when the treated area is less than five feet above the historical high water table.

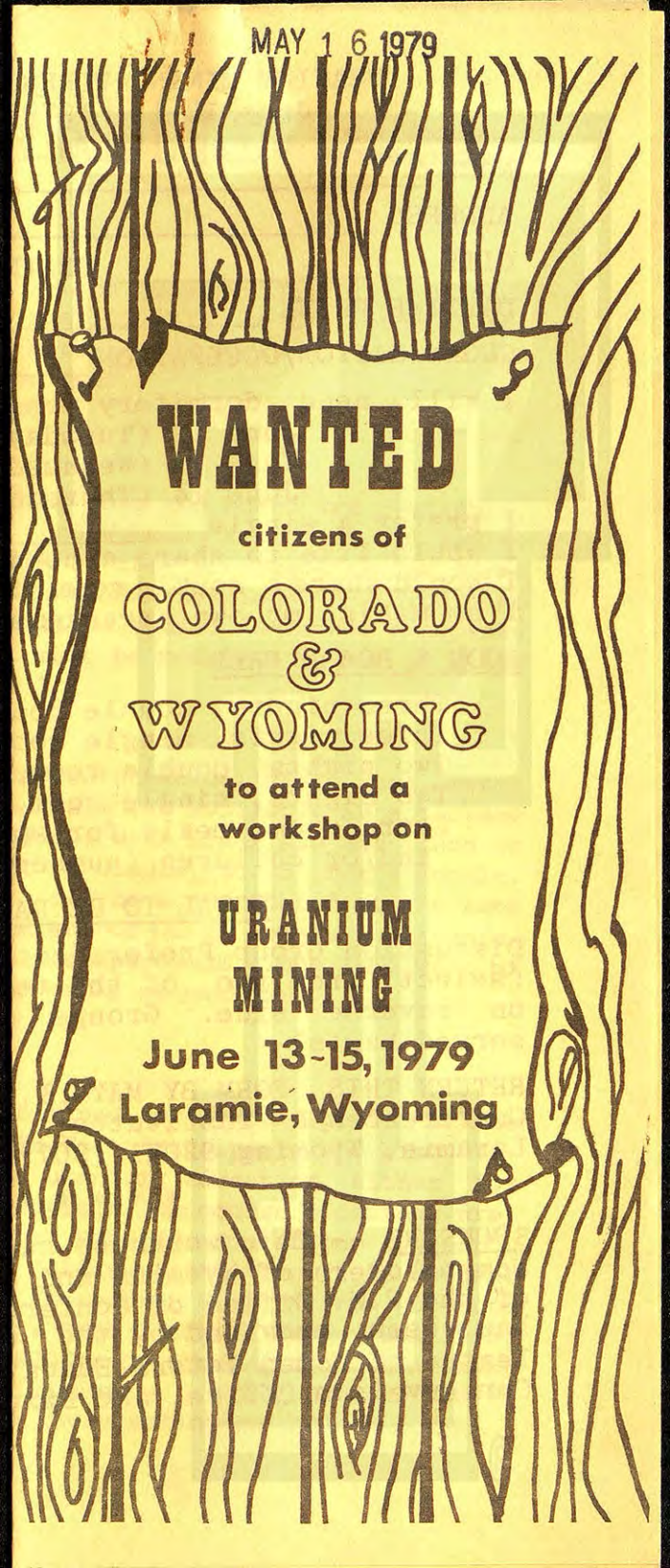
We have the same concerns with the exemptions for landfills (section 250.45-2). We think that in no instance should a landfill be closer than 500 feet from a public or private water supply. Nor should the natural soil barrier or liner be less than five feet from the water table.

It is unclear just how EPA proposes to integrate hazardous waste regulations with other programs administered not only by EPA but also by other agencies -- such as the Strip Mining Act. It seems to us that this is extremely important in the implementation of Section 3004 of RCRA.

Further, the League urges that no part of the hazardous waste program be turned over to a state unless the state program is no less stringent than the Federal regulations and there is an assurance of sufficient personnel for administration. Also we encourage EPA, in the interim, to provide an adequate staff to implement the regulation of hazardous wastes.

And in conclusion, despite the mandate under RCRA's Section 7004(b) that there will be "Public participation in the...implementation, and enforcement of any regulation...or program," there are no proposed public participation guidelines included in the proposed regulations. We strongly urge EPA to immediately begin the task of developing proposed public participation rules for its hazardous waste program and to issue them for public comment so that they will be included in the hazardous waste rules when they are issued later this year in final form.

MAY 16 1979



WANTED

citizens of

**COLORADO
&
WYOMING**

to attend a
workshop on

**URANIUM
MINING**

June 13-15, 1979

Laramie, Wyoming

URANIUM MINING WORKSHOP PRE-REGISTRATION FORM
June 13-15, 1979 -- Laramie, Wyoming

NAME _____ SS# _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

DAYTIME PHONE _____ EVENING PHONE _____

ORGANIZATION/OCCUPATION _____

I will need dormitory reservations for the nights of:

June 12 (Tuesday) _____

June 13 (Wednesday) _____

June 14 (Thursday) _____

I prefer a single _____ double _____ room.

I would like to share a double room with _____.

I would share a double room with a smoker _____ non-smoker _____

I am making my own arrangements for lodging and meals _____

ROOM & BOARD FEES

Three nights, double room, meals \$38.50 _____

Three nights, single room, meals \$48.25 _____

Two nights, double room, meals \$32.25 _____

Two nights, single room, meals \$38.75 _____

Extra room, meals for spouse _____

and/or children (number _____) _____

TOTAL TO BE PAID UPON ARRIVAL \$ _____

Discussion Group Preference: 1st _____ or 2nd _____
(select from two of the ten items listed under "TOPICS"
on reverse side. Groups filled on first come, first
served basis)

RETURN THIS FORM BY MAY 18, 1979 TO: Charles P. Cooper,
Conferences & Institutes, Box 3274, University Station,
Laramie, Wyoming 82071 (307) 766-2124.

* * * * *

SPONSORS -- This workshop has been planned by the League of
Women Voters of Wyoming and of Colorado with the assistance
of the U.W. Office of Conferences and Institutes. Funding
has been provided by the U.S. Department of Energy, the
League of Women Voters Education Fund; the Wyoming Energy
Conservation Office, and Exxon Company -- U.S.A.

★ URANIUM MINING: A CITIZENS' WORKSHOP ★

REGISTRATION

Registration will be from 6:00-10:00 p.m. on Tuesday, June 12, 1979 and
from 7:00-11:00 a.m. on Wednesday, June 13, 1979 in the lobby of the
Student Union, University of Wyoming, Laramie. All workshop sessions are
in the Union. There is no registration fee.

SCHOLARSHIPS

Approximately 150 scholarships covering room and board are available,
to be shared equally among Colorado and Wyoming residents. To apply,
fill out the application on the back of the pre-registration form.
Scholarship participants must attend all workshop sessions, from 9:00 a.m.
June 13 through 4:00 p.m. June 15, and will be housed in double occupancy
U.W. dormitory rooms. Applications must be received by May 18, 1979,
along with the pre-registration form.

HOUSING AND MEALS

Dormitory rooms are available on a pre-registration, first come, first
served basis. Dormitory housing and meals are available as a package
only. There are three meals June 13 and 14, with breakfast and lunch on
June 15. Rooms are \$9.50 per day for a single, \$6.25 for a double.
Spouses and/or children (must be 12) can be accommodated at the same
rate. Arrangements can be made to stay at one of the 20 motels in Laramie,
the KOA campground, or National Forest campgrounds along I-80 west of
Laramie. Make your own reservations as early as possible.

CREDIT

University credit (1 hour) may be obtained for participating in the
workshop. Two credit hours are available for participants who also pre-
pare curriculum materials related to uranium education, either for
public school or community education programs. The course offerings are:
Geography 651M "Topics in Geography: Uranium Education Project",
Instructor Ron Beiswenger; or Natural Science 679M, "Topics in Natural
Science: Uranium Education Project", Instructor Vince Sindt. For more
information contact Sindt, U.W. Science & Math Teaching Center, Box 3992,
University Station, Laramie, Wyoming 82071. Continuing Education Units
(C.E.U.'s) are also available to participants - 2.4 C.E.U.'s. \$20.00
U.W. class credit fee is payable upon registration on June 13, 1979.

★ ★ ★ THE LEAGUE OF WOMEN VOTERS ★ ★ ★

SCHOLARSHIP APPLICATION -- URANIUM WORKSHOP

NAME _____ DAYTIME PHONE _____

ADDRESS	EVENING PHONE
---------	---------------

CITY _____ STATE _____ ZIP _____

AFFILIATION/OCCUPATION _____

Can you attend all workshop sessions? (9:00 a.m.June 13 through
3:00 p.m. June 15) yes no

State why you believe this workshop will be of potential value:

ALL SCHOLARSHIP APPLICATIONS MUST BE RECEIVED BY MAY 18, 1979 WITH PRE-REGISTRATION FORM

URANIUM MINING: A CITIZENS' WORKSHOP

UNIVERSITY OF WYOMING
June 13-15, 1979 -- Laramie, Wyoming

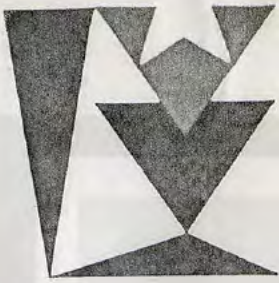
PURPOSE

The workshop is for citizens of Colorado and Wyoming who want to learn more about uranium mining and how it can affect the general public. Material about the nature, impact and future of the industry in western states will be presented by experts from government, industry, and education. There will be panel discussions, lectures, and small group discussion sessions to give participants opportunities to interact with speakers in an informal manner. Background materials will be provided in advance to pre-registered participants.

TOPICS

Participants will hear speakers on all the following topics, and will also choose one of the topics to explore in greater detail in small discussion groups. Summaries of all the discussion group topics will be provided for all participants.

1. URANIUM AS AN ENERGY RESOURCE -- chemical, physical properties, geographical distribution, world supply.
2. URANIUM MINE DEVELOPMENT -- methods used to explore and develop uranium deposits in western states.
3. NUCLEAR FUEL CYCLE -- stages in uranium refinement, utilization in power plants, waste management.
4. URANIUM ECONOMICS -- domestic and international factors influencing uranium price, demand, development.
5. SOCIOECONOMIC ISSUES -- community impacts.
6. THE REGULATORY PROCESS -- local, state, federal powers.
7. RECLAMATION -- current mine/mill reclamation, old or abandoned site resoration.
8. AIR & WATER QUALITY -- dust control, water quality control in shaft, surface and in-situ uranium mining.
9. RADIATION AND PUBLIC HEALTH -- the nature of radiation, problems from exposure, controlling exposure.
10. LABOR ISSUES -- manpower development, worker's health and safety.



MAY 16 1979

League of Women Voters of Wyoming

TO: League Presidents: Arizona, New Mexico, Texas, Minnesota
Utah, Montana, North Dakota, South Dakota, Michigan

FROM: Judy Knight, Energy Director, LWV-WY *JK*

SUBJECT: Uranium Mining Workshop, June 13-15, Laramie

The enclosed brochure describes the uranium workshop jointly sponsored by the Colorado and Wyoming State Leagues, and partially funded by our Phase II Energy Education grants from the LWV-Ed Fund.

Although this project is for Colorado and Wyoming citizens, it now appears that we will have sufficient funds to invite League representatives from states where uranium mining is ongoing or being contemplated, and from states where we know there is considerable League interest in the nuclear fuel cycle issues. Therefore we are extending this invitation to you, or your representative, to attend this workshop as an observer for your state. We will arrange a scholarship for room and board; there is no registration fee. We are sorry that we cannot offer to pay transportation costs too, but we will put you in touch with others from your area who may be driving to the workshop, for possible carpooling.

There has been some discussion of having a caucus of League representatives during the workshop, to discuss follow-up projects and funding sources. The Wyoming League is already pursuing funds from the Old West Regional Commission for a "media kit" of resource materials on energy and uranium fuel cycle issues. Two LWVUS Directors will be at the workshop, Tess McNulty (EQ) and Dotty Powers (Energy), plus at least three national staff members. These people could provide valuable advice to us on how to maximize the opportunities for citizen education on this topic.

If you can come or send a representative, write "official observer, LWV of _____" on the registration form so the arrangements committee will know that your room and board scholarships have been provided for.

If you are unable to attend but would like to receive our resource kit of uranium fuel cycle materials, let me know and I will gladly send one.

We are using some out-of-state resource and discussion leaders; they include Sue Lofgren, LWV of Arizona; Ann Kuntz, who may be a South Dakota LWV member; Joanna Hodscher, LWV-Illinois; Kathy Ellett, LWV-Maryland; and Mona Mason, LWV-Iowa. In some cases, non-League members from your states may have received an announcement, or may have been asked to speak. We'll pencil in those names below, so you'll know who might be coming from your state, if any.

Pat Nickell, Lubbock

E.M. Mungler, Houston

Burl Haskins, College Station

MAY 16 1979

WYOMING/COLORADO

URANIUM EDUCATION PROJECT

LEAGUE OF WOMEN VOTERS
1115 GARFIELD
LARAMIE, WYOMING 82070

May 11, 1979

Dear Fellow Citizen:

We are pleased to invite you to be among the participants at the Uranium Mining Workshop described in the enclosed brochure. Uranium development is a highly technical field, and utilization of uranium in nuclear power plants has had an aura of secrecy about it -- perhaps a legacy from the nuclear weapons program. Yet citizens can and should become informed about the nature, scope and future of the rapidly expanding uranium industry. It is for this reason that the League of Women Voters of Wyoming and of Colorado have joined together in organizing this project.

The purpose of the workshop is educational -- to present both sides of many issues relevant to uranium mining, and to give citizens a chance to question the experts. We will not be advocating one course of action over another with regard to uranium development and utilization. Government and industry representatives as well as citizens like yourself have been invited so that many perspectives and points of view are represented. When plans for the workshop program are complete the list of speakers and some reading materials will be sent to pre-registered participants.

We can accommodate 300 people at the workshop, but spaces will be divided among Colorado and Wyoming participant groups on a first come, first served basis. To assure a place, we urge you to send the enclosed pre-registration form to the University of Wyoming as soon as possible. Note that there is no registration fee and that room and board scholarships are available for those whose organizations cannot afford to send a representative. Scholarships will be awarded on the basis of the answers to the "potential value" question on the application form. For many participants the only cost will be transportation to and from Laramie.

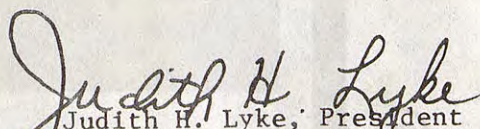
Some of you may have information about uranium development issues that you would like to share with other workshop participants, or you may have exhibits or educational materials to display or sell. If this is the case, please include a separate note accompanying your pre-registration form, telling us:

1. The topic(s) upon which you could be prepared to speak for 10-15 minutes to a small group.
2. The approximate amount of table space you would require for display and a short description of the materials you would like to exhibit. There is no fee for exhibit space, but you must be responsible for your own materials. Display space is limited.

You will receive confirmation in advance regarding your registration, scholarship application (if desired), exhibit space and/or talk. If you have any questions, please contact Mary Jo Atherton, the workshop recruitment chairman, 1115 Garfield, Laramie, Wyoming 82070 (phone: 307-745-3167). For those of you in Colorado, it may be more convenient for you to contact the Colorado coordinator for this project, Hildegard Hix, 8755 W. 68th Place, Arvada, Colorado 80004 (phone: 303-422-3893). We look forward to an interesting and informative workshop and hope you will be able to attend.

Sincerely,


Ruth Rudolph, President
League of Women Voter
of Wyoming


Judith H. Lyke, President
League of Women Voters
of Colorado

RR/JK:kc

Energy Advisory Council Sets Nuclear Waste Investigation

By GARY FENDLER
A-J Austin Bureau

AUSTIN — High-level and low-level nuclear waste disposal will be two of several topics discussed at four public meetings in Texas conducted by the Texas Energy Advisory Council's advisory committee on nuclear energy.

Four separate locations have been chosen for the public meetings: Lubbock, Sept. 7 in Meeting Room 107 of the Lubbock Memorial Civic Center; Austin, Sept. 8 in Room 118 of the Joe C. Thompson Conference Center at the University of Texas; Houston, Sept. 10 in the Tanglewood Room of the Holiday Inn — Medical Center; and Dallas, Sept. 11 in the Mezzanine Meeting Room of the Dallas Convention Center.

All meetings will start at 9 a.m.

Recommended policy statements of the council, proposed by the advisory committee, will be debated at the regional meetings.

According to the advisory committee's recommended policy statement, six proposals will be considered involving high-level nuclear waste disposal:

— That the state and federal government determine whether geologic formations in Texas are suitable for use as underground containment facilities.

— That Texas encourage implementing one or more demonstration sites.

— That Texas retain approval authority over in-state locations of waste disposal sites, either demonstration or permanent.

— That Texas house a disposal site only if it serves the national interest and after alternate sites throughout the nation have been adequately surveyed and evaluated.

— That during the federal site evaluation process Texas' interests be protected by a group with technical and policy expertise such as the Texas Energy and

Natural Resources Advisory Council, and

— That the Texas Department of Health's Radiation Control Branch be responsible for consulting with the federal government on nuclear waste disposal licensing in Texas and for recommending either approval or disapproval of specific federal siting decisions to the TENRAC.

High-level radioactive wastes, a byproduct of the fission process, are generated by several methods, including the U.S. military weapons program. According to information from the TEAC, this program uses a "fission chain reaction to breed bomb-grade plutonium."

Once the plutonium has been chemically separated, liquid effluent containing fission fragments remains.

Tens of millions of gallons of high-level waste in this liquid effluent form are presently stored on government reservations such as those at Richland, Wash., and Aiken, S.C., TEAC material shows.

Nuclear powered submarines and some Navy major surface warships produce high-level spent nuclear fuel and the commercial power plant program generates in excess of 1,000 tons of spent fuel each year.

Processed high-level wastes can remain dangerous for up to 600 years before it reaches a radioactivity level equal to uranium ore bodies commonly found around the world. Unprocessed high-level wastes, such as spent fuel, however, contain uranium and plutonium as well as fission products and may remain dangerous for several thousand years.

Methods currently utilized for storing high-level nuclear wastes are temporary, and in some cases leaks have developed. The advisory council feels "an alternate method of disposing of high-level waste, which would not require long-

term care by society, is of the essence."

Among proposed solutions being studied, which officials believe would provide adequate shielding and containment over thousands of years, are geologic formation (salt domes) that have proven stability, deep ocean trenches, the ice caps of Antarctica and space. To date, geologic formations have received the most attention, although they still draw criticism from anti-nuclear forces as being unsafe.

Under a major contract with the Department of Energy, the Office of Nuclear Waste Isolation at Battelle Memorial Institute, Columbus, Ohio, is studying several salt formations as possible underground sites for permanent disposal of commercial power plant high-level wastes.

Salt basins in Mississippi, Louisiana, Texas and Utah are being tested by ONWI. Eight salt domes out of 263 in the interior Gulf Coast have been selected for further study by ONWI: the Cypress Creek, Richton and Lampton domes near Hattiesburg, Miss.; Vacherie and Hayburn domes in northwest Louisiana; and the Keechi, Palestine and Oakwood domes in East Texas.

Salt formations in the Permian Basin near Amarillo and in the Paradox Basin in southeast Utah also are under study.

A second issue to be discussed at the regional meetings concerns low-level wastes. According to the TEAC, the Nuclear Regulatory Commission defines such waste as all "radioactive waste other than irradiated nuclear fuel and the solvent extracted from fuel reprocessing."

Texas industries and institutions, both academic and medical, are producing increasing amounts of low-level waste: waste that in 1978 was all shipped to South Carolina for storage at the Chem Nuclear facility.

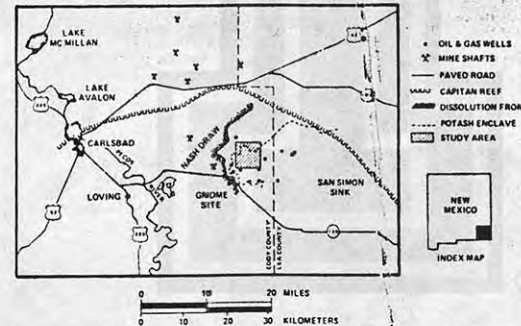
Of the three licensed low-level waste disposal facilities in the country, the remaining two are located west of the Rocky Mountains. These facilities, TEAC claims, are approaching their storage limits and increasing storage fees. "In 1978, 10 state-supported institutions spent \$115,000 to dispose of their (wastes)."

TEAC says Texas "has an obligation to provide (low-level waste) disposal facilities for waste generated in the state."

and recommends the legislature pass a law that would "recognize the public need" for a disposal site in Texas.

The Texas Department of Health, it also is recommended, should develop

specifications and regulations to build and license a disposal facility and present to the legislature all material necessary to license and operate such a disposal site.



NUCLEAR WASTE SITE — This is the proposed site for the Waste Isolation Pilot Plant in southeastern New Mexico, which could be the nation's first permanent underground disposal site for radioactive waste. The proposal has drawn both opposition and endorsement in Carlsbad and elsewhere in the state. Similar to a mine, it could be operating by 1986 in what are believed to be geologically stable bedded salt formations.

Whodunit Mystifies Suspense Writers

SAN DIEGO (AP) — Suspense writers attending a conference are still trying to find out whodunit in the case of the missing lecture notes.

Conference director John Ball announced Friday that his lecture notes had disappeared without a trace.

Despite Ball's assurances of "no questions asked," the case went unsolved and the novelist was forced to ad lib his scheduled talk on "How to Plot and Develop a Mystery."

Repository For N-Waste Spurs Carlsbad Debate

Most Residents Apparently Not Alarmed

(Continued From Page One)

cial nuclear industry.

"I object to my country using nuclear energy because I feel scientists haven't really solved the waste disposal problem," she said. "I just don't think scientists can claim that they know how to get rid of something that may have a life expectancy of 250,000 years."

"I'm also concerned that studies haven't been done on the effects of low level radiation on humans," she added. "I think the potential hazard of radiation contamination (in the pilot plant) is greater than the scientists are telling us. And I don't buy the theory that someone has never died because of the nuclear industry."

Mrs. Kartchner said her group was formed after Carlsbad Mayor Walter Gerrells, an avid supporter of the plant, told a friend of hers that the plant was none of her business and none of the town's business.

"His statement generated my curiosity and interest in (the plant). I also was puzzled why people in Carlsbad were not informed on the issue, and I started looking into it. Our group was formed so the people here could get another viewpoint besides that of our city officials who think that anything the DOE does is fine," she said.

"I think most people here are thankful that we've formed...that there is someone here who cares enough to ask them what they think about (the plant)."

Members of the group have testified at public hearings held throughout the state on the plant and are coordinating a rally to be held in late September in the small community of Loving, about 12 miles southwest of the site.

"I think the people of Loving, who are basically poor and Chicano, have been totally overlooked in the Waste Isolation Pilot Plant process, and I feel they, too, should be a part of the decision-making process," Mrs. Kartchner said.

But Mayor Gerrells, a lifelong resident of Carlsbad, says that if he thought the plant were unsafe and detrimental to the area he would be the first to oppose it.

"I have two small grandchildren here, and I'd be the first to oppose this program if I didn't think it was safe," said Gerrells, elected mayor in 1970 and a city councilman for six years before that.

"But I have no objections to the program as long as the scientific studies show there will be no harm to the peo-

cused the DOE of holding up a report by Roger Y. Anderson, a geologist with the University of New Mexico, which shows that 73 percent of the salt at the plant site has been dissolved by natural processes.

Hyder explained that there are artesian aquifers below the salt deposits that water comes up through cracks in the strata and dissolves and carries away the salt to produce a cavity.

"To me, unless the DOE can assure the public that the process will no longer

(See Related Material
On Facing Page, 15A)

occur, it would be foolhardy to put the waste there," he said.

Sandia has been doing geological, meteorological, biological and hydrological studies at the plant site for the past 3 1/2 years.

"Our major thrust is to do enough scientific investigation to prove the plant is safe," said John McKiernan, supervisor of the nuclear waste products division at Sandia. "We like to have good technical data to satisfy questions that the scientific or engineering community may have about (the plant)."

"The data so far shows that the site looks satisfactory for a waste repository and that it could be conducted in a safe fashion," he added. "I think (the plant) could solve a national problem of disposing of nuclear waste."

Concerning Hyder's statement on dissolution of the salt, McKiernan says that within the site area scientists have not been able to find an occurrence of this type of activity. "But, we have found evidence of this type of activity around the edges of the salt beds," he said.

His colleague, Dr. Jerry Freedman, who is working on the transportation aspects of the plant, says it would be safe to transport the radioactive waste by rail.

Sandia is designing a container said to allow no release of radioactive material in 99.6 percent of train accidents. The box-like container would consist of a steel frame, a layer of steel, a barrier of impact-resistant foam, another steel frame and an outer layer of steel. It would measure 25 feet long by nine feet wide by 10 feet high.

"This container would offer a double barrier while a super tiger only offers a single barrier," Freedman said.

He added that if some radiation should leak out during a rail accident, the dose would be extremely small to

waste emits little radiation and generates virtually no heat but contains small quantities of toxic plutonium.

Intermediate waste, which requires remote-controlled handling and shielding but which emits little heat, and some high-level waste, which is both intensely radioactive and heat-producing, would be handled in later phases of the project. Under the terms of the project, the high-level waste would be removed at the end of the experimental program.

Federal officials say the plant would be a demonstration project. They say the radioactive waste would be retrievable should something go wrong, and the plant could be dropped after a 10-year observation period.

"The Waste Isolation Pilot Plant certainly isn't a sure thing...its most immediate hurdle is the squabble between the DOE and the House Armed Services Committee as to whether (the plant) should handle commercial nuclear reactor waste as well as defense-related waste," Foster said.

The committee wants the plant to be funded only for the storage of defense-related radioactive waste, while the Department of Energy wants the project to receive additional funds for handling commercial nuclear reactor waste. Thus far, the committee has not authorized any money for commercial nuclear waste to be stored at the plant and the DOE apparently will have to go elsewhere to get funds for the handling of commercial waste.

If the plant were funded to handle commercial nuclear waste, it would have to be licensed by the Nuclear Regulatory Commission. Some DOE officials say that an outside review by the commission is the only way to restore public confidence in the plant.

And what about the feelings of the 29,000 citizens of Carlsbad? What do they think about the federal government's plan to locate a nuclear waste repository 25 miles southeast of their city?

A July poll conducted by State Rep. Jack Skinner of Carlsbad indicates 41 percent favor the plant, 41 percent oppose it and 18 percent want research to continue on the plant but are not willing to support it at this time.

In the survey, 6,440 post card ballots were inserted in the Carlsbad Current-Argus and distributed to home delivery subscribers only. In the poll, 1,105 ballots were mailed in.

"Bearing in mind that the plant has been the single most discussed issue in

Hance's Committee Pos

By BOB CAMPBELL
Avalanche-Journal Staff

Kent Hance didn't go to Congress to join a gang, but he has become part of an Agriculture Committee group that older members are calling "the freshman Mafia."

With newly elected Charles Stenholm of Stamford and three other freshmen from other states, the Democrat from Dimmitt is among the last to vote on every action the committee takes and has been part of a "swing vote" several times.

"There are five new members on the ag committee that have been pretty vocal — Stenholm, Burl Anthony from Arkansas, Tom Daschle of South Dakota, Tony Coelho of California and myself. And they've called us the freshman Mafia."

"We've been the swing vote on several items in that when they call the role, we've the last to have our names called," Hance said.

When asked if the 42-member Agriculture Committee is in line with his attitudes on agricultural issues, Hance said, "On some issues, I would say yes. On one issue, they're probably not, but I think it's changing."

Some committee members and Hance are at odds over whether "loan and target prices should be tied to some type of parity concept or have some type of escalating factor to take up for the problem we have with inflation," the congressman said.

"You look at the price of diesel having gone from 30 cents to 65 or 70 cents or even 80 cents — inflation is really hurting the farmers as far as their cost of production."

"Two years ago, there was probably one member of the committee that believed that, and now there's probably at least 10 of us, and some of the others are starting to rethink their position."

The three major issues Hance says he is most concerned with now are "inflation, energy and agriculture, in that order."

"Agriculture moves up and down," he noted. "But the crops look real good this summer and the prices have been pretty good, so right now the people seem the most worried about inflation and energy."

Discussing other issues before the 1979 congressional session, Hance said the House probably will vote this fall on a constitutional amendment requiring

tional health insurance plan like Sen. Kennedy's. If the questionnaire comes back and it looks like 90 percent of my constituents are for it, I might re-evaluate my position.

"I'm anxious to see the results on (questions about) the draft and (draft) registration and on nuclear power plants and nuclear waste disposal."

"You know, a lot of people are for nuclear development, but once you start putting nuclear waste in their backyard, they say, 'Well now, I'm not for it that much,'" he commented.

Hance has introduced legislation to give a major tax break to persons engaged in research and production of alternate energy sources. The bill would allow depreciation of investments over 10 years instead of the standard five for development of energy from sources other than crude oil.

"We'll find out within the first week

show there will be no harm to the people or the environment," he added. "I think the public is just afraid of anything they don't understand." The 52-year-old mayor said, "The average person conjures up a picture of Hiroshima when you mention anything nuclear."

Local motel owners, the Carlsbad Chamber of Commerce, the Board of Realtors and Carlsbad Industrial Action Inc., a group of local businessmen, also approve of the plant, adds Gerrells, who is co-owner of a men's clothing store in downtown Carlsbad.

As for the safety of the plant, Dr. Graham Foster Jr., a nuclear physicist at Los Alamos Scientific Laboratory, says there are no important safety problems connected with the project other than those he calls normal to any mining operation.

"The radiation-related problem is negligible except for those who would actually be working at the site," he said. Foster contends that the populations of Carlsbad, Roswell and Clovis already undergo great danger from a train hauling 66 carloads of molten sulfur a day through the area.

"If that sulfur ever caught fire, it burns to poisonous sulfur dioxide, and the public would be in hundreds of times greater danger than they would be from a burning carload of transuranic (elements heavier than uranium) waste on the way to the pilot plant," he said. The worse dose of radiation a person would get if a transportation accident occurred on the way to the plant would equal about one-quarter of the radiation dose a person gets anyway in 50 years of living, he added.

The plant's opponents say one of its most troubling aspects involves the transportation of radioactive waste from sites around the nation where the waste is now stored. Contaminated material is stored in or near Richland, Wash.; Idaho Falls, Idaho; Aiken, S.C.; Oak Ridge, Tenn.; and Los Alamos.

Geophysicist Dr. Charles Hyder, formerly of Albuquerque and now of Colorado Springs, says the DOE's present plan is to transport three-fourths of the radioactive waste to the repository by train and the rest by truck.

"I think the DOE is courting disaster by transporting the stuff by train especially. Our studies show that more train accidents occur than do truck accidents, and to me it's inconceivable that accidents could occur without seriously stressing the containers the waste will be in," Hyder said.

He said the waste would be carried in a super tiger — a wooden box holding a 55-gallon drum containing the waste.

"During an accident, if a freight car is smashed, and if that car is holding radioactive waste, there is a good chance the contents will be splattered," he said. "And if anything like a pound of plutonium is released during the accident, there is the real potential of hundreds being killed. Even if the release is not large, decades down the line we could be seeing cancers in those who were contaminated."

Hyder calculates that there would be at least two accidents in New Mexico each year involving the transportation of radioactive waste by train or truck.

"But the DOE never talks about the human impact of an accident; they never talk about those consequences," he says.

Besides the transportation problem, Hyder also says there is a problem with the salt deposits themselves in holding the radioactive waste. Hyder has ac-

Taking Shape

wait-and-see attitude," Skinner said. "Time about the plant and is taking a returned indicates to me that the bulk of that 83 percent of the ballots were not this area for at least two years, the fact been the single most discussed issue in bearing in mind that the plant has

Construction on the project possibly could begin in late 1981, and low level waste, such as rags, protective clothing, tools, etc., would probably start being taken to the repository in 1986. That

Repository For N-Waste Spurs Carlsbad Debate

By ESTHER LONGORIA
Avalanche-Journal Staff

CARLSBAD — A 30-minute drive southeast of this quiet city on the Pecos River will bring you to a desolate rangeland, an area of rolling sand-covered hills and brush. The land, with a density of about six cattle per square mile, is known as "Los Medanos" meaning "The Sand Dunes."

If the U.S. Department of Energy has its way, the nation's first permanent underground disposal site for radioactive waste could be operating in 1986 in what

are believed to be geologically stable bedded salt formations underlying this area.

DOE officials have been pushing for the Waste Isolation Pilot Plant planned for this remote 19,000-acre parcel in southeastern New Mexico since 1972. They and other proponents say such a facility would be safe, arguing that there is nothing in the on-site scientific studies to indicate otherwise.

But opponents contend that the project would not be safe, saying that there are radiation, transportation and geolog-

ical problems associated with the pilot plant.

The plant, with a projected cost of about \$500 million, will be comparable to a mine. Some of the salt will be excavated through shafts, radioactive waste will be stored in the excavated spaces between 2,100 and 2,650 feet below the surface and then salt will be blown back into the spaces.

Some of the U.S. government's estimated 100 million gallons of defense-related radioactive waste as well as contaminated clothing, tools and other such material would be placed there.

An outspoken opponent of the pilot plant is Roxanne Kartchner, a 30-year-old Carlsbad housewife who has studied documents on the project prepared by Sandia Laboratories in Albuquerque, the DOE's prime contractor.

She contends that salt is not the best solution for the storage of nuclear waste.

"They (the Department of Energy) claim the salt is stable, but it hasn't had radioactive waste in it to generate movement, and they claim the waste will be retrievable, but some scientists have told me that the waste will be too hot to retrieve," she said.

Mrs. Kartchner, the mother of a 7-year-old son, never had been politically active before she and two other local women formed the Carlsbad Nuclear Waste Forum to oppose the pilot plant about a year and a half ago.

The group has about 20 members, but Mrs. Kartchner adds that it is getting monetary support from local businessmen, doctors and professors. "Some won't let their names be used in connection with the group for fear it could jeopardize their jobs here," she said.

Mrs. Kartchner said one reason she is reluctant to support the plant is because she believes the DOE is rushing ahead with the project to soothe the commer-

See REPOSITORY Page 14

