

NUCLEAR PUBLIC INFORMATION AND PARTICIPATION
Chairman: Alfred T. Whatley

Frederick R. Draeger

When Dr. Al Whatley asked me to make this presentation, I began searching for a title that would reflect what I wanted to say about industry communications. Not all together in jest, I arrived at "The Nuclear Power Advocate, or You Too Can be Paranoid." The accuracy of the title was reemphasized by a personal reaction just before I came here. I received a TWX from the Atomic Industrial Forum in New York saying that on Sunday, March 23, there would be a one-hour program entitled "Plutonium -- A Question of Life or Death." It was said that the program would focus on the alleged recent incident at the Kerr-McGee plant near Cimarron, including the contamination and ultimate death of Karen Silkwood; plant safety and health procedures; the fact that this incident and related matters could be viewed as a microcosm of the commercial nuclear industry. It was further stated that the events surrounding the death of Karen Silkwood would focus attention on the "apparent inadequacies of the plutonium industry and its regulator." That was enough to spoil the day.

After managing to put that out of my mind upon arriving here, I went into a store for some reading material. What caught my attention was this March 27 issue of Rolling Stones. The big story here is titled, "The Nuclear Industry's Terrible Power and How It Silenced Karen Silkwood." It goes on for 7 1/2 pages, 27 column feet of copy, on this incident and everything else that relates to nuclear problems. With that, I started reviewing my notes and thinking more about paranoia.

In my salad days as a communicator and reporter for the Chicago Tribune I probably held different views on how the American system operates. Perhaps I am one of those student editors who went from campus radical to citizen reactionary.

I'm reminded of the first sports story I ever covered for the Chicago Tribune, a PGA tournament in Milwaukee. Out of the country club I set about getting a list of the golfers. Thinking I was copying the names of the pros, I ended up with some 120 names, including those of the caddies. This suggests one of the problems existing today, not just in the nuclear business, but across the board. People just can't tell the pros from the caddies. Who is an expert?

My nuclear background began when I left the Tribune and joined General Electric. An early assignment was to help write the instruction book for G.E.'s first commercial reactor, called the NTR. It then was oil-cooled; and recently was uprated to 100 KW. This was my beginning in the nuclear business, and since then the industry has advanced a long way.

After 11 years at G.E. I joined Pacific Gas and Electric Company and received what Dr. Whatley referred to as "scars of the nuclear battle."

Vallecitos was PG&E's first nuclear plant built in cooperation with G.E., a small 5 MW unit. There wasn't one word of public comment beyond praise for nuclear power and across-the-board editorial support from news media. Next came the Humboldt Bay Nuclear Unit in Northern California. There were some fishermen concerned about what the nuclear unit's thermal effect would be and how it would affect fishing. We explained that it would have little or no effect. The fishermen said, "okeh," and went back to work. That plant went on line and has operated successfully. For 12 years it has been doing a darn good job.

In the interim, while we were finishing at Humboldt, we applied to build a nuclear plant at Bodega Bay in Northern California. This was in 1963, and it marked the beginning of the environmental or conservationist movement in relation to nuclear plants. This was where it all began.

An anti-nuclear association was founded, The Northern California Association to Preserve Bodega Head and Harbor. It was alleged to have some 2,000 members and still exists. There's an annual gathering every year to relive memories. An organization formed as a sub-unit was the Mothers and Others for Pure Milk. Its purpose was to work with the dairy farmers because of the ill-based fear that radioactivity would contaminate the grass, cows would eat the grass and the radioactive milk would be delivered to children. We called them the "Mudders and Udders." Perhaps I shouldn't have related this because one national magazine used it to illustrate the industry's disdain for the general public. One of the sad things in emotional frays is that we sometimes tend to lose our sense of humor.

But at Bodega, we learned a lesson. One can no longer walk into a community and say, "Hello, we are going to do this, we are going to build a plant, a substation or anything else." So, in preparation for our next site at Diablo Canyon, we prepared and executed a full scale public information program which went on for two years before public hearings began. It worked well. In the conservation area, the Sierra Club Board of Directors passed a resolution approving our presence at Diablo Canyon, preferring us there instead of at another site that it wanted saved. It was a "first" for the Sierra Club. This showed a new attitude, though since it has been reversed. That was in 1965, and now it is 1975.

The first unit at Diablo Canyon is still about a year away from going on line; the second, a year and a half. Things haven't been all peaches and cream because in the meantime environmental impact statements have come into the picture. Public hearings, public participation if you will, now occur and whether they have a good or bad effect is not to be decided here.

After Diablo, where we made the great initial and apparently successful effort, we went to work on a new site called Mendocino at a town called Point Arena. We put out the same two-year program

of information. Was it successful? It was the only county in California that voted against Proposition 20, which can virtually prohibit development on the coast. This is an indication of what an information program can do. However, we bowed out at Mendocino because the USGS thought that our information on seismic conditions could not be proved.

Now, we are looking at two other places, one in the south San Joaquin Valley, as we are moving inland because we can't go on the coast. This is a whole new ball game. Instead of having to worry about thermal impact or thermal effect in coastal waters, we are concerned with the effect of moisture from cooling towers on agriculture. And so with farmers, we have a new nuclear audience and a whole new communications challenge.

The second site we are looking at is in Stanislaus County, 20 miles east of Modesto. Already, groups have formed in opposition, using all the traditional arguments. The same opposition heard at Palisades and at Calvert Cliffs is repeated almost word for word in the Valley, indicating a very fine communication network.

Right now many strange incidents occur in the course of nuclear confrontations. I have developed for you some general thoughts which might be of value as we move forward, whether we be pro-nuclear, anti-nuclear or among those open-minded people who have no opinion right now but propose to wait and see which side advances the best argument. There are two sides involved, and we should talk about the two sides, because both are guilty of a high degree of naivete. Both think the simple telling of their story is acceptable to the police.

Today we are seeing an auto-rejection process in which people are automatically turning off salesmen for a variety of causes, but mainly because there are just too many sales pitches to handle.

For the utilities, for those in the nuclear power industry, for their opponents, and for those who are gullible and misinformed, I think we have a low base line credibility. It must be raised. This low base line is the traumatic result of social change. Life has become so complex that people tend to defer decisions. Only when forced do they reluctantly make some sort of decision.

Some surveys show that the majority of people are pro-nuclear, but at the same time respondents say government should approve the safety of the plants. And conversely they are rejecting government. This makes it difficult to interpret survey statistics. You can read a lot of indecision. This means you had better be a pretty smart communicator and do a good job.

In putting together an information program, one usually has a design goal. The design goal of any information program is to lay an information foundation so that people can arrive at rational decisions. In putting a program together, two things must be recognized. First, despite Marshall MacLuhan's philogophy, the message is in the communicator, not in the medium. That is, you must have credible communicators. Second, you must build into your message some impact and/or repetition. You have to have something that hits them so hard, or hits them often enough so they won't forget it.

So many communicators are clamoring for public attention today--and though some call this the nuclear age, the space age or the electronic age--for those of us who are pretty close to the scene, we call it the "age of words."

Now, when one talks about a credible communicator, the reference is to a person who generates predisposition to believe; he is believable. In the nuclear/energy area there is a narrowing range of credibility (or disparity) between groups representing

different points of view. Back in 1965, a survey in California showed that the most believable people or groups in the state were the AEC and the state coordination of nuclear energy. At the bottom of the list were conservation clubs and unions; everyone else fell somewhere in a general central area. Now all groups seem to be moving toward a central position.

But who are the prime communicators--who are the people who really do the best job? If you are looking for someone who can speak across the board to all audiences, I don't believe there is any one speaker or communicator who can address all people persuasively. Why? Individual decisions today appear to be based on group membership--unions, college students, profession, sex, education, economic status. So, a communicator must break up his messages--no one big message will do the job. For example, there is no pro-nuclear or anti-nuclear group that can survive or be successful by appealing to a single group or the entire country as a whole.

It becomes necessary to recruit and discover people representing many ideals or social drives who are willing to go out and do a job. Ralph Nader is a fine example of a man who welds together disparate groups. I remember his Critical Mass '74, a big meeting in Washington, D. C., where he brought together people who represented not just anti-nuclear but who were against rate increases, private power and the like. The idea was to bring one massive effort to bear on the utilities. This is a very smart procedure, and we are going to see more of it. Also, there are new communicators in the nuclear field in the form of state and local government representatives. They are listened to, especially because they are younger and have a rapport with younger people.

Let's talk a moment about communications methods as a matter of background. There are the traditional conveyors of information--

newspapers, radio and TV. They provide initial impact, and can provide repetition if it is needed. Another method, undergoing a rebirth, is what can be called Town Hall. More and more forums are being held around the country, and these are important from any point of view. Courts at all levels may be looked upon as communications devices now. The mere bringing of a suit against someone garners a certain amount of news media coverage, and this serves a purpose. The legislative process and the initiative process represent communications methods because they get a story across in a precise way with much impact. Finally, you have your routine methods, speakers, brochures, advertising, and the like.

Assuming you have an able communicator, the message itself, I think, still has to be important and you must be willing to tell a complete story. I embrace this "fishbowl concept" wholeheartedly. Everyone might as well embrace it, because it is impossible to keep secrets today. Most of us will agree, after recalling the investigative reporting stories of recent years in the Los Angeles Times, the New York Times, and the Washington Post. Further, a Message must be able to survive critical press and public scrutiny. If one can't get by that and the release of information is not timely, the whole communication program is in real jeopardy.

Jerry Cohen had an illustration on research during an earlier presentation. It demonstrated what happens when you have a problem; how it engenders publicity at first; then public concern; then public expenditure which leads to research which defines the problem enough so that you can conduct further research, get another grant, etc. The same thing generally happens when you don't tell the whole story. There is initial publicity after publication of a statement; then public concern or interest occurs; then there is discovery of lack of information or shortcomings, real or imaginary. This calls for either a restatement of silence depending on which route is chosen. This engenders more publicity, and the cycle goes around and around, reinforcing the public's mind about something that is occurring.

So, no matter how distasteful the news, it is better to tell it all.

At Diablo Canyon we have had our fifteenth bomb threat and we are still under construction. It is our practice to call all the media and say, "We have had another bomb threat." The news media do not bother to use the news anymore. But, most important, we are informing the public.

At San Onofre Nuclear Power Plant they put out a news release every day telling everything that happened at the plant on that date, and the news media pay little attention. This is part of this fish-bowl concept. Personally, I would release a weekly or monthly report rather than a daily one, but each utility has its own way.

Now, if I may offer some general conclusions rather quickly and these probably could be discussed later, news media are effective only in initiating momentum. News source credibility is the key to maintaining the momentum. The ultimate establishment of firm opinion is a function of appealing to gross interest through personal communication by acceptable communicators, a people-to-people sort of thing, rather than depending upon a news release to do the job. Someone acceptable must talk directly to the people.

This is where the public forum becomes most important, and where the communicators themselves tend to fall down. A communicator should be capable of meeting audience needs; in other words, he should be adequately back-grounded. He should be able to speak at the level of the audience, neither above nor below; and he should be able to identify with audience's interests. There is no sense in sending a highly sophisticated engineer to talk to an agriculturist, because somehow these just do not mesh. Finally, the communicator should have some sensitivity to what makes news and have an ability to sense what the news media desire and are trying to do. I was particularly aware of this last night when William Rowe was interviewed on Channel 13 in relation to the talk he gave yesterday morning. He

went on for a minute or so talking about his suggestions to ERDA. Then the reporter asked, after Rowe had laid pretty good groundwork for the concept that waste management was a thing that could be handled, "But you don't have any solutions?" He said, "Yes, that is right." Mr. Rowe wiped out all that he was able to tell us here yesterday. It was completely lost in terms of the people of Tucson, because a member of the EPA said we have no solutions to date to the waste management problem.

Be that as it may, the one conclusion is: There have to be more people talking to more people. The scientific community, the medical profession, those who are highly trained (and they still have a high degree of acceptability among people) have got to face audiences and talk, whether the theme is pro-nuclear or anti-nuclear. It is my key concern as a communicator, that somehow we get this job done in telling the people what the facts are and then let the people make decisions.

David G. Jackson - The Planned Approach to Public Information by the
ERDA Nevada Operations Office

Public information is an integral part of all projects and programs conducted by the Nevada Operations Office, and is considered in the planning and execution of these projects. This public information program is consistent with the requirements of the Freedom of Information Act, the Environmental Protection Act and ERDA policies.

The NV Office of Information Services has the responsibility to plan and execute the project public information plan. Emphasis is placed on the following items in planning and conducting the plan:

I. Who must be informed --

- a. Specific segments of the public (those persons most likely to be directly affected by the project).
- b. News media (particularly those which have the greatest potential for reaching the specific public).

- c. Organized groups (government, civic, professional, schools, etc.).
 - d. General news media (regional, national and special publications).
- II. What information should be presented --
- a. All information in the Environmental Impact Statement.
 - b. Operational procedures relating to safety.
 - c. Project goals and peg points of major importance.
 - d. Background on personnel for various aspects of the projects.
 - e. Anything else within reason that is requested.
- III. When should information be presented --
- a. Specific schedule of project milestones which will require public announcement.
 - b. Organization to respond to inquiries on a timely basis.
- IV. Where are the communication resources --
- a. Know the capabilities of all communication media in the area.
 - b. Possible use of project controlled media, if necessary.
- V. How will the Public Information Plan be executed --
- a. Literature (fact books, news clips, news letters, etc.).
 - b. Organized briefing teams, designated spokesmen, etc.
 - c. Tours
 - d. Special services (movies, radio tapes, other audiovisual aids).

In short, detailed public information plans are necessary to effectively communicate with any given public. The plan must be re-evaluated periodically and updated to meet the goals of the project. To be effective, the PIO plan must be an integral part of every aspect of the project.

I hope that this is what you had in mind. If I can be of further help, please let me know. Again, thanks for the opportunity to appear on your program.

*Charles Washburn - Nuclear Power and the Democratic Dilemma

In one of his broadcasts last week, Eric Sevareid noted that it's 100 times easier to be in the doubt-raising business than the doubt-dispelling business. Consequently, it seems to me, the most important thing at this time is to continue trying to communicate the facts of nuclear power development to the public. We shouldn't be too discouraged by isolated setbacks.

The March 1975 issue of Mechanical Engineering magazine has an article by Emilio Daddario, Director of Congress' Office of Technology Assessment. The article is entitled "Technology and the Democratic Dilemma." I think the role of public opinion in deciding highly complex and technical questions is the problem we face and that problem is the heart of the democratic dilemma. Daddario lists five basic dilemmas partly or solely caused by technology; the first three items only tangentially involve our topic but the last two bear directly on our topic.

1. The first dilemma is the question of the eventual need to stop economic growth.
2. The second dilemma is the question of the eventual need to further restrict individual freedom, especially individual initiative, because of resource constraints.
3. The third dilemma is the question of the need to abandon our belief in eventual world comity gained by helping others develop, or to accept drastic reduction in our own living standard.

Moving to the two dilemmas of direct interest:

4. The dilemma of time constraints in a democratic society. Before the public can gain enough experience to intelligently accept or reject a new technology, the technology is so heavily committed that quick "backing out" is impossible. This dilemma has also been addressed by Professor Les Lees of Cal

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Tech--Lees has pointed out that the time lag for effective decision making in the U. S. is so long that, at least in the energy area, we're always working on the old problems.

5. The dilemma of different values between the public at large and the technical community. I think it is important to recognize that there are value differences, not just the need to talk more clearly. Daddario says, "This problem is based on the fact that, in considering technical problems and issues, the technical community and the general public employ rather different criteria of importance. This situation creates a communication gap that our recent history suggests is not an easy one to bridge, and which will demand a considerable amount of effort and goodwill on the part of both camps to overcome."

In California we're soon going to be able to test our effort and goodwill. California, as you probably know, has the referendum: by a 2/3-plus vote the citizens can directly amend the constitution and by a 1/2-plus vote they can pass a law. A referendum dealing with nuclear power, "The Land Use and Nuclear Power Plant Liability and Safeguards Act" is now being circulated for signatures. All parties agree that it will qualify for the ballot. Unless Governor Brown sets a special election, the vote will be held in June 1976. The measure states: "The people of the State of California hereby find and declare that nuclear power plants have a profound effect on the planning for, and the use of, large areas of the state, as do the manufacture, transportation, and storage of nuclear fuel, and the transportation, reprocessing, storage, and disposal of radioactive materials from nuclear power plants.

Omitting some of the more drastic parts of the referendum, which require essentially immediate repeal of Price-Anderson indemnification and which require that the legislature make findings

by 2/3 majority on specific aspects of reactor safety if existing plants are not to be shut down and new construction halted, the measure goes on to require:

"After five years from the date of passage, the legislature must find by a 2/3 vote, "the radioactive wastes from such plants can be stored or disposed of during the period in which the waste material remains harmfully radioactive with no reasonable chance, as determined by the legislature, of intentional or unintentional escape of such wastes or radioactivity into the natural environment which will eventually adversely affect the land and the people of the State of California, whether due to imperfect storage technologies, earthquakes or other acts of God, theft, sabotage, acts of war, governmental instabilities, or whatever other sources the legislature may deem to be reasonably possible."

If the legislature fails to make the positive finding by a 2/3 vote, the measure calls for immediate de-rating to 60% of design capacity and additional de-rating of 10% of design capacity per year.

Well, I guess the measure can be dismissed by saying "even if it passes the Atomic Energy Act pre-empts the field, so the courts will throw it out." That may well be so, but the measure is so constructed that each part must be tested separately, and if you will predict what courts will do today, you're bolder than me. Secondly if the measure passes, the California Attorney General defends it and he has a lot more resources than the Sierra Club, the Natural Resources Defense Council, the Environmental Defense Fund, the Audubon Society, or whomever you choose. If the measure should pass or fail narrowly, state and federal legislators will be emboldened to press for modification of the Atomic Energy Act to give the states greater authority to

regulate nuclear energy. Nader has opened an office in Sacramento and will certainly give major effort to passage of the measure. You might say that Nader isn't qualified to judge whether or not the risks of nuclear power are acceptable, but every time we say that most legislators think: "Hey, I'm more like Nader than I'm like you. Are you telling me that I'm not competent to decide this?"

In practical terms, I have several points I would like to make. I think we must admit that the Naders and the Browers and the others do have as much right to try to influence public opinion in this area as we do. Secondly, an individual--whether from NRC, ERDA, a national lab, a contractor, a university, or whatever--can bank only on his own integrity and knowledge when he's talking to the public about these matters. If he tries to defend everything the AEC or a utility has done, he's sure to be ineffective. I once saw a strange dynamic on this. Three representatives from a utility were facing two adversaries before a public audience. The topic was a proposal for a nearby multiunit plant. The utility representatives seemed to say everything wrong. They seemed to be trying to antagonize the audience. I didn't understand why and asked a friend who was with me. The friend said, "Oh, they don't care what these people think, but each is worried about what the other two will say when they go back to work Monday morning." Well, it may be coincidental, but the most belligerent of the three was promoted to vice-president within a few weeks.

Also, we still underestimate the public's commitment to environmentalism and to open government decision making. For far too long the utilities counted upon a few brownouts quieting the opposition. Not only did that not occur, the problems are now entirely different. One indication of the public's changing values

was provided by the California Poll last week--only a very small minority of Californians (1 in 5) favor delaying advanced emission standards to gain better mileage and lower car costs.

Overall at this time, the public favors nuclear power development. There's no question about it. We had a very detailed public opinion survey performed in Sacramento in conjunction with the recent Sacramento Municipal Utility District bond issue election. This poll indicated that only about 15% of the public are outrightly opposed to nuclear power. Less formal polls by local state legislators and representatives gave very similar results. But, I believe, the mood could change rapidly. It may be worthwhile to carry out a series of opinion surveys in California and carefully study changing moods during the up-coming battle over the Land Use and Nuclear Power Plant Liability and Safeguards referendum. The attempt would be to identify as positively as possible the important favorable developments as well as the unfavorable developments during the campaign.

William E. Davis - Nuclear Public Information and Participation

Remarks to Western Interstate Nuclear Board, Tucson, Arizona, March 25, 1975. In a matter quite unrelated to the topic of "Nuclear Public Information and Participation, "2-1/2 years ago I had the opportunity to get a first-hand assessment of public opinion when I was the Democratic candidate for the Idaho seat in the U. S. Senate. Obviously, I didn't win. But I did have the benefit of that rich and rewarding experience of personally meeting and talking to some 100,000 Idahoans in virtually every community and from every walk of life in our state.

A state-wide campaign takes one down into the mines, high into the logging areas, out on the streets, and into the churches and bars--literally everywhere there are people. And I discovered that you don't spend as much time talking as you do listening. These are the

working people, the voters of our society -- those beset by all the anxieties and skepticism as well as all the hopes and idealism of our American communities and states.

From this sojourn away from the ivied halls of learning, I gathered new insights into how isolated we on the college campus sometimes become. Banded together in close-knit, comparatively well-paid, highly educated campus communities, our membership also includes a highly-opinionated collection of experts on every subject known to God and man (and perhaps a few that aren't). And, too often, we end up talking to one another.

I sometimes wonder if this isn't also true of the even more specialized field of science where often brilliant, highly-educated, highly-opinionated men and women dream dreams and envision visions that leap into the future --sometimes insensitive to the ever-widening gap developing between their knowledge and confidence and the fears and lack of understanding of that other public, namely the rest of us in that non-scientific society. "Insensitive" may be the wrong word, because sometimes I have detected attitudes on the part of scientists that border on downright arrogance -- a manifold intolerance and disgust when the man-in-the-street or on the farm is hesitant or reluctant in supporting the grand designs -- attributing his attitudes to ignorance rather than to lack of enlightenment or indeed any responsibility on the part of scientists to educate, inform, and lead.

My electioneering experiences were still fresh in my mind when in late September, 1974, the Governor of Idaho, Cecil D. Andrus, appointed me to chair what he designated as a Blue Ribbon Study Commission charged with the responsibility of reviewing the Atomic Energy Commission's Draft Environmental Impact Statement on the handling of commercial radioactive wastes (Code name --WASH 1539). The Governor said, "There are many questions to be answered, but the most important is that of what is best for the State of Idaho."

Being imbued with the philosophy that the way to find out what the people of Idaho think is best for the state of Idaho is to get out and among 'em, I was troubled by the short time-frame set forth for our study. Our report was to be submitted by November 4th, which allowed roughly five weeks to organize the committee, educate the public as to the nature of the problem, and elicit a response.

Nonetheless, the Governor's Committee (which included members representing a variety of interests and occupations and both scientists and non-scientists) proceeded to set up a series of meetings and hearings throughout the state.

Our efforts were greatly assisted by a visit to our state by Dr. Frank Pittman, Director of the Division of Waste Management and Transportation of the U. S. Atomic Energy Commission, who spent a day with the Governor's Committee. Further, on its own initiative, the Eastern Idaho Nuclear Council conducted two open forums on the topic of disposal and storage of atomic waste. These meetings were held in Idaho Falls and Pocatello. Emphasis was on acquainting the public with processing and storage techniques utilized at the Idaho Nuclear Engineering Laboratory. Officials at the INEL site also arranged for tours of their storage facilities for interested parties.

With little time for advanced announcements or arrangements, the Committee scheduled six hearings throughout the state in the cities of Lewiston, Moscow, Twin Falls, Boise, Idaho Falls and Pocatello. While attendance at some of the hearings was sparse, they did provide an opportunity for public response. And in numerous cases, representatives appeared to offer testimony on behalf of large and influential organizations in our state.

In addition, many persons took this opportunity to communicate their concerns by writing directly to the Committee or the Governor. Further, the hearings and deliberations of the Committee received wide-spread media coverage.

The responses in the meetings and written statements were revealing -- not only in the attitudes toward the specific problem of atomic waste disposal, but also in the broader concerns expressed by a public that again and again stressed that it was uninformed.

WASH 1539 listed as one of the high priorities in the criteria set forth for the siting of an interim disposal center the matter of local acceptance.

I am sure that "local acceptance" as a high priority would register with most concerned Idahoans. Idaho AEC officials who attended several of the Committee's open hearings were appalled at what they regarded as the lack of knowledge of the waste storage methods, the misinformation, and the superstition. There seemed to be a feeling that if the public only knew of the safety of these processes and techniques, people would not be so fearful and concerned -- even downright terrified in some cases.

To the farmer or the man on the street, the whole subject of atomic or nuclear power often is not just a mystery, but also a mystique. He has been conditioned to the horror stories of the atomic bomb, radioactive fallout, and the after-effects of radiation either by direct exposure or entry into the life cycle through food and water. And often, these persons are flat-out scared.

As viewed by one person who described herself as an elderly lady from Ashton: "People are so uninformed and could care less if a dollar is involved. Please try to stop this horrible thing they are doing to our state."

Not only lack of information, but what was regarded as deliberate withholding of information or mis-information typified the concern of many respondents.

For example, when told that the processes and sites for the handling and storage of atomic waste are safe, the suspicious Idahoan is apt to reply, "I've been told that before." Many know that there were leaks at the site at Hanford. Many also are aware

that at INEL the waste stored before 1969 now has to be dug up and re-processed and re-stored.

Robert A. Erkins, President of Thousand Springs Trout Farms, Inc., Buhl, Idaho, was one such outspoken critic of past practices in dealing with the public, hammering away on the theme: "It is not a good policy to place one's outhouse over the family well."

Referring to correspondence with the Idaho Governor in September, 1969 (in which Erkins had drawn attention to serious problems in the burial of atomic waste), Erkins states:

At the time, the officials of the AEC denied that there was any problem in their storage methods. They held fast to this position until a previously suppressed report...was at last made public...

Now the AEC officials admit that the storage methods of the 1960's of which I complained were in fact wrong. They are now trying to correct this by carefully digging up some 20 acres of waste burial grounds and placing the atomic material in metal containers under better storage conditions.

In another letter, Erkins goes on to say:

On my recent visit to the AEC burial site I was told by one of the officials that there was concern as to whether they should endanger the lives of men in digging up the cemetery area or whether they would be better off just leaving it there and hoping that nothing in the future would happen. With honest statements like these being made by the AEC officials I find it difficult in any way to commend their predecessors for doing a good job in waste storage. They simply were not doing a good job, but in reality were lying to the public telling them they were. I feel the public has had enough of this bureaucratic and political skulduggery and that they do not want any more of it.

Other comments along this line include a statement by the Idaho Grower Shippers Association, Inc., whose membership encompasses the activities of those who introduce more than 95% of the fresh and

processed potatoes from Idaho into the channels of interstate commerce. The IGSA vigorously opposed locating an interim disposal site in Idaho and cited several references to the effect that "there is ample evidence to the contrary of the A.E.C. position on the safety of nuclear waste. The question, therefore, becomes one of being mis-informed rather than un-informed."

In a similar vein, a representative of the Idaho Conservation League stated: "WASH 1539 fairly reeks with optimism and self confidence. Many of the conclusions are based on data generated from selected portions of AEC history plus lots of faith in future technology. If the past record is to be used to generate data for the future decisions and procedures in waste management it is seriously misleading to exclude parts of that record."

The above underscores the suspicion and concern not only for selected or mis-information, but also the wariness by Idahoans about what they haven't been told -- things like that for some twenty years nuclear waste was being shipped to the Idaho INEL site and stored on that locale. Only in the past few years have many discovered that Idaho already is a major interim storage site for large quantities of nuclear waste generated in federal programs elsewhere.

One old timer expressed amazement at the revelation that in 1970 we in Idaho discovered "that what we had thought was an AEC facility.. to invent and test nuclear reactors -- over there near the Craters of the Moon -- was also a burial ground for millions of cubic yards of plutonium-contaminated wastes from an AEC facility over at Rocky Flat, Colorado where A-bomb 'triggers' are manufactured for H-bombs." He closed his remarks by saying: "You fellows with the blue ribbons, see if you can't think up something better."

Stated in other words, a critic of WASH 1539 said: "There seems to be a pattern, established during the hysteria of the cold war period and continuing to the present, of the A.E.C. concealing its activities from the public."

Public confidence was not reinforced when on the day the Governor's Committee made its report, the newspaper headlines in the

area reported: "Radioactive Leak New Factor in Nuclear Storage Controversy." The leak had been made during all of the deliberations between the Committee and AEC officials -- which left a lot of egg on all our faces.

Expressed in varying ways, some of the repeated concerns focused on the citizens' right to know and participate in the far-reaching decisions involved in the problem of atomic waste disposal.

One statement submitted by a concerned Idahoan read:

The citizen's right to know should ...include a time frame that will allow the opportunity to become conversant with the problem and to formulate valid opinions about alternatives. Considering the length of the half-life of plutonium, we have ample time in which to make a decision which is both responsible and as technically sound as we are able to make it. It seems to us to border on irresponsibility -- or arrogance -- to embark on a course of action which is as hastily conceived as this one seems to be.

...This country is now obviously embarked on a program of nuclear power generation, and without proper answers to questions on the disposal of radioactive waste, and especially of that most awesome of elements, plutonium. We believe implicitly that the citizens of this country have every right to insist upon being a part of the decision making process. This right includes the obligation on the part of the experts and the decision makers to provide ample information, and couched in terms the interested citizen can understand. We think experts often forget the truth of the old adage, what you're not up on you're down on.

Note that this writer also referred to a frequent problem in communication, the need to couch the information in terms the interested citizen can understand.

Interestingly, the most frequently cited document in the verbal and written commentaries was an article which appeared in the August, 1974 Reader's Digest by Dennis Farley (condensed from the April '74 Smithsonian), entitled, "The Awesome Problem of Nuclear Wastes."

Written so it was intelligible to the layman, it served to emphasize the necessity of effectively communicating to the general public -- the need to translate technical jargon to terms the layman can define and understand.

This was further spelled out in one written statement in which the author complained about the format of WASH 1539 and said: "In these times of high unemployment I'm sure that the AEC can find people capable of producing a well organized document written in clear, concise, well defined English. For the two million in taxpayer's money that went into the study that's not too much to ask. I hope the AEC is not purposely hiding behind a garble of clauses within clauses, maximum credibles and lowest practical probabilities."

Numerous persons in their letters and at the hearings expressed their gratitude in having had the opportunity to participate and express their views. Many complained that the only AEC hearing scheduled at that time was the November 12th meeting in Germantown, Maryland.

At the Germantown hearing, in my rough estimate, about 100 persons were in attendance, many of whom were AEC officials. One very concerned young man, probably in his twenties, had felt so strongly about the problem that he had hitch-hiked from California to Maryland to give his testimony. Another pleaded the case of all those who had something to say, but because of job obligations and financial barriers of extended travel, found it difficult if not impossible to be in attendance.

Even the subsequent hearing scheduled later in December by the AEC in Salt Lake City received this same criticism. People wondered why the hearings were not conducted in the concerned states (Nevada, Washington, and Idaho, which were considered as the prime sites).

Whatever the difficulties in the short time frame for scheduling, the hearings conducted throughout the state of Idaho by the Governor's Committee and the fact that an attempt was made to get public input was acknowledged favorably and repeatedly. Even then, we still got the comment; "I think your committee has not had enough time to

meet with the public."

Not all of the reaction to the public hearings, however, was favorable. One irate gentleman (who worked at the INEL site) wrote: "As a citizen of Idaho, I question the expenditure of funds to stage the series of meetings." Alleging that the Committee already had its mind made up, he went on to state: "The situation could be compared to a court making a decision and then presenting the case to the jury."

He took issue with what he termed "ridiculous statements of members of the public," and said, "I believe that a majority of the people of Idaho would be willing to accept the interim storage facility if they knew the facts concerning it, and the consequences of not developing nuclear power."

Another writer of a similar opinion protested that the subject had not been accurately and adequately presented to the public by the Governor's Committee, and stipulated that it was the duty of the Blue Ribbon Study Commission to educate the public in keeping with the AED's assurance that all was well.

In yet another letter, a citizen commented on a meeting, saying: "It seemed to me that most of the audience was hostile toward the speakers (AEC officials), and that they left with the same preconceived notions that they arrived with. I doubt the value of meetings where one side must substantiate their statements and the other side is free to indulge in baseless speculation." He ended with a P.S.: "I have just watched the 10:30 news and see that my hopes for an objective study are completely in vain...I would hesitate to call the chairman of the AEC a liar regarding permanent storage, but I guess when your interest is in appeasing the masses you have to take some liberties."

In these responses, the Committee was taken to task for not endorsing and supporting the AEC point of view, and characterized as a big disappointment because it did not educate and reassure the public.

That much can or might be done in informing the public is attested to in the attitude expressed by numerous civic and professional groups from Idaho Falls, who in the forums and meetings and written statements expressed their confidence in the management and safety techniques at the INEL site and a desire to expand the activities to include the interim storage of commercial radioactive waste. This kind of endorsement was expressed by the Mayor and City Council of Idaho Falls and the Greater Idaho Falls Chamber of Commerce, as well as by various labor unions in the area whose workmen had been employed on the site.

The Greater Idaho Falls Chamber of Commerce statement was typical of this attitude:

The Greater Idaho Falls Chamber of Commerce has studied the proposal and has passed a resolution urging the USAEC to move ahead with plans to make Idaho and more specifically INEL the site for interim storage. Let me assure you we have looked into the matter very closely before coming up with the decision. We have listened to one of the State's most outspoken critics of waste storage, Mr. Robert Erkins. We have also listened to expert AEC personnel explain past, present, and future practices regarding Waste storage. We have toured the current waste facility, as have you (the Governor), and we have come away assured in our minds that this is not a bad project for Idaho.

Economically it is a wise decision. It is also a wise decision if this Nation is to be energy self-sufficient by 1980.

Judging from such statements as the above, those closest to the scene and the most knowledgeable (as well as those who also had the most to gain by direct economic benefit) supported the development of the commercial waste storage program in Idaho.

Those most vocal in their opposition included agricultural groups-- such as the Idaho Grower Shippers Association, Inc., Idaho Wheat Commission, Idaho Potato Commission -- and such other organizations as the Magic Valley Association of Government, Idaho League of Women

Voters, Shoshone-Bannock Indian Tribes, and various environmental groups. Of the statements from individual citizens, overwhelmingly the expression was against the expanded storage concept in Idaho.

Clearly, despite some Herculean recent efforts on the part of AEC officials in the last few years to remove the cloak of secrecy from nuclear operations, there remained a gap as wide as the Snake River Canyon between scientific expertise and confidence and public understanding and acceptance. Much yet remains to be done.

I've spent a lot of time defining some of the problems as I encountered them in two months of intensive study and attempts to elicit public reaction, often in highly emotional settings. I openly was accused of selling out the public welfare by trying to interpret and clarify the AEC point of view on one hand, and accused of selling out the national welfare and economic benefits to the state by trying to appease the masses. And what could one expect from a woolly-headed university president?

I was reminded of the old story of the beleaguered football coach who the night before the big game wandered into an obscure bar. Immediately, he was recognized by a drunk who couldn't pass up the opportunity to enlighten the coach. The drunk proclaimed proudly that he had had just the defense that would shut out the adversary. The desperate coach listened eagerly as the drunk drew diagrams on a soggy napkin and asserted the merits of an eight man line, three line-backers, and a four-deep secondary.

"But," protested the coach, "you've got 15 defensive men on the field!"

"I've given you the perfect defense," the drunk stated haughtily. "But you're the expert. You work out the details."

As many a coach has learned, in coaching football, there are no experts, just varying degrees of ignorance.

I don't pose as any expert -- not in football, nuclear energy, or molding public opinion.

I do have a few modest and humble suggestion.

Scientists (as with others in tight-knit, highly specialized professional areas) must find ways of avoiding the syndrome of talking only to one another. This involves bringing the laymen along with them as the technology and attendant problems evolve. Candid, open, and honest assessments of both sides of an issue are necessary if the public can meaningfully weigh the risks versus the rewards before policy becomes a reality.

Decisions of the magnitude encountered in not just the nuclear field but the broader range of the total energy problem must be shared if there is to be public understanding and support.

Closer attention should be given to documents and public statements to insure that they are couched in terms translatable to the layman. This may be difficult, but not impossible.

The public forums and hearings related to the specific topic of nuclear waste were, in my opinion, highly educational. Proponents of positions on all ranges of the emotional and technical spectrum learned something from these sessions. Whenever possible, meetings on similar topics would be meaningful. And as expressed repeatedly, they should be held where the average but concerned citizen can participate free from the financial barriers involved in extensive travel.

The sick or dying patient welcomes the physician's dosage of medicine when it is explained in terms of how it will help him. Even the faith of a child, however, balks at the bland admonition that it should be taken because it is good for him. Call it bedside manner, but the public seeks to know why something is good for 'em.

Finally, as an educator, I would hope that we could put the romance back into science. Perhaps it is the realization that after the furor of Sputnik we at last succeeded in putting a man on the moon, or perhaps it is the upheaval accompanying the transition from defense-oriented scientific industry to our domestic and international challenges in other technical fields -- but even a casual look at enrollment trends in such former star-studded areas as physics and engineering is a cause

for concern. We need to identify the new and continuing challenges of technology and science and encourage those fresh apprenticeships in learning that will evolve into responsible leadership in future years.

Somehow, we must do a better job in getting these messages across on all levels, beginning with the elementary and secondary schools and continuing on into our college classrooms.

Energy, the environment, and such specialized issues as nuclear waste should be continued topics for our debating teams, the seminars, the scientists and non-scientists in our classrooms. We need to permeate our society with understanding of our technical problems and the consequences of selected alternatives to their solution.

I'm convinced that the American citizen expects and demands a voice in the policies affecting his destiny. It should be a top priority that those who have the education and power to enlighten and lead do all they can to see that this is an informed and responsible voice. Perhaps this is as great and challenging a mission as the development of technology itself. I don't know, I'm no expert.

But in the words of that great scientist and philosopher Vannevar Bush, "It is the duty of the educated to lead."

Garvis M. Pollard Jr. - It is a distinct pleasure for me to be here today on behalf of The State of Arizona Atomic Energy Commission to participate in "Waste Management '75." I appreciate the opportunity to present these few remarks. Let me begin by thanking those of you in attendance, not for coming to Tucson, Arizona, this time of year -- you're probably thanking Dr. Post for that -- but rather, let me thank you for the many, many years of technical expertise, for the long, arduous hours of work, and for the tremendous amount of knowledge that you people represent here today with respect to radioactive waste management. You're to be applauded for your attempts at solving the many technical problems associated with this area. Yet, as I stated at this same conference last year .. you may be winning the battles on the broad plains of technology, but you're losing the war in the trenches of public opinion.. Therein lies

the problem for discussion this afternoon.

The field of science and technology, it seems, has historically seen its role as a seeker of truth, but not necessarily seen its role as a purveyor of that truth outside its own discipline. The Feb. 27 issue of Info, The Public Affairs and Information Newsletter of the Atomic Industrial Forum, began by stating, and I quote, "Nuclear Power is no longer a localized technical or public acceptance problem for individual utilities, but a national social question that will be solved through the political process." Finally, perhaps, the nuclear community is beginning to understand. You see..when the public asks a simple question, it merely wants a simple answer. The simple question it asks is, "what are you going to do with your radioactive waste formed in the generation of electricity from nuclear power plants?" And the answer is...well, what really is the answer? Each of us can perhaps give a 30 to 90 minute discourse on what can be done with high level radioactive waste. We can place it into retrievable surface storage facilities, or we can bury in geologic formations, or we can use it for some beneficial purpose. Of course, we can finally say, it appears that present technology and political considerations would dictate that a retrievable surface storage facility be used..etc.. But let me remind you that the public will not be rebuffed. This is a question they've been asking for many years now. They've seldom been given a complete, candid and licid answer. You may rest assured, however, that the day of patting members of the general public on the head and saying, "there, there, now...don't worry... Precautions are being taken by those who know.." That day is gone. We, of course, know that today, there really is no simple answer to what will be done with nuclear waste. That appears now to be a political decision based, we hope, on knowledgeable weighing of benefits vs. risks. But the public, the electorate, does deserve an answer. And it deserves all the facts ..even the adverse facts..even when they're not asked for. As we have seen time and time again, information, when too little and too

late, can cause much more damage than full, honest and open disclosure from the beginning. The loss of public confidence is never easily restored. It's time to establish some credibility somewhere, because, to reiterate, the public will no longer allow themselves to be patronized.

In this area, what role can a state agency play? The state of Arizona Atomic Energy Commission, by statute, conducts a public information program with respect to nuclear energy. With meager resources..but the state must also protect the public interest. It must act as disinterestedly, as benevolently, and as rationally as possible in the field of nuclear energy. All the facts must be presented, and they must be presented in as reasonably objective a manner as possible. The state can function as a clearinghouse between representatives of the government, such as the governor and the legislature, and members of the public. And, since the media appears, in large part, to lack the in-house, scientific expertise for understanding the technical news that it reports, the state can serve as a valuable intermediary in providing factual, objective, scientific information to serve the public's best interest. The states collectively can function to insure that constant liaison be maintained with agencies or individuals of the various states so that the public information and public participation can proceed to the very lowest levels.

Just as we are, today, I think, equally concerned with out automobile's safety features, on the one hand, and its gas mileage, on the other. We are also equally concerned with our electric utility's rate structure in keeping our electric bills low, on the one hand, and the consequent health and environmental risks in the generation of that electrical energy we need. The public can make surprisingly intelligent decisions given all the facts. This state stands ready to help its public by giving them all those facts.