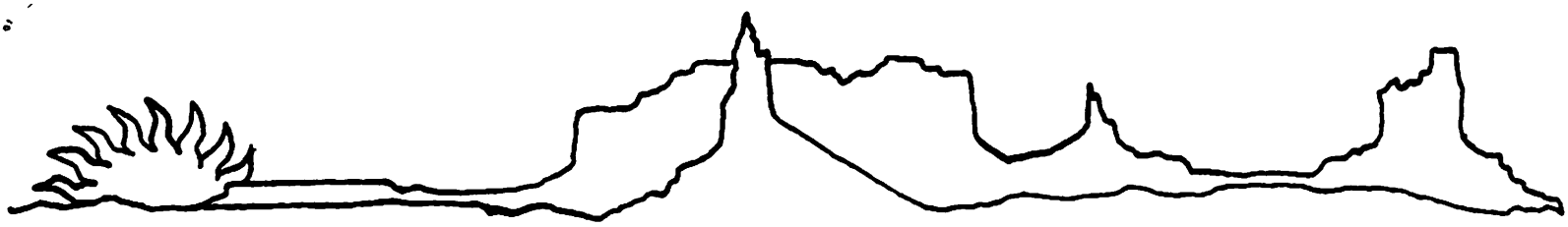

THE RIO GRANDE CHAPTER OF THE SIERRA CLUB

POLICY STATEMENT OF THE RIO GRANDE CHAPTER OF THE SIERRA CLUB
ON THE WASTE ISOLATION PILOT PLANT

The Rio Grande Chapter of the Sierra Club believes that a radioactive waste management program is absolutely necessary. However, we believe that the construction of the WIPP now, in salt, is a premature step in the disposal of nuclear wastes.

There has been inadequate study and exploration of geologic media and disposal methods, and this state of affairs is recognized by the Department of Energy. Despite requirements of the National Environmental Policy Act process, no alternatives to the WIPP in New Mexico have been evaluated with the same relative effort. Thus, the site selection process is inadequate and there is no assurance that the WIPP, which has potential problems that may very well be less significant at other sites, is the best alternative.

Quantitative, objective safety criteria are necessary for evaluating waste management program alternatives. Licensing of transuranic and intermediate-scale waste facilities by the NRC must be as stringent as licensing for high-level waste facilities. In order that environmental concerns be adequately protected, there should be formal involvement of the Environmental Protection Agency in the waste management program. Waste forms must minimize transportation hazards and maximize repository containment ability.

Regions, states and localities must be consulted in the waste management program process.

REMARKS

A radioactive waste management program is absolutely necessary. The waste is here--and won't simply disappear if we ignore it or argue about it long enough. Our concerns are with the implementation policies of such a program and the technical strategies actually used for the management of waste. These two concerns are inseparable and must be addressed together.

We believe that technical conservatism is the most important policy objective of a waste management program. Technical conservatism demands examination of various methods, including transmutation, deep holes, space disposal, and geologic disposal in various host rocks before commitment to any particular alternative. Objectivity further demands a systematic approach that thoroughly examines these possibilities in parallel--not one after the other--to avoid any undue bias favoring one site, medium or method. Economic criteria are not as important as technical conservatism for nuclear waste management. The cost of doing it right is a small increment in a multibillion-dollar electrical rate base or government budget.

We believe that the construction of the WIPP now, in salt, is a premature step in the disposal of nuclear wastes. There has been inadequate study and exploration of other geologic media and disposal methods. The total effort to date on the concept of geologic

disposal has been too limited and appears unduly biased (before the facts) in favor of salt as the medium. For example, the present state of the research into potential host rocks incompletely characterizes such things as sorption of radionuclides, site geometries, hydrology, containment and transport of wastes in rock formations. There must be a conceptually broader and technically deeper investigation of all possible candidate rock types--including salt. There exists no assurance that salt is the best alternative since other alternatives have not been evaluated with the same relative effort.

We would point out that this incomplete and inadequate state of affairs is recognized by the DOE itself. For example, on the subject of other host rocks they have stated, "Until further study of shale, granite, and tuff has been carried out and sites have been identified, the impacts of repositories in them cannot be predicted in detail," and "Not enough is known about these other media to evaluate them in comparison to bedded salt, dome salt or basalt." In delineating the history and procedures of the site selection process, the limited characterization of other potential sites is also admitted: "Although the Los Medanos (WIPP) reference site is the only location to date to have reached the stage four degree of characterization, the National Waste Terminal Storage program will eventually take alternative locations to that stage." Further, "Credible events or processes that might impair repository integrity differ with the site, and analyses of the consequences of such breaches at sites other than the one in New Mexico have not been performed."

The site selection process used for the WIPP does not provide for adequate searches into diverse media. The first step of the process is to select a medium--emphasis has therefore been on exclusive rather than parallel searches. This truncation of the site selection process is contrary to the fundamental recommendations of the Interagency Review Group (IRG), which endorses site research in a variety of potential host rock and geohydrological environments. This inadequate selection process also runs counter to similar recommendations in the Deutch Report of the DOE Task Force for Review of Nuclear Waste Management, which, in referring to R & D in diverse media at diverse sites, says in part, "This program will be more expensive (and perhaps lengthier) than one exclusively pursuing a predetermined single approach. In the end, it may be both more credible and more successful." The delay in the establishment of repositores would incur no major health, safety, or economic consequences but would confer better chances for achieving technical success by allowing an increase in the breadth, redundancy, and diversity of the program. The present approach downplays both problems that could be found in salt and advantages of other media.

Implementation at this early salt site may pose other problems, including the possible impediment of research into technologies for other media and methods of disposal. Development now of a repository in salt may bias future choices for high-level waste, as the present research effort appears to have done for the WIPP. Potential dissolution; the possible resource attractions of the salt and colocated

potash, oil, and gas; canister corrosion and brine-leaching of glass are site-specific problems affecting short- and long-term safety that may very well be less significant at other sites.

Currently, there are no objective criteria for safety. These must be defined and the degree to which they are met by a waste management facility must be stated clearly in any proposal for that facility. Success or failure of experimental work must be measured by these same criteria.

Consequences of hypothetical events and resulting absolute doses are presented, but no quantified predictions of the probability of these events happening are given. The U.S. Geological Survey recommendation to provide a candid assessment of the uncertainties associated with the spectrum of alternative outcomes of geologic containment is an objective safety criterion. These probabilities and their limits should be given at 10, 100, 1000, 10,000, 100,000, and 1,000,000 years for each of the barriers of waste form and container, medium, and site geohydrology, that is, through to the time of radioactive decay of the waste to natural levels of radiation density in the ground. In addition to comparing resulting doses to the natural background, the concentrations of waste elements should be compared to the maximum permissible concentrations given by the International Commission on Radiological Protection (ICRP). Such predictions or risk assessments for the elimination of the hazardous effects of radioactive waste from the biosphere for a number of methods and sites can then be evaluated in the light of societal, environmental, and economic concerns.

We agree with the IRG recommendation to require licensing by the Nuclear Regulatory Commission (NRC) of transuranic (TRU) and intermediate-scale facilities. All such facilities must be licensed with the same level of stringency as used for high-level waste.

The physical and chemical criteria for the waste forms to be shipped to a repository must minimize dangers of powders, combustion, and gas generation and maximize the ability of the radionuclides to remain in situ once emplaced in the repository. Waste forms and waste form acceptance criteria are as yet ill-defined for the WIPP.

We feel that the DOE, whose primary function is the development of energy technologies, may be under too much pressure to see waste management as a barrier to development rather than as an environmental problem. In order that environmental concerns be adequately protected, there should be formal involvement of the Environmental Protection Agency in the waste management program to set environmental standards and radiation protection guidelines for radioactive waste.

Regions, states, and localities must be consulted during the investigation, research, and development steps of a waste management facility. The burden of proof of the appropriateness of a facility lies with the responsible agency--not the public.

Transportation considerations, such as routes, should be included in the public consultation process, and a public rule-making procedure should be established for routing. Proper

waste forms and liaison with state and local authorities for handling accidents will reduce the possibility and consequences of a radiation release.

Public participation in and acceptance of a proposed disposal method is essential. We cannot be hasty, and only a complete evaluation of a broad variety of possible methods and sites before the establishment of repositories will avoid the dangers of poor judgment and the extremely serious environmental, societal, and policy consequences of failure.

By putting all of its eggs in one basket DOE has put the people of New Mexico at odds with the rest of the nation. The pressure on us to accept the WIPP is all that much greater because no alternative has been sought.

Adherence to the National Environmental Policy Act (NEPA) process demands realistic examination of the alternatives to the WIPP. The scope of the WIPP is much too large for the present state of knowledge of waste disposal methods. Short timescales as well as timescales longer than those ever addressed previously by the NEPA process must be used as a framework in which to quantify objective criteria. We cannot afford to embark upon an irreversible course before the facts are gathered. The potential loss is too great.

* * *

Derek Wallentinsen

By
DEREK WALLENTINSEN
for the Executive Committee
of the Rio Grande Chapter

Personal address: 3131 Quincy, N.E.
Albuquerque, NM
87110

Phone: (505) 881-0881

Policy adopted July 15, 1979, by the Rio Grande Chapter Executive Committee.