

SUMMARY OF 6/16 OCM MTG

JUN 22 1987

MEMORANDUM FOR: Victor Stello, Jr.
 Executive Director for Operations

FROM: Hugh L. Thompson, Jr., Director
 Office of Nuclear Material Safety and Safeguards

SUBJECT: SUMMARY OF COMMISSION MEETING WITH TRIBES/STATES IN
 HLW PROGRAM, 6/16/87

On Tuesday, June 16, the Commission held a meeting with state and Indian tribal representatives to hear their views on the status of the high-level waste program. These views followed the June 11 briefing by Mr. Ben Rusche, Director of the Department of Energy's Office of Civilian Radioactive Waste Management, to the Commission on the same subject. Enclosed is the list of speakers, which includes tribal representatives affected by the selection of Hanford for site characterization and the States of Washington, Nevada, Texas, Utah, and Tennessee.

Some of the basic concerns expressed by the speakers were DOE's lack of conservatism in the selection of sites for characterization, the DOE's overly optimistic approach to technical issues, and the overall skepticism of the parties they represent that DOE can safely manage and dispose of high-level waste. They do not believe enough is known about the sites to make determinations about their suitability for characterization.

The Umatilla and Nez Perce Tribal and State of Washington representatives discussed their concerns regarding the presence of commercial quantities of oil and gas resources in the vicinity of the Hanford site which could disqualify the site under the siting guidelines.

In response to a question from Commissioner Asselstine regarding what suggestions the tribes might have on how the program could be restored and put back on track, Russell Jim from the Yakima Indian Nation said DOE should consider tribal comments and concerns much more seriously. Mr. Burke of the Umatilla Indians noted the significance of the word "HOW", as "honesty," "openness," and "willingness" of all parties to cooperate in this program. The two tribal representatives commented that they believe the NWPA is a good law as written, but needs more faithful DOE implementation.

Representing the State of Nevada, Mr. Malachy Murphy, along with other speakers, noted that DOE's proposed environmental monitoring program is inadequate and that more site-specific environmental baseline data is needed. Mr. Murphy requested that NRC insist upon an integrated site characterization plan addressing technical, environmental, and socioeconomic issues. Mr. Murphy also questioned how the Commission can adopt an EIS, as specified in Section 114(f) of the Nuclear Waste Policy Act (NWPA), if DOE continues to rely upon "historical" data for such environmental baseline information.

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Mr. Frishman, State of Texas, requested that in the future, the Commission continue meeting with the states and tribes as often as with Mr. Ben Rusche. Mr. Frishman noted the state's good working relationship with NRC staff, especially in the engineering and geotechnical areas. Looking ahead in the program, he brought several concerns to the attention of the Commission. He noted his concern that I had, in recent Congressional hearings, stated that at least one of the sites selected by DOE for site characterization would be licensable. He questioned the technical basis for this statement. I am taking steps to determine and clarify the record if necessary on this matter.

Mr. Frishman also inquired as to the standards NRC would use in granting concurrence on DOE's use of radioactive materials for site characterization. He asked whether our concurrence would be a one-time programmatic decision or addressed on a case-by-case basis. He also wanted to know if NRC, in preparing the EIS for its MRS licensing decision, would consider the need for an MRS and alternatives to it. In addition, he asked if NRC would be looking in this EIS exercise at the MRS as part of an overall national waste disposal system or if NRC would be looking at the MRS as an independent facility.

Ms. Storey, State of Utah, discussed her State's position that, contrary to NRC staff's finding in its comments on DOE's environmental assessments, Davis Canyon is unsuitable for characterization. She stated that characterization of Davis Canyon will likely require drilling and other activities within the Canyonlands National Park in order to obtain adequate groundwater data, and these activities would be precluded by the disqualifying conditions in the DOE siting guidelines.

Mr. Ben Smith, State of Tennessee, explained his state's opposition to the MRS. The state does not believe that DOE adequately investigated alternatives to an MRS, he said, and cited the recent General Accounting Office report containing the same conclusion. He questioned whether the 15,000-tonne capacity limit for the facility would provide the system flexibility that DOE has claimed. He doubted DOE's estimates of the savings an MRS would provide from at-reactor storage, and went on to make several arguments for such storage. Concerning NRC's recent statement to Congress that there may be regulatory advantages to having a single storage facility over numerous at-reactor facilities, Mr. Smith said that generic NRC approval of a standardized dry cask design would greatly reduce such regulatory burdens.

Several speakers called for a more active and "hard line" approach by NRC in the program. Mr. Provost, the State of Washington representative, commented that the HLW program is on the brink of collapse and a stronger NRC role is prudent and necessary.

In closing, Commissioner Carr recommended that the transcript of this meeting be shared with DOE. Chairman Zech, following several complimentary remarks

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from the speakers, thanked Commissioner Asselstine for his efforts in helping the Commission to address state and tribal concerns with the HLW program during his tenure.

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Hugh L. Thompson, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Enclosures:

1. List of speakers
2. Submitted written statements

6/16/87

encl. to 6/22/87 mem
to Stello from
Thompson 409.5

SCHEDULING NOTES

TITLE: MEETING WITH STATES AND AFFECTED INDIAN TRIBES ON THE
STATUS OF NATIONAL HIGH LEVEL WASTE PROGRAM

SCHEDULED: 2:00 P.M., TUESDAY, JUNE 16, 1987 (OPEN)

DURATION: APPROX 1-1/2 HRS

PARTICIPANTS: PANEL 1

YAKIMA INDIAN NATION 10 MINS

- RUSSELL JIM, MANAGER
NUCLEAR WASTE PROGRAM

UMATILLA INDIANS 10 MINS

- WILLIAM BURKE
NUCLEAR WASTE PROJECT MANAGER

NEZ PERCE TRIBE 10 MINS

- RONALD T. HALFMOON, MANAGER
NEZ PERCE NUCLEAR WASTE POLICY
ACT PROGRAM

PANEL 2

STATE OF WASHINGTON 10 MINS

- DON PROVOST
TECHNICAL ISSUES MANAGER
OFFICE OF HIGH LEVEL NUCLEAR
WASTE MANAGEMENT

STATE OF NEVADA 10 MINS

- MALACHY MURPHY
SPECIAL DEPUTY ATTORNEY GENERAL

STATE OF TEXAS 10 MINS

- STEVE FRISHMAN, DIRECTOR
NUCLEAR WASTE PROGRAMS OFFICE

STATE OF UTAH 10 MINS

- MS. RUTH ANN STOREY, DIRECTOR
UTAH HIGH LEVEL NUCLEAR WASTE OFFICE

STATE OF TENNESSEE 10 MINS

- BEN SMITH
EXECUTIVE ADMINISTRATIVE ASSISTANT
ENVIRONMENTAL POLICY GROUP
DEPARTMENT OF HEALTH AND ENVIRONMENT

STATEMENT OF RUSSELL JIM
MANAGER, NUCLEAR WASTE PROGRAM
YAKIMA INDIAN NATION

before the

UNITED STATES

NUCLEAR REGULATORY COMMISSION

"Status of the High-Level Radioactive Waste Disposal Program"

June 16, 1987

Mr. Chairman, members of the Commission--

My name is Russell Jim. I am Manager of the Nuclear Waste Program of the Yakima Indian Nation. I would like to thank you for this opportunity to present the views of the Yakima Nation about the status of the federal nuclear waste disposal program.

The Yakima Nation is an affected Indian tribe with respect to the proposed Hanford repository site in Washington State. The Yakima Indian Reservation is thirteen miles from the Hanford Site at the closest point, and most of the Hanford Site is on Yakima Ceded Lands. Under the Treaty with the Yakimas of 1855 the Yakima Indian Nation retains hunting, grazing, and food gathering rights on those Ceded Lands and fishing rights at usual and accustomed places on the rivers and streams which pass through them, including the Columbia and Yakima Rivers. It is on the basis of these treaty rights that the Secretary of Interior determined that the Yakima Nation is an affected Indian tribe under the Nuclear Waste Policy Act, and found that these treaty rights would be affected by the location of a nuclear repository at Hanford.

I would like to discuss the very different conclusions that are reached by the respective parties about the suitability of the sites DOE has recommended for characterization. We are convinced that the process that has been used to select sites for characterization--and the results of that process--are seriously flawed. Looking at the same information and process, experts who are optimistic--including the Commission--conclude that there is no reason not to proceed with the sites recommended by DOE for characterization.

What is the basis for these differences in conclusions? All of the parties agree on one point: Not enough is known about the sites at this time to make conclusive determinations about their suitability. The differences of opinion revolve around the

appropriate degree of conservatism to use in making the assumptions that are necessary to fill in the gaps in our present understanding. DOE, which wants to justify its previous decisions about which sites to characterize, almost invariably makes optimistic assumptions. DOE is not really trying to find negative factors, so it is not surprising that they do not find them unless they are unavoidable. DOE's largely unfounded conclusion is that all the sites are suitable for repositories.

The NRC, in contrast, has identified significant issues for all of the sites which must be resolved if they are to be found licensable. Significantly, the Commission's official stated position appears to be that if these issues are not resolved, they could prevent licensing of any of the sites. In spite of this presumption, the Commission concludes that there is no reason not to proceed with characterization of the three recommended sites.

The Commission apparently supports characterization of the recommended sites because it cannot now be determined conclusively that any would be unsuitable. We hold the more conservative view that the adverse conditions at some if not all of the sites are sufficiently numerous and serious to dictate their elimination from consideration. We believe that the Commission should not be supporting characterization of the recommended sites when by its own admission there are potentially disqualifying conditions at all of them. A conservative program with a comprehensive national screening using truly selective siting guidelines could identify sites which the Commission could endorse more enthusiastically. Instead of having to say that significant issues could disqualify any of the sites, NRC should be able to say that it cannot identify any issues that would prevent licensing of the recommended sites.

We believe that sites could be found that would satisfy these conditions. Such sites might be in basalt or granite, but they would probably not be in extremely complex geohydrologic settings, with plentiful flowing groundwater, adjacent to major rivers. They might be in salt, but they would probably not be under extremely important aquifers and prime farmland, or adjacent to pristine national parks, or directly beneath towns. They might be in unsaturated tuff or other unsaturated rocks, but they would probably not be closely surrounded by potentially active earthquake faults. The sites that DOE identified for the most part before the NWPA was passed have all of these problems and more.

DOE takes the approach that it need not find the best sites, but rather only "suitable" ones. DOE looks at these sites and sees no significant problems. The NRC is also optimistic, although less so than DOE. The Commission looks at these sites, sees significant problems, and concludes that they should be

characterized to resolve the problems. Tribes and states, and most of their citizens, look at the sites, see the same problems, and conservatively conclude that since we could obviously do much better, we should do so.

Which approach should govern implementation of the waste program? If public confidence in and acceptance of nuclear waste disposal are truly crucial to its success, as Congress declared in the NWPA, then the implementing and regulatory agencies should adopt the conservative approach urged by the states and tribes. The reason for this is simple: the American public does not share DOE's optimism about this enterprise. The people are, in general, very skeptical about the ability of our institutions to safely manage and dispose of hazardous materials.

Because of its skepticism, the public will never accept nuclear waste disposal unless it is convinced that this activity is being carried out as carefully as possible. The people of the Yakima Indian Nation, and the public as a whole, want assurance that the federal government is truly working to find the best possible sites to dispose of these materials.

What they see instead is a program that refuses to accept the need for conservatism, and which could obviously have come up with a much better slate of sites. They see sites that are selected because the government already owns them, rather than because of their favorable geologic characteristics. They see that those sites have many common sense problems, like flowing groundwater, nearby rivers, valuable aquifers, and earthquake faults. They see the DOE doing a comparative evaluation of the sites, then choosing for characterization the site--Hanford--that ranks in last place for virtually all considerations. They see excessive optimism in all of the assumptions. All of this cumulative non-conservatism destroys public confidence that this program is being implemented adequately.

The advantages of a conservative approach hold true even if the scientific optimists are correct in their assertion that there are no significant technical impediments to successful waste disposal, but rather only perceptual, or political impediments. Even if perceptions are the only real problem, it should be apparent that the government and industry cannot alleviate the widespread perception that nuclear waste disposal is unsafe by simply asserting the contrary, and always making the most optimistic assumptions. Indeed, such a course of action only worsens public skepticism. Many observers who were initially willing to give DOE the benefit of the doubt have become vigorous opponents of the Department's implementation of this program after observing it.

The present opposition of tribal and state governments to the implementation of the nuclear waste program is simply a

reflection of the views and concerns of their citizens. So long as the people see a program that is based on unbounded optimism (which they do not share), and that rejects the need to try to find sites for repositories that are among the best that can be found, they will never accept the program as safe. Consequently, their tribal and state governments will reflect that skeptical attitude, and it will be very difficult for the program to succeed.

We sincerely believe that the Commission would in the long run be more helpful to the success of this program if it took a more involved and demanding approach to site selection, rather than deferring to DCE's excessively optimistic approach.

High Level Waste Definition

The Commission has circulated an Advance Notice of Proposed Rulemaking for its definition of high-level radioactive waste ("HLW"). We applaud the Commission for the decision to issue this proposal as an ANPR rather than as a proposed rule, and for extending the deadline for comments. The issue is complex and controversial, and the extra opportunity for analysis and comment preparation is very helpful. The YIN, whose formal comments on the proposal will be submitted shortly, is very concerned about its potential impact on disposition of the existing defense wastes at Hanford.

The Commission has suggested two options for dealing with reprocessing wastes: 1) determinations based on concentrations, and 2) maintaining the traditional approach, which defines all reprocessing wastes as HLW. The concentration-based proposal appears to be better justified in terms of technical and health effects considerations. But the dual concentration test proposed by the Commission, which would require that reprocessing wastes be both "highly radioactive" and "requiring permanent isolation" to be considered HLW, would unjustifiably exclude the majority if not all of the old Hanford tank wastes. As it was clear that Congress considered those wastes to be HLW when it passed the Energy Reorganization Act of 1974, and there is no contrary indication in the Nuclear Waste Policy Act, it would be inconsistent with congressional intent for the Commission to redefine them as LLW now.

The Yakima Indian Nation will therefore support Commission adoption of the concentration approach, provided that the test for HLW should be considered satisfied if a mixture of nuclides satisfies either of the two criteria stated by the Commission, rather than requiring that both be satisfied. If material exceeds the concentrations in either of the two tables of 10 CFR Part 61--that is, if it is above-class C LLW--it should be considered HLW. Under such a test, material which is highly

radioactive would be considered HLW, and material which requires permanent isolation would also be considered HLW. Most of the contents of the old Hanford tanks would probably still be considered HLW, which is consistent with congressional intent concerning those materials.

Licensing Support System Negotiated Rulemaking

The Commission has proposed to undertake a negotiated rulemaking to establish procedures for information management and submission in the licensing of repositories. The Yakima Indian Nation supports that proposal, and commends the Commission for the effort to include affected parties early in the process of formulation of these controversial rules. We understand that the convener for the negotiated rulemaking has submitted his feasibility report, which recommends proceeding with the negotiated rulemaking in spite of serious concerns about mistrust of DOE by other affected parties. We share those concerns, but nonetheless feel that the effort will be worthwhile.

Consensus on Characterization Testing

In his remarks to you last week, Ben Kusche mentioned the participation of affected states and tribes at the recent BWIP hydrologic testing meeting, and stated that consensus had been reached that DCE's planned tests were appropriate. While we agree that there was a consensus that the meeting was productive and cooperative, there was not technical consensus on the adequacy of the test plans. Technical representatives of the Yakima Indian Nation raised numerous issues concerning the number and location of planned tests which have not yet been addressed. We look forward to further discussion with DOE about these issues, and expect that NRC staff will also be interested in their resolution prior to the commencement of testing.

CONFEDERATED TRIBES OF THE
UMATILLA INDIAN RESERVATION
BEFORE THE
NUCLEAR REGULATORY COMMISSION

June 16, 1987

Commissioner Zeck, and Members of the Commission, my name is Bill Burke and I am the Director of the Umatilla Nuclear Waste Study Program. The Umatilla Tribe appreciates this opportunity to appear before the Commission and to present our perspective on DOE's repository program. We have been reviewing the transcripts of your meetings with Ben Rusche the last few years and have found his comments on progress in the repository program to be consistent with many of DOE's favorable findings in the EAs in that they are overly optimistic.

As an affected Indian tribe under the NWPA, the Umatilla Tribe has broad authority to conduct independent oversight of DOE's repository program and to insure the Tribe's interests, namely our treaty rights, are protected. Our involvement in the repository program over the past 4 years has generated considerable tribal cynicism and distrust of DOE's implementation of its duties under the NWPA. DOE's manipulation of the site selection process for the first repository and their "indefinite postponement" of the second repository evidenced a callous disregard of their statutory obligations under the NWPA and of the need to make siting decisions based on technical merit rather than political and programmatic expediency. The resulting public outcry, the lawsuits and the battle lines drawn by host states and affected Indian tribes have doomed the development of public confidence in nuclear waste facilities that Congress found essential. If site characterization proceeds in a manner similar to site selection, and we see no reason to suspect it won't, then the NRC can count a contentious and bitterly adversarial licensing proceeding. We share the NRC's

stated objective of seeking to have licensing issues resolved satisfactorily prior to the licensing hearing. Our experience in the repository program to date, however, does not inspire any confidence that that will be the case.

Reports from the NRC staff substantiate our concerns. Because of DOE's failure to conduct the repository program conservatively, there is a strong need for vigorous oversight of DOE's characterization activities by the NRC and affected parties. We have been gravely concerned by DOE's publically stated working hypothesis at the outset of the site characterization that each of the 3 sites will be found suitable for development as a repository and that each site will easily meet the EPA standards.

Your staff has reviewed DOE's Environmental Assessments and their analysis challenged important DOE findings and conclusions for the first repository sites. The NRC comments on the Hanford Environmental Assessment found that many of DOE's findings of favorable site conditions were based on sparse data that could just as easily support alternative findings adverse to DOE's interpretation. The NRC characterized many of DOE's favorable findings as "premature", "extremely tenuous" and reached by means other than a "conservative approach." The NRC claimed many of DOE's Environmental Assessment conclusions were "overly favorable" or "optimistic." The findings and conclusions that were the subject of your staff's critical review went to the heart of Hanford's containment capability. They included concerns about groundwater travel time, the tectonic suitability of the site, earthquake swarms, and life expectancy of the waste package and the potential for human interference in the vicinity of the site because of the presence of geothermal resources.

The NRC made similar critical comments about the Yucca Mountain and Deaf Smith sites as well. The NRC report concluded that DOE's claim concerning the superior performance of each site in meeting the EPA standard was "overly optimistic." Looking ahead to site characterization, your staff sounded the alarm about where DOE's repository program could lead. The staff warned:

"The significance of the above concerns is to DOE's ongoing preparation of the site characterization plans and eventually to site characterization activities, since both the general over optimism as well as the specific concerns could result in inadequate testing programs and inadequate information at the time of licensing."

There are several particular concerns we have that suggest your staff's warning is appropriate. The Umatilla and Nez Perce Tribes, and our consultants, are actively engaged in an investigation of the presence of commercial quantities of oil and gas resources in the vicinity of the Hanford site which could disqualify the site under the siting guidelines. Oil and gas exploration activities around Hanford are increasing in an era of depressed exploration budgets. DOE's dismissal of the issue in the Hanford Environmental Assessment based on the "current economics" of this rapidly depleating, nonrenewable resource of great potential value surrounding a repository required to isolate radioactive wastes for thousands of years defies reason.

In December 1986, Amoco Production Company requested participation from all interested parties, including the Tribe, in laboratory analyses of a number of well cuttings from two of the deep Shell tests, the Bissa # 1-29 and the Yakima Minerals #1-33. The Tribe received a grant modification from DOE to expend \$3,000 to participate in this research and be able to utilize the resulting data. In May 1987, the CTUIR and the Nez Perce Tribe, sponsored a workshop to review a number of logs of Hanford area wells. The Yakima Nation, the states of Washington and Oregon, and the NRC attended this workshop. The logs reviewed at this time showed that considerably more methane gas was present in the basalts and their interbeds than was understood from the literature. A paper by a Rockwell geologist (Deacon R.J., 1987), presented several days after this workshop, stated that data from the three deep Shell wells

indicated that:

...the structure of sub-basalt sediments...suggests that entrapping conditions may have occurred that could contain major hydrocarbon reserves.

In F.Y. 1988, the CTUIR plans to develop study plans for hydrogeology and for structural geology/seismotectonics. The BWIP SCP, DOE documents, and information from outside DOE will provide a basis for determining what types of studies will be done.

Other affected parties, and organizations as well as NRC staff, have worked on hydrogeology and seismotectonic issues again finding DOE's claims over optimistic. We feel the studies we plan will help the Tribe understand NWPA issues and we urge the NRC and their staff to work closely with the Tribe on these critical issues. Let me remind the commission of the close working relationship the NRC and all affected parties had especially with the Tribe during the Environmental Assessment Process. We encourage NRC and their staff to work with us again by sharing comments on the SCP. Our team of consultants and NRC's consulting team should meet especially during NRC's Site Characterization Analyses (SCA) phase. We desire early and close communications with NRC's staff.

Both the NRC and the Tribe should be sure DOE adequately addresses all technical issues and not skew results for our people and environment.

Addressing these technical issues will require that DOE implement conservative site characterization program that assumes nothing and one that purports to disprove disqualifying conditions and that conservatively analyzes each sites performance. In addition, DOE must open the process up to close inspection and greater involvement by the NRC and the affected parties. We have found DOE to be extremely reluctant to accept the broad authority of affected parties under the NWPA. The Tribe has confronted DOE's reluctance in C & C negotiations over the last two years which we terminated last January. As you are aware Congress withheld \$79 million of DOE's 1987 budget pending Congressional certification of DOE's

progress in negotiating C & C agreements. The CTUIR has withdrawn from C & C negotiations because of DOE's insistence on narrowly interpreting NWPA provisions concerning the authority of affected Indian tribes. A related issue of mutual concern to the NRC and the Tribe continues to be an issue with our on-site representatives at Hanford. A NRC report evaluating the effectiveness of your on-site licensing representative program concluded:

"Through the OR [On-Site Representative] program has provided the staff with an exclusive source of important information, DOE and DOE Project representatives have not been giving the ORs the access to records, meetings, personnel, and facilities intended in Appendix 7 to the Site-specific Agreement and needed to be fully effective. Interactions with DOE and DOE Project representatives have been the least effective at BWIP where the OR has been restricted from access to some draft information, select meetings, and other interactions with various DOE Project representatives. The restrictions imposed by DOE/Rockwell can be largely attributed to differences in interpretation of Appendix 7 which affect not only the OR program, but interactions with NRC headquarters staff as well.

The report goes on to note that the Nez Perce and Umatilla representative at Hanford is experiencing similar problems.

"The Nez Perce/Umatilla Indians already have such a representative at BWIP, with whom the BWIP OR has frequent interaction. Difficulties that have been encountered in this area are primarily due to DOE reluctance to release or make information available for staff review."

For instance, both the NRC and the Umatilla/Nez Perce On-Site Representatives were not allowed to attend a Hydrologic Task Force meeting and other internal meetings at Rockwell (Westinghouse now). It is the combination of DOE's flawed implementation of the repository program since the NWPA was enacted and their failure to permit the affected parties to assume the level of involvement and participation Congress intended that has brought this program to its knees.

In summary, the Umatilla Tribe desires a close working relationship with NRC. Like NRC, we feel the DOE has been overly optimistic in their approaches to technical issues. Public confidence in DOE's performance has eroded to the point of virtual nonexistence primarily due to a siting process that is deraged and a deraged schedule. Both the NRC on-site representative and the Umatilla/Nez Perce On-Site Representatives have had difficulty entering critical DOE planning meetings. We feel the NRC and the Tribe need to stand firm on their resolve to improve DOE's performance under the NWPA even if it means going to Congress for a remedy.

UMATILLA NUCLEAR WASTE STUDY PROGRAM

NRC BACKGROUNDER

Summary-

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) has been involved in the High-Level Nuclear Waste Program since 1983 in developing technical information to prepare the Tribe in its understanding of high-level nuclear waste issues of particular importance to the Tribe. It is felt that as these studies continue and issues become better defined, that the Tribe will put itself in a position to participate in a meaningful and informed way at the NRC licensing hearing, if the Hanford site progresses to the licensing phase.

1.0 Scientific and Technical Foundation of the NWSP

The Nuclear Waste Study Program (NWSP) was established by the CTUIR after careful consideration of its roles and responsibilities as an "affected Indian tribe" under the Nuclear Waste Policy Act (NWPA). Upon its designation by the Secretary of Interior as an affected tribe in the Fall of 1983, the CTUIR commissioned a "scoping study" by the Tribes prime contractor. This scoping study included a regional characterization of tribal resources potentially affected by a nuclear waste geologic repository at the Hanford site which includes portions of the Tribe's treaty-protected possessory and usage rights area. This study also evaluated various modes of tribal participation in the NWPA vis-a-vis the U.S. Department of Energy (DOE), U.S. Nuclear Regulatory Commission (NRC), and other cognizant federal, state, and tribal governments.

The CTUIR scoping study resulted in a determination by the Tribe that its participation in the NWPA should be based upon direct, active involvement by tribal governmental leaders in all pertinent aspects of the siting, technological developments, and decision-

making processes associated with its role as an "affected Indian tribe" under the Act. Recognizing that it did not possess the necessary scientific and technical resources to participate on a "one-to-one" basis with the vast technological resources of the DOE, the Tribe committed itself to building a technical team of consultants which would be capable of reviewing, monitoring, and evaluating the extremely large body of technical data and information which would be generated by DOE and its contractors and by other federal agencies throughout the NWPA siting and development process.

2.0 Activities and Accomplishments

Since its foundation, the Umatilla NWSP has proceeded from the "pre-characterization" phase to the present "site characterization" phase which is designed to engage the Tribe fully in cooperative intergovernmental review, monitoring, and other participation processes as well as in the conduct of independent tribally sponsored technical analysis, impact assessments, and public informational activities. During the period 1984 until mid-1986, the NWSP was oriented to DOE's precharacterization site evaluations and included a variety of related tribal efforts. The Tribe performed technical reviews and submitted formal comments on several key NWPA documents during the precharacterization period. These included:

- Draft Mission Plan for the Civilian Radioactive Waste Management Program
- "Proposed General Guidelines for Siting of Geologic Repositories"
- Draft Environmental Assessment for the Hanford Site, Washington

Several hundred scientific reference documents, associated with the Draft Environmental Assessment (DEA) and other DOE and NRC documents, were reviewed by the Tribe's technical team during this period. Other major NWPA documents, including the Office of Civilian Radioactive Waste Management (OCRWM) draft Transportation Business Plan and draft Transportation Institutional Plan were also

reviewed and formally commented upon during this precharacterization period. The Tribe provided written comments also concerning the Draft Environmental Impact Statement for Hanford defense waste disposal alternatives which have implications for the NWPA repository program.

Meanwhile, the Umatilla NWSP was preparing contingency plans for its larger and long-term roles in the event that the Hanford Site was formally recommended for site characterization. Assisted by its technical contractor team, the Tribe evaluated various approaches to its site characterization monitoring efforts and adopted a strategic plan for participation.

Immediately following the May 28, 1986 decision by the Secretary of Energy and the President recommending that the Hanford Site be among the three sites to be characterized, the Tribe took steps to convert its contingency plans into an "action plan" which specifies the major tribal projects to be conducted during the site characterization phase. Its Comprehensive Program Plan was completed in October 1986 and was submitted as a "deliverable" to DOE. This strategic plan describes a program of work to be performed by the Tribe, its program staff, and its technical contractors for the review and evaluation of DOE activities and for independent environmental, socioeconomic, and cultural assessments.

The NWSP Comprehensive Program Plan provided for development of specific project plans which were also issued as "deliverables" in October 1986. These plans included:

- Environmental Surveillance Plan;
- Socioeconomic and Cultural Assessment Plan; and a
- Preliminary Risk Assessment Method Plan.

Another major project of the Umatilla NWSP is the analysis of site characterization activities by DOE. To facilitate effective monitoring of the Basalt Waste Isolation Project (BWIP) at Hanford throughout the site characterization phase, the Umatilla Tribe and the Nez Perce Tribe entered into a mutual assistance agreement which provides for a qualified full-time on-site representative at Hanford. This position and an office was established in Richland, Washington in mid-1986.

To date, the Tribe has utilized a highly qualified technical contractor team consisting of geologists, hydrogeologists, nuclear engineers, economists, environmental scientists, and other professional specialists in virtually all aspects of its program. This technical team has worked continuously since 1984 in reviews and analysis of DOE technical developments and has provided scientific services for the planning of tribal projects. As proposed in its FY 1987 grant application to DOE, this existing team would be expanded to include approximately 12 additional part-time or full-time professional consultants to accommodate the much greater workload for the BWIP site characterization phase and associated tribal assessment activities.

One of the significant examples of the Tribe's "oversight" activities concerning DOE siting efforts has been a recent study initiated by one of the Tribe's senior consulting geologists (who also served as the interim on-site tribal representative at Hanford) related to potential oil and gas resources in the Hanford area. Section 112(a) of the NWPA of 1982 requires the DOE to prepare "general guidelines for the selection of sites in various geologic media." Section 112(a) then states that:

...Such guidelines shall specify factors that qualify or disqualify any site from development as a repository; including factors pertaining to the location of valuable natural resources,...

The most likely natural resources to be found in or below the Columbia Plateau basalts in the Hanford area are oil and gas, ground water, and geothermal resources.

On page 6-184 of the Hanford Environmental Assessment, released on May 28, 1986, DOE states that, "the presence of hydrocarbons from beneath the basalts is, at best, speculative." On the preceding page, however, DOE contradicts this conclusion by stating that Shell Oil and Atlantic Richfield have completed and tested four wells in the area, although they were "deemed noncommercial." In at least one of these wells, a significant amount of gas was produced, but current prices were too low to support major field development. These wells were deep and very expensive to drill in the tough plateau basalts, but exploration in the area continues at a rapid pace. In a period of low oil and gas prices, combined with a nationwide decline in oil company budgets for domestic exploration, this activity is particularly significant.

The interest in the Hanford area as a potential oil and gas exploration target zone is also shown by the requests for exploration by oil companies. The Bureau of Land Management (BLM) and the Washington Division of Geology and Earth Resources have received over 150 lease applications for areas within the Hanford Reservation. During 1986 alone, more than 250 line miles of seismic exploration data were collected in the Hanford area. A fifth wildcat exploration well was also granted a permit to drill to 15,000 feet, a very expensive undertaking with current exploration budgets.

As stated by DOE in the Hanford Environmental Assessment (EA) (page 6-183):

"A small, depleted, low-pressure, natural gas field in basalt that was in production from 1929 to 1941 is present on Rattlesnake Mountain at the southern edge of the Hanford Site (11 kilometers (7 miles) south of the reference repository location). At current economics, the old Rattlesnake Hills gas field is noncommercial."

As in the previous example, the DOE conclusion on repository disqualification is based on "current economics," not on long-term supply/demand curves for natural gas resources. Basing a disqualifier for repository site on "current economics" of a rapidly depleting, nonrenewable natural resource of great value seems unrealistic. Instead, the disqualifying condition should be oriented to the long-(up to 1,000 years) postclosure period when such resources may be sufficiently valuable to attract exploration ventures and thus making the site subject to "human interference." In addition, this "small, depleted, low-pressure" field produced a total of 1.3 billion cubic feet of gas prior to 1941 (McFarland, 1983, Washington Div. Geol. Info. Circ. 75).

The presence of natural gas in the plateau basalts is becoming a concern to DOE for a reason other than economic development. DOE recently began discussing the potential for redesigning the exploratory shaft. This redesign is apparently due to the need for increased ventilation of methane gas in the basalts at the repository horizon. The change in diameter of the exploratory shaft from 6 feet to 9-12 feet indicates a significant change in the amount of ventilation deemed necessary for worker safety.

The deep exploration wells, the seismic profiles, and surface geophysics, such as aerial magnetometer and side-looking radar surveys, are beginning to delineate features that may directly impact the repository program. Since structural traps, such as folds and faults, are the first places explored for oil and gas resources, a significant amount of new structural data are being acquired. Piecing some of these data together in a logical manner was the goal of the CTUIR interim on-site representative at Hanford in mid-1986. His cross-section (see attached fold-out page) presents some of these geologic data in a diagrammatic form. This cross-section shows that several thrust faults may have been present in the old Rattlesnake Hills gas field, as indicated by a potentially repeated series of Oligocene (older) coal seems overlying Miocene

(younger) basalts. Several major folds north of Rattlesnake Ridge, such as the Yakima, Umtanum-Gable Mountain-Gable Butte, and Saddle Mountain anticlines, may be bounded on their northern flanks by similar thrust faults. Thrust faults in the Wyoming-Idaho Overthrust Belt have, in the past 20 years, become the most important onshore oil and gas exploration province in the continental United States and Canada. This indication of potentially significant faults near the Hanford Site should be evaluated by DOE for the impact of capable faults and seismicity on the location of a repository.

This tribally sponsored study concerning potential hydrocarbon resources at Hanford further supports the Tribe's contention that the site may not be suitable for characterization. The Tribe contends that, at the very least, DOE should provide for a drilling and test program to determine the extent of subterranean faults and potential hydrocarbon resources at the site during characterization. However, at present, DOE does not plan to conduct such tests.

It should be noted that these tribal activities were coordinated to the extent possible with those of the State of Washington, which shares similar concerns about the Hanford site.

Tribal critiques of DOE site evaluation activities have also raised concerns about the adequacy of DOE efforts regarding: (a) planned hydrologic testing; (b) off-site environmental impacts within the Tribes's treaty-protected possessory and usage rights area; (c) quality assurance programs at Hanford; and (d) impacts associated with transportation of spent fuel and other high-level radioactive wastes (HLW) through the Tribe's reservation and treaty rights area. While substantial progress has been made in recent months in convincing DOE that its plans for site characterization and impact

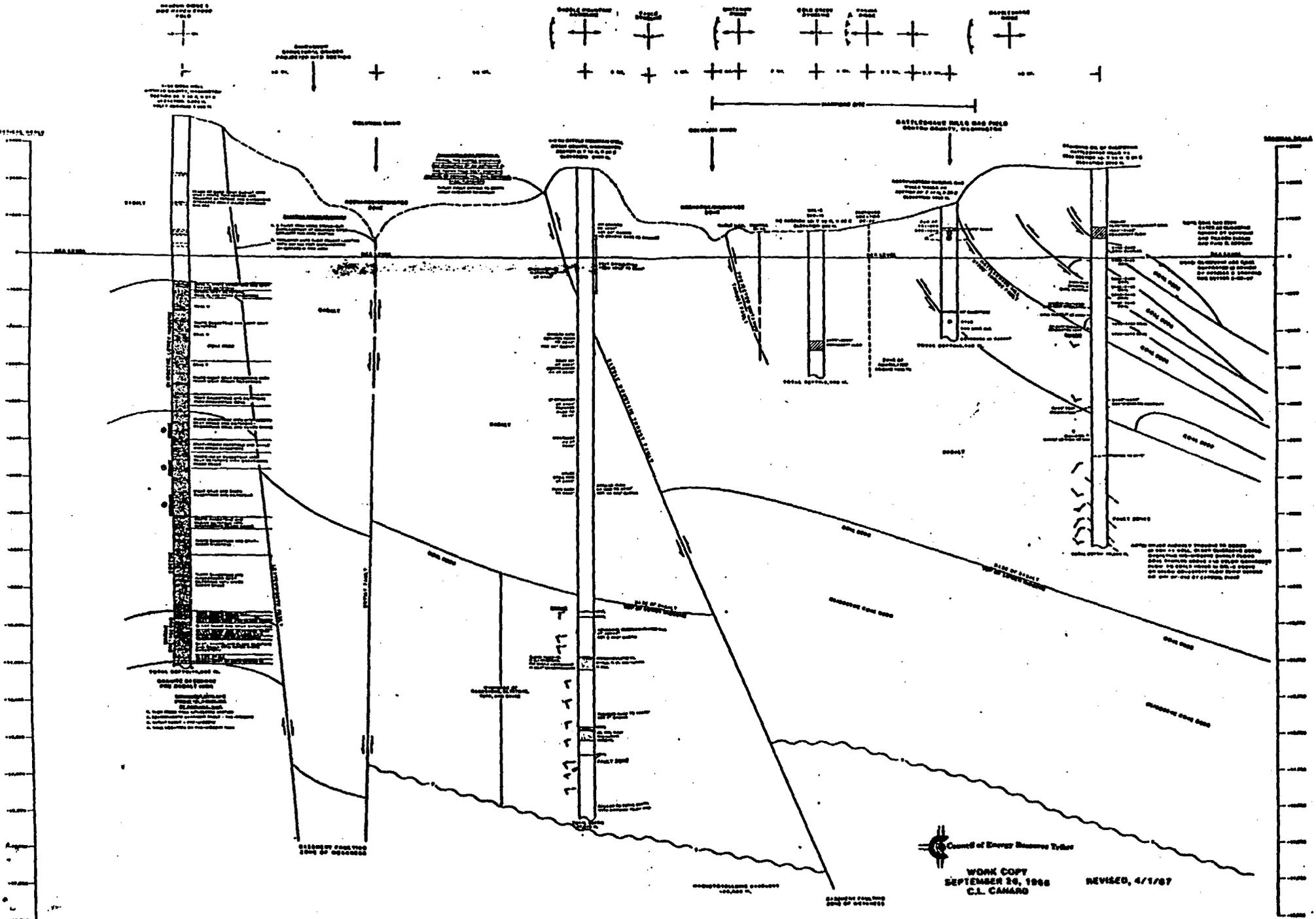
assessment activities need to be expanded substantially so as to encompass all credible scenarios associated with repository and transportation operations, the Tribe believes that the "schedule-driven" approach to site characterization by DOE may militate against conducting truly comprehensive drilling, in-situ, and other testing programs sufficient to characterize the site.

The Umatilla NWSP is behind schedule because of funding but is prepared to expand its site characterization analysis and monitoring and its independent impact assessment activities in order to fully exercise its "oversight" and cooperative roles with NRC under the Act. However, recent issues have been raised by DOE regarding the Tribe's rightful and lawful roles under the Act.

DIAGRAMMATIC CROSS SECTION
SHOWING SUBSURFACE FAULTING AT SWP

NW

SW



U.S. Council of Energy Resource Technicians

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STATEMENT OF DONALD O. PROVOST

STATE OF WASHINGTON

TO THE

NUCLEAR REGULATORY COMMISSION

June 16, 1987

Mr. Chairman and members of the Commission: Thank you for inviting me to present state of Washington concerns about the high-level nuclear waste program. For the record, I am Donald Provost, Performance Assessment Manager of the Department of Ecology's Office of Nuclear Waste Management.

Before I make specific comments, I will briefly discuss our earlier participation with NRC. Our first major involvement was with the 1982 Site Characterization Report (SCR) on the Basalt Waste Isolation Project (BWIP). State representatives had routine discussions with NRC staff. We were pleased by the excellent work from NRC staff. The draft Site Characterization Analysis (SCA), together with comparable reports from the state of Washington, affected tribes and USGS, influenced the U.S. Department of Energy (USDOE) to significantly improve the BWIP program.

Since 1982, we have worked closely with NRC staff. Recent meetings on Hanford hydrology issues and on general technical positions were

excellent examples of NRC's fair and independent approach. Your on-site representative is doing an excellent job and is a credit to the Commission.

As you know, we are now at a critical juncture of the high-level nuclear waste repository program. The site selection process is on the brink of total collapse. USDOE credibility is at an all time low. NRC and the other affected parties may be "painted with the same brush" if we do not address the credibility issue now, rather than wait until we are in a crisis situation.

Today NRC finds itself in a position reminiscent of its earlier nuclear power plant licensing efforts. NRC staff review of the license was limited to specific NRC responsibilities. Cost, schedule, need, and management capabilities were not reviewed. The result was an extended, controversial, contentious licensing hearings which lead to much higher costs and a very great loss of credibility for the utilities and NRC. NRC chose to narrowly limit staff review of the environmental assessments to the Commissions specific responsibilities. The decision was not to review USDOE cost, schedule or overall ranking of the sites. This approach was taken even though there is a compelling record which documents defective data collections, a lack of adequate quality assurance, a disregard of important data, biased interpretations of data, and over optimistic site evaluations.

Hanford was ranked dead last in both the pre-closure and post-closure comparisons of sites. In the year since Hanford was selected as one of the three sites to be characterized, the situation at Hanford was worsened.

- The stop work order has not been lifted because adequate quality assurance is not yet in place.
- USDOE disregarded important information which could disqualify the site.
- When preparing the Hanford hydrology program, USDOE did not schedule consultation with NRC, states or tribes.
- USDOE has not provided critical data concerning historic contamination of deep aquifers by iodine 129 as promised.
- The cost of site characterization has increased between 10 and 20 percent.

It is important that you understand some of the reasons we in the state of Washington are so adamant in our position that:

- the site selection process must be brought to a halt;
- the May 28th decisions must be retracted; and
- the process must be restructured before this program goes on.

We have identified many serious technical concerns which cannot be brushed aside by simply attributing them to the NIMBY syndrome. Our concerns are real and they are substantial.

Groundwater Travel Time: State of Washington and USNRC consultants believe that there is a significant likelihood that groundwater travel time would be less than that required by NRC regulations.

Exploratory Shaft (ES) Drilling: Drilling exploratory shafts will disturb the groundwater system, which would lead to the loss of "perishable" hydrology data. ES drilling should not start until the pre-ES hydrology programs have been completed and NRC, states and tribes have an opportunity to consult with USDOE concerning study results.

Geologic Features: Scientists have identified a suspected fault pattern within the controlled area study zone (CASZ). USDOE plans should include provisions for drilling to determine the extent of the suspected fault pattern.

Presence of Natural Resources: There is strong evidence to suggest the presence of natural resources in the vicinity of the proposed repository. Methane (natural gas), geothermal resources, and groundwater could attract future prospectors to the site. After the final EA was issued, USDOE determined that a proposed repository at Hanford would be a gassy mine.

Retrievability: The Act requires that nuclear waste packages must be retrievable after placement in a repository. Hanford's high rock stresses cause serious retrievability problems and USDOE has attempted to engineer around the problem. At an early stage of the program, the plan was to place multiple canisters in long boreholes. In the EA, USDOE described an approach which utilized short boreholes. Now USDOE is considering a shallow trench approach. Each succeeding approach has greatly increased cost while not providing confidence that canisters could be retrieved.

Miner Safety: Shaft and tunnel construction will relieve in situ stresses which could lead to spontaneous fractures within the rock and rockbursts from walls of shafts and tunnel. Physical stresses caused by high temperatures and a wet environment will require that miners work shorter hours. A loss of ventilation could allow methane concentrations to reach levels which would allow explosions and/or asphyxiation.

Earthquakes: The many small earthquake "swarms" which occur in the immediate vicinity of the Hanford site indicate the release of rock stresses. The distribution of such swarms gives an indication of where fracturing is occurring in the basalts. The fractures are possible groundwater pathways. The earthquakes locations appear to coincide with the geologic features mentioned earlier.

Radionuclide and Chemical Contamination: Previous Hanford activities have resulted in heavy contamination of the controlled area study zone (CASZ). Independent experts should conduct an evaluation of how defense wastes such as iodine 129 have reached deep groundwaters on and off the reservation.

Program and Data Management: USDOE's high-level waste management program has been plagued by serious program and data management problems. The overall management approach has been based on competition among several different repository projects. This has led to inconsistent management and data quality at different sites. USDOE is now planning to contract for an overall manager for site characterization programs at the three candidate sites. This is probably an improved approach, but the man-

agement contractor will not be in place for at least two years. Clearly, substantial site characterization should not occur until a new management philosophy is operational.

The scope of the state of Washington review activities will continue to cover all health, safety, environmental, socioeconomic and technical issues. We ask that NRC broaden its review. At a minimum, wrong doing, lack of disclosure, ethics violations or misconduct should be investigated prior to the time USDOE submits the license application to the Commission. Simply stated, NRC needs teeth in its investigational process.

In summary, the high-level nuclear waste program is on the brink of collapse. A stronger NRC role at this time would be a prudent decision. A stronger NRC role would help ensure that ratepayer and taxpayer money is well spent.

Statement of
MALACHY R. MURPHY
Special Deputy Attorney General
State of Nevada

before the
Nuclear Regulatory Commission
June 16, 1987

Mr. Chairman and members of the Commission. My name is Malachy R. Murphy. I am a Special Deputy Attorney General of the State of Nevada, and appear here today on behalf of the State. We again appreciate the opportunity to periodically review for you some concerns we have with the conduct of the repository siting program, particularly in those areas which might involve the Commission. My remarks here today will be brief. I intend to highlight only those areas of significance. I will, of course, be happy to respond to questions from the members of the Commission at the conclusion of these presentations.

Before outlining the problem areas, however, I want to bring you some good news. The state has in the past enjoyed a good and, I think mutually satisfactory, working relationship with your staff. Recently we have seen significant improvement in meeting notification and coordination in general. I am thus pleased to report that a good relationship has gotten even better.

First, as you are probably aware, Nevada is engaged in a running debate with DOE over the adequacy of its proposed environmental monitoring program in connection with site characterization, and in particular whether or not any such program not founded upon site specific environmental baseline data can ever be considered adequate, and in compliance with the requirements of § 113 of the NWPA. Unfortunately, our disagreement in this area is not with DOE alone, but is apparently with your staff as well. This is evidenced by a series of correspondence between Bob Loux of the Nevada Nuclear Waste Project Office, and Robert

Browning of your staff, culminating in Mr. Browning's letter to Mr. Loux of March 19, 1987.

To us, it is fairly fundamental that any reasonably adequate mitigation plan, which is required by § 113 to the NWPA to be included in a site characterization plan, must be based upon site specific environmental baseline information. We remain at a loss to understand how DOE can plan to monitor and or mitigate impacts without such a baseline. The Department admits that no such baseline exists, and that the only data in its possession is "historical". For any mitigation planning to be based on less than objective, site specific information, rather than subjective insites drawn from historical data, simply will never be acceptable. It thus remains our position that a credible environmental assessment, based upon site specific environmental baseline information, must be a component of the Yucca Mountain SCP, and that the baseline must be established prior to any further disturbance to the site as a result of site characterization activities.

The Commission must, of course, review and comment upon the site characterization plan. We urge the Commission, when it is presented with such a plan for Yucca Mountain, to insist upon an integrated document, addressing the complete technical, environmental, and socioeconomic program of characterization, including an adequate site specific environmental baseline.

As you know, that is not the end of our concern in this area. Section 114(b) of the NWPA provides that the Commission shall "to the extent practicable" adopt

any DOE final EIS prepared in connection with an application for a construction authorization for a repository. We do not see how the Commission can adopt an EIS if DOE continues to rely only upon "historical" data. In the event it does so, of course, it will simply be too late to correct that failure, since the Yucca Mountain environment will have been so altered as a result of site characterization that establishing any accurate environmental baseline post hoc will simply be impossible.

On April 7, of this year Mr. Loux submitted to Mr. Rusche a proposal to the effect that, if the Department continued to be unwilling to do that job, it should fund Nevada to establish the baseline itself. We have to date received no response to that proposal. We understand that the Department will announce a six month delay in publishing the Yucca Mountain site characterization plan, pushing its release date back from August of this year until March of 1988. In view of that delay we see no real excuse for the Department's continued refusal to establish an environmental baseline, or alternatively to provide the financial assistance necessary to allow the state to do that job itself.

In Mr. Browning's letter to Mr. Loux of March 19, 1987, he indicates that this issue will be addressed in connection with the Commission's rulemaking to amend 10 C.F.R. parts 51 and 60 to conform with the provisions of the NWPA. We trust this issue will indeed be addressed squarely, as soon as possible, and we look forward to a continuing dialogue with the Commission on this matter.

On a similar issue, we continue to experience unacceptable problems in obtaining financial assistance for our independent technical study program, particularly in those areas in which we share major technical concerns with your staff. Mr. Loux has recently received some informal, tentative indications that the state's program will be fully funded, but he as yet does not have all the necessary funding in hand. That is simply inexplicable, in our view.

Nevada also shares the same reservations that almost everyone else involved in this process has regarding the Department's amended Mission Plan. I won't unnecessarily extend my remarks by going into the details of our concerns in that area. We have expressed them directly to the Department, of course, and on several occasions to the Congress. Let me just reiterate what continues to be our position that the amended Mission Plan is seriously and legally flawed. We frankly have no confidence whatsoever that the Department will be able to succeed in siting and developing a repository under that plan.

In another significant area we are confused as to the role which the Department proposes that the National Academy of Science is to play in the site characterization process. It was originally our understanding that the NAS was asked to act as a technical reviewer of the adequacy of the Department's characterization activities at three sites; as sort of a super peer reviewer, if you will. More recently, however, we are advised that the Academy does not intend to independently examine DOE's raw data, upon which many of its characterization activities and decisions will be based. It is precisely in that area, of course, that

many of our, as well as that of your staff's, most fundamental concerns with DOE's technical program lie. What sort of meaningful contribution can the Academy make in this area if they are to ignore totally any problems associated with the Department's underlying data?

Additionally, the Academy intends to establish three review panels, each to be made up of members with expertise in various areas, including "public policy, legal and regulatory matters". Again, if the role of the National Academy is simply to provide an independent review of the Department's technical site characterization program, why the need for expertise in public policy, legal and regulatory affairs? This should cause the Commission, we submit, as much concern and uneasiness as it causes us. We continue to fear that the Department will attempt to obtain the imprimatur of the National Academy, of what we have already heard Senator Bennett Johnson refer to as "the Supreme Court of Science". If, indeed, the Academy's panels are to somehow pass upon or opine with respect to the Department's compliance with legal and regulatory requirements, including, for example, 10 C.F.R. part 60, that would put a future Commission in a very difficult position, and have at least the potential to implicate the Commission's ability to review a license application without unnecessary political and institutional pressure to approve it.

Nevada will raise these questions with the NAS itself at its meeting scheduled for Seattle on July 15. We will also, of course, resist any attempt to have the Academy play a role which could in any way effect the Commission's

ability to exercise a completely independent judgment at the critical stage of licensing any proposed repository.

Nevada has earlier, in response to your Federal Register notice of December 18, 1986, indicated our support for the notion of negotiated rulemaking on document management and control in a licensing proceeding, what we shorthandedly refer to as a licensing support system (LSS). We look forward to working with the Commission's staff, and the negotiated rulemaking committee. We understand the necessity for delay in the originally proposed schedule, but we nevertheless hope that the committee is formed and the negotiated rulemaking commenced at the earliest possible time. That process is important to all the parties, and will undoubtedly take longer than we all optimistically anticipate. Someone, someday, will be involved in a proceeding to license the nation's first high-level nuclear waste repository, and the ground rules governing discovery and document control in that proceeding should be established at the earliest practicable date.

Finally, our conviction goes stronger daily that, should DOE continue on its present ill-advised course, the process of siting and developing needed repositories for the nation's high-level nuclear waste and spent nuclear fuel is doomed to failure. We see no evidence whatsoever of the Department's willingness to step back and restructure the entire process, commencing with objective, scientifically based guidelines, to conduct a national search for a repository site free of the biases adhering in the present program, and to take the steps essential to any hope

of some day achieving the state, tribal, and public support, including truly meaningful consultation and cooperation, without which this process cannot possibly succeed.

Again, Mr. Chairman, we appreciate very much the opportunity to meet with you here today, and to share some of our concerns regarding this process. I will, of course, be happy to answer any questions which you, or any members of the Commission might have.

STATE OF UTAH
COMMENTS
TO THE
NUCLEAR REGULATORY COMMISSION

JUNE 16, 1987

The State of Utah thanks the Commission for the opportunity to provide comments on the site selection activities undertaken by the U.S. Department of Energy pursuant to the Nuclear Waste Policy Act of 1982 (the Act). Utah supports the purposes of the Act and has endeavored to participate in the repository site selection process in a manner consistent with those purposes and its obligations under the Act. Utah has a continuing interest in the site selection process, because two sites in southeastern Utah, Davis and Lavender Canyons, have been identified by the Secretary of Energy as potentially acceptable for the first repository. In addition, Davis Canyon has been nominated as suitable for site characterization. While DOE is not currently considering it as a candidate site, Davis Canyon may remain eligible for recommendation as a candidate site under the provisions of the Act. We thus share with the NRC the concern that the siting of the nation's first repository for spent nuclear fuel and high-level radioactive waste be based on a sound, reasoned technical approach to issues of site safety.

Our analysis of the technical issues related to the siting of a repository at the Davis Canyon site has led us to conclude that the site characterization program proposed in the final Environmental Assessment for the site is inadequate for the purposes of meeting the licensing requirements in 10 CFR Part 60. We have likewise concluded that a technically adequate site characterization program for the site cannot be performed consistent with the requirements of the Act and the siting guidelines in 10 CFR Part 960.

We must therefore respectfully disagree with the conclusion on the suitability of the Davis Canyon site expressed in a letter from Commissioner Zech to Senator Bennett Johnston, dated April 13, 1987. In that letter, Commissioner Zech stated that "the NRC staff review of the five FEA's [final Environmental Assessments] did not identify concerns that would call into question the suitability of any of the five sites for site characterization." We assume that the standard of suitability implied in Commissioner Zech's letter is that stated in NRC's standard review plan for the draft EAs and in NRC's comments on the draft and final EAs, which is based primarily on the siting guidelines in 10 CFR Part 960 and on the the licensing requirements in 10 CFR Part 60.

As Commissioner Zech noted in his letter of April 13, the "licensability" of a site must be determined through site characterization. The question of whether a site is suitable for characterization--whether it can be characterized--is therefore inherent in its suitability for licensing. If an issue relating to the safety of a site cannot be resolved through characterization, then a site cannot be licensed and that site is not suitable for characterization.

Both DOE and NRC staff have concluded that groundwater movement is a likely mechanism by which significant amounts of radionuclides could be released to the environment. Groundwater movement thus represents perhaps the most significant safety concern in determining a site's licensability. The suitability of the Davis Canyon site for licensing therefore depends upon an adequate determination of hydrogeologic parameters such as groundwater travel time to the accessible environment and likely paths of groundwater flow. These parameters can only be determined through an adequate characterization

of hydrogeologic conditions in the vicinity of the Davis Canyon site.

During the initial phases of the site screening process, DOE estimated hydrogeologic conditions at the Davis Canyon site by means of simple conceptual models with limited supporting evidence. However, the licensing requirements of 10 CFR Part 60 demand detailed site-specific hydrogeologic data that have been collected with an appropriate drilling and testing program that is based on a valid conceptual model. Such a model must be based on appropriate assumptions regarding potential groundwater flow paths, assumptions based on detailed factual familiarity with conditions at and around the site. As stated by NRC staff in the draft Generic Technical Position on Ground-Water Travel Time, "Data collection must be focused on identifying and quantifying paths so that a high degree of confidence is provided that potentially faster paths have not been overlooked." (emphasis added)

Experts in hydrogeology retained by the State have concluded that a likely path of groundwater flow in the Davis Canyon area is westward, through Canyonlands National Park and into the Colorado River. Indeed, the importance of determining groundwater movement with a high degree of accuracy at and near the site is emphasized by the fact that any radionuclides released from Davis Canyon would likely be released into the Colorado River, the major source of water for the southwestern United States. Thus NRC staff has concluded that a site characterization program sufficient to produce "data critical to the understanding of the hydrology and the geology of the Davis Canyon site" may require studies such as the drilling of groundwater monitoring wells to be conducted within the Park. The State has similarly concluded that the principles of conservatism, also stated in the siting guidelines and the

Generic Technical Position cited above, require that characterization of the Davis Canyon site will likely require drilling within Canyonlands National Park, in order to obtain adequate data regarding groundwater movement in the vicinity of the site.

The drilling activities within Canyonlands National Park that would likely be required in an adequate site characterization program, however, cannot be conducted consistent with the Act and existing federal law. Under the previously designated use of the Park mandated by federal legislation, such activities are precluded by the disqualifying conditions in the siting guidelines. Indeed, DOE has repeatedly acknowledged that it cannot and will not conduct drilling inside Canyonlands National Park to characterize groundwater movement. In addition, in a letter to Ben Rusche dated November 7, 1986, the Department of the Interior has advised DOE that the activities proposed for site characterization would conflict irreconcilably with the previously designated resource-preservation use of Canyonlands National Park. These activities do not even call for drilling in the Park.

If the suitability of the Davis Canyon site for characterization is evaluated against a standard based on the criteria in 10 CFR Part 960 and 10 CFR Part 60, then it is clear that Davis Canyon is not suitable for characterization. In order to ensure that the site meets the safety requirements in 10 CFR Part 60, DOE would likely have to conduct site characterization activities within Canyonlands National Park that would disqualify the site under the siting guidelines, the Act, and federal law governing the use of national parks. The State of Utah therefore urges the Commission to reexamine its position on the suitability of the Davis Canyon site for characterization, in light of the

impacts that an adequate site characterization program would likely impose on Canyonlands National Park.

We are continuing to study this and other issues of concern regarding the Davis Canyon site's suitability for characterization, and we would be happy to provide you with further information. We look forward to working closely with you and your staff in addressing this and other matters related to DOE's site selection activities conducted under the Act.

STATEMENT OF
NED R. MCWHERTER
GOVERNOR OF TENNESSEE

Presented to the
United States Nuclear Regulatory Commission

Washington, DC

June 16, 1987

The state of Tennessee rejects the proposal to develop a monitored retrievable storage facility at Oak Ridge, Tennessee. This is the position of both the Governor and the General Assembly. Tennessee has rejected the MRS proposal because the DOE has failed to demonstrate a need for this expensive project. The DOE proposal is not a viable solution to the problem of isolating nuclear waste from the human environment. Rather, it is a temporary solution inappropriate for waste materials that will remain dangerously radioactive for 10,000 years.

My "notice of disapproval" of the siting of an MRS in Tennessee (attached) was delivered to the Congress on May 28, 1987. The notice of disapproval of the General Assembly was submitted along with mine. These notices were submitted at this time out of an extreme abundance of caution given the significant legal uncertainty as to when such notice was timely. Our efforts to resolve this issue in federal court led to the conclusion that it was ultimately up to the Congress to determine the timeliness of any "notice of disapproval" which is issued.

The Nuclear Waste Policy Act provided the states with certain rights and with a chance for participation in

structuring a national system for the final disposal of spent nuclear fuel. Tennessee has sought to protect and to exercise its rights under this law. Protecting our procedural rights has been a difficult task, due largely to the ambiguity of the language which was added to the Act to require a study of monitored retrievable storage. Nevertheless, Tennessee has participated by conducting a rigorous analysis of the MRS proposal. We have taken a constructive stance by proposing ways to improve the nuclear waste management system. We believe that a better system can be devised; one which results in less risk to the public and lower cost.

My comments address succinctly the perceived need for the MRS proposal, the proposal's cost, and the important ethical concerns in postponing the ultimate solution to this problem for another generation.

MRS IS NOT NEEDED

Much of the debate regarding the MRS proposal has focused upon the desired location of the facility. To some extent, the emotional atmosphere in which this debate has occurred has distracted attention from the more important question of whether the MRS is needed to ensure the success of the nuclear waste program. Studies undertaken in Tennessee and by the General Accounting Office in Washington raise serious questions about the prudence of this project.

The Tennessee studies indicate that the rod consolidation and storage functions proposed for the MRS can be accomplished effectively at the individual reactor sites. The DOE could encourage this alternative with two initiatives. The first would provide utilities with credits for fuel consolidation. The second would make available to utilities dual purpose casks suitable for storage at the reactors and adaptable for later transportation directly to the permanent geological repository.

The case for pursuing an alternative for on-site storage is strengthened by independent projections of the amount of spent fuel which nuclear utilities will generate. In fact, DOE recently adopted a number of the waste projection assumptions which the Tennessee study team used in 1985. Two years ago, DOE projections for spent fuel for the year 2000 were 20% higher than the Tennessee study. Today the difference is only 2 percent.

As waste volume projections drop, so do claims of avoided reactor storage costs attributable to MRS. DOE has testified that these savings would amount to \$150 to \$450 million assuming the first repository was developed on time. These anticipated savings, however, were based upon earlier waste volume projections that have since been discounted. You should be aware that the actual cost savings likely will not exceed \$100 million.

Substantially lower projections for spent fuel represent an extremely important issue in the debate over whether there exists a "crisis" of accumulated nuclear waste at our reactors. A number of reactors probably will decide to consolidate fuel rods at their sites to conserve available storage space. For some, this decision will come well before 1998, the most optimistic date for start-up of the first repository and the latest date projected for beginning MRS operations. Such early initiatives by the utilities are consistent with the DOE assumption that consolidated fuel is the desired waste form for repository emplacement. Congress should seek to encourage such beneficial actions by the utilities.

In recent years utilities and private support companies have been developing technology to consolidate fuel rods under water in the reactor storage pools. Some dry consolidation concepts also have been advanced. Several rod consolidation demonstrations have taken place. Others are planned by private

firms anxious to prove that the process can be done safely. When the consolidated fuel is placed back into existing storage pools, unit costs will be lower than for MRS fuel handling and storage.

For some reactors where further pool storage may not be appropriate, the fuel, either consolidated or not, can be kept at the reactor site in dry storage casks. The technology for such casks is nearing maturity. Such a cask already is licensed for use in West Germany. American utilities and the NRC are moving toward general licensing of dry storage casks at reactors without additional site-specific approvals.

Taken together, the advancing technologies in reactor consolidation and storage and diminished projections for the volume of spent fuel which will be generated suggest strongly that the primary functions for which MRS was conceived might well be handled routinely at reactors by the time an MRS could become operational. The motivation for such a policy would be nothing more than sound management by the utilities. With these options available to the utilities, the need for a temporary waste repository is no longer justifiable on grounds of cost or safety.

The task now should be to reinforce and reward the steps which have already been made toward sound management of America's nuclear waste. DOE could begin by developing a credit

system for fuel consolidated at the reactors. Such a system of credits would recognize the benefits to the waste management system that result from the use of fewer casks and fewer shipments through the states. With this incentive, technology refinement for at-reactor consolidation could be moved forward at a quicker pace in response to DOE's efforts to organize and fund demonstrations.

DOE should accompany these efforts with a closer examination of cask designs that could serve both reactor storage and transportation functions. Such casks would reduce fuel handling and worker exposure. An appropriate family of dual purpose casks should be standardized by DOE for competitive manufacture.

In addition, DOE should pursue plans to move more of the spent fuel by rail than is currently proposed. The benefits of such a proposal would be substantial. With large rail casks fewer shipments would be necessary and costs and radiation exposure to the public could be reduced. To maximize use of this mode, DOE should become actively involved with the utilities in upgrading the cask handling and shipping capabilities of some of the reactors. DOE could help to coordinate shipping campaigns using dedicated trains. The non-standard shipping capabilities of the reactors should not be allowed to stand as a major constraint to creating an optimal waste management system for the nation. Tennessee's studies indicate that such improvements could reduce the number of

cash-miles of shipping through the states down from 1.4 million annually with MRS, to 1.0 million with NO MRS and an improved transport plan.

MRS COSTS OVERSHADOW THE BENEFITS

Determining the cost of MRS to the nation and to Tennessee has been extremely difficult. Life cycle system cost increases attributable to MRS climbed from \$2.0 billion to \$2.6 billion between December 1985 and April 1986. As the General Accounting Office has revealed, even the latter figure did not include a lengthy list of expensive items. One such item, likely compensation to the impacted state and community, could easily reach \$1 billion.

Apart from costs associated with the MRS construction, operating cost estimates contained in the proposal recently sent to Congress have been reduced dramatically, and warrant critical examination. Based upon highly questionable assumptions, estimates of total system life cycle cost increases due to MRS have been recently reduced from \$2.6 to \$1.6 billion. The billion dollar reduction received insufficient documentation in the proposal, was not explained prior to the proposal being sent to Congress and should, therefore, be highly suspect.

The projected economic benefits appear to fall far short of justifying the enormous cost of the MRS. The most favorable scenario of benefits, which includes a repository in Washington, could produce only \$650 million. Benefits ratios for all other scenarios are far lower. The question is whether \$3 billion should be appropriated for an MRS proposal of dubious economic benefit. An issue of this magnitude should be resolved on the basis of sound data that is not subject to whims of arbitrary change.

THE INTENT OF THE NUCLEAR WASTE POLICY ACT

We understand that the primary mission of the commission is to protect the public health and assure the safety of nuclear facilities (including nuclear waste facilities) through licensing and oversight. In addition, we urge the NRC to take a hard look at the need for this project and the costs involved. There should be an assessment of the underlying congressional purpose of the Nuclear Waste Policy Act. The past two years have been characterized by an unnecessary sense of urgency regarding the development of an MRS. DOE's insistence in late 1985 that the proposal be acted upon immediately by the Congress is evidence of this generated sense of urgency. The MRS proposal was expedited at that time despite requests by Tennessee officials for adequate time to allow citizens and the state review team to study the proposal and develop

comprehensive comments to be meaningfully incorporated into the proposal to Congress. Only litigation initiated by the state's Attorney General slowed the process temporarily. Yet almost two years after the litigation was initiated, the state's questions and concerns remain.

Other recent actions have served to undermine the congressional purpose of the Nuclear Waste Policy Act. The proposed five-year "extension" of the date for a first repository, and the proposed "postponement" of site-specific work on a second repository have created unwarranted pressure to proceed quickly with the MRS project. Recent emphasis on an unauthorized MRS and the proposed schedule "extension" to develop the authorized portions of the system constitute a distortion of the intent of the Nuclear Waste Policy Act.

A long-term solution for nuclear waste is an issue of the highest priority. The Congress recognized this when it enacted the Nuclear Waste Policy Act. The fundamental principle was then, and still should be, that solutions for the problem should not be deferred to another generation. At issue today is whether the proposal to store nuclear waste in a surface facility would serve only to delay final isolation of the waste from the human environment.

CONCLUSION

The state of Tennessee is deeply concerned about events of the past two years regarding implementation of the Nuclear Waste Policy Act. During this period there has been an ominous drift away from the Act's original intent, along with a false sense of urgency about the need for a temporary waste storage facility. This change is evident in the recently proposed Mission Plan Amendments which move MRS to the forefront to receive spent fuel at the same time a permanent solution is delayed. This DOE proposal is accompanied by statements from some utilities and some nuclear industry representatives calling for "unrestricted use" of the MRS. They seek to drop the schedule linkage to repository development proposed by DOE and call for lifting the cap on MRS storage capacity. Such actions point toward a mind-set that, in effect, would accept a "temporary" solution to a serious national problem with environmental implications for the next 10,000 years. The question is whether we are prepared to take a stand now and reject the notion that we can pass this problem on to our children and grandchildren. Put simply, Tennessee wants no part of a de facto above-ground repository.

The people of our state believe that the shortcomings of this proposal are not limited to the practical considerations of safety, cost, and technological feasibility. They also include issues that reach to the heart of the relationship between the states and the federal government. After two years of examining

the proposal, the people of Tennessee and our state government are unconvinced that the proposed MRS facility is either economically or environmentally sound. Moreover, we do not believe that the process of designing and locating the facility has been conducted in good faith. We think the Congress intended that a potential MRS host state would have the same procedural rights as the states which are potential candidates for hosting a permanent repository site. Tennessee has not been afforded these rights.

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-did to bcc
nb

SUMMARY OF 6/16 OCM MTG

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OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

MEMORANDUM FOR: Victor Stello, Jr.
Executive Director for Operations

FROM: Hugh L. Thompson, Jr., Director
Office of Nuclear Material Safety and Safeguards

SUBJECT: SUMMARY OF COMMISSION MEETING WITH TRIBES/STATES IN
HLW PROGRAM, 6/16/87

DATE: JUN 22 1987

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