

PRESENTATION BY DWM, NMSS, NRC
BEFORE THE DOE ADVISORY PANEL ON ALTERNATIVE MEANS OF
FINANCING AND MANAGING RADIOACTIVE WASTE FACILITIES
FEBRUARY 22, 1984

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SUMMARY

THE PRESENTATION BY THE DIVISION OF WASTE MANAGEMENT
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
U. S. NUCLEAR REGULATORY COMMISSION
BEFORE THE
DEPARTMENT OF ENERGY ADVISORY PANEL ON ALTERNATIVE MEANS OF
FINANCING AND MANAGING RADIOACTIVE WASTE FACILITIES
FEBRUARY 22, 1984

DAVIS PRESENTATION

INTRODUCTION

I am pleased to be here today to describe NRC's licensing process as it will apply to programs of the Department of Energy implementing the Nuclear Waste Policy Act of 1983. It is important that you consider licensing requirements in examining alternatives for managing and financing DOE's programs.

With me to help in this presentation are Mr. Robert Browning, Director of our Division of Waste Management; Mr. Hubert Miller, Chief of the Repository Projects Branch; and Mr. William Olmstead who is Director and Chief Counsel of the Regulations Division in the NRC staff's legal office.

Organization

I would like to begin with a brief description of the NRC organization. [Brief presentation on overall NRC and NMSS organization and responsibilities, particularly as they relate to Waste Act implementation.

- ° Vugraph 2 - Commission (3268)

- ° Vugraph 3 - NMSS (282)

- ° Vugraph 4 - Responsibilities]

Our presentation today will focus mainly on licensing of the repository, which is, of course, the principal program being carried out under the Waste Act. Before asking Bob Browning and Hub Miller to describe the repository licensing process in some detail, I would like to make a few general remarks about the

nature of this process and the reasons for it. I would also like to briefly review the status of NRC activities dealing with other programs under Act.

General Remarks on Repository

The licensing process is rigorous and public. It is essential that it be that way since a necessary part of the solution to the problem of safely disposing of high level waste is obtaining public confidence that the disposal methods are indeed safe. There exists today public concern and uncertainty about how these high level radioactive wastes will be disposed of safely. Also, while it is generally agreed that there are no technological barriers to safe disposal, characterizing potential sites and developing specific designs will require answering many tough technical issues. The adjudicatory licensing process provides the mechanism for all interested and affected parties -- States, Tribes, interest groups, other Federal agencies, the technical community and private individuals -- to be directly involved in the decision making process. Not only must we be technically and scientifically correct, we must also be able to demonstrate this correctness in an open forum. Key events in the NRC licensing process are adjudicatory hearings which provide this forum.

While the licensing process is demanding, if its requirements are fully understood from the beginning and accounted for in planning of the program,

there is a basis to expect that it can be completed in a reasonably orderly and predictable manner. The Waste Policy Act and NRC procedural regulations (10CFR60), which were issued in February of 1981, provide a detailed description of licensing process requirements. The regulations which set the overall technical performance requirements for the program are virtually complete. Specifically, NRC technical criteria were issued in final regulations on June 21, 1983, and EPA is expected to issue its overall repository system performance standards within a few months. (The EPA standards have been widely available in draft form for several years to help guide DOE's program.)

In addition to the describing the formal licensing process itself, Mr. Browning will describe the unique prelicensing consultation and guidance process that has been set in motion for this first-of-a-kind program. This is to assure that what will be needed to make the license application both complete and of adequate quality is known in specific terms to the DOE on a timely basis. The repository program is exploratory in nature -- one step of investigation builds upon another. As a result, a major part of the prelicensing guidance process involves continuing, close review of DOE's site characterization activities by NRC staff, to promote the earliest possible identification of potential licensing issues as investigations proceed. The sooner issues are identified at a site or in DOE's program for investigating a site, the less disruptive it

is to address them. This continuing review is critical to achieving an important commission policy--which is that "in the absence of unresolved safety concerns, the NRC regulatory program will not delay implementation of DOE's program".

Review of Other Programs

The NWPA assigns responsibilities to NRC in addition to licensing of a high level waste repository. The NRC must license any Monitored Retrievable Storage (MRS) facility which the DOE may construct. DOE's transportation of spent fuel is made subject to licensing and regulation as provided under existing law for transportation of commercial spent fuel. The NRC must license any new interim spent fuel storage facilities built by DOE and review the safety of any existing facilities used for that purpose.

Monitored Retrievable Storage - For MRS the NRC staff has initiated modification of its existing rule (10 CFR Part 72) to provide the licensing framework. Part 72 presently covers only the licensing of interim spent fuel storage (outside of reactor basins), but the technical criteria of Part 72 are considered generally applicable to long-term storage of spent fuel and solidified high-level waste. Thus, no major changes of Part 72 are considered necessary. The modification of Part 72 will reflect the general criteria for

MRS specified in NWPA, provide for storage of solidified high-level waste as well as spent fuel, recognize the long-term nature of MRS, and procedurally provide for DOE as the sole licensee of MRS. In the interim we are working with the DOE and have advised them that they should use the general technical criteria of Part 72 as it proceeds with development of its MRS proposal. The present schedule calls for issuance of a proposed revision of the regulation in the summer of 1984 and final revision about the same time that DOE is required to submit the MRS proposal to Congress--June 1, 1985.

Interim Spent Fuel Storage - Any licensing of interim spent fuel storage will be conducted under the existing 10 CFR Part 72.

Transportation - A procedural Agreement concerning planning assumptions and procedures that the NRC and the DOE will observe in connection with the development of transportation packaging under the provisions of the Nuclear Waste Policy Act of 1982 was signed by the NRC and DOE in November, 1983. The agreement addresses policy assumptions and consultation procedures for the development and certification of packaging for transportation and establishes a framework for coordination for transportation related activities.

Summary Remark on Quality Assurance

As a last remark, may I mention one of the most important lessons learned from the recent reactor licensing experience that applies to any of the programs under the Waste Act. The lesson is that the kind of meticulous attention to detail, and thorough documentation of design development and data gathering activities -- which can only be assured by effective quality assurance programs -- is essential. You will no doubt want to make the need for an effective quality assurance program a point of special consideration as you make your recommendations on alternative means for managing and financing the waste program.

BROWNING PRESENTATION

NRC LICENSING AUTHORITY

In addition to the Nuclear Waste Policy Act, there are several statutes which are relevant to NRC authorities and responsibilities for licensing a repository. The NRC authority to license the repositories comes from the Energy Reorganization Act of 1974. The Energy Reorganization Act of 1974 separated the functions of the Atomic Energy Commission between two newly created agencies--namely, the Nuclear Regulatory Commission and the predecessor of the Department of Energy. The DOE was given developmental and promotional functions while the Nuclear Regulatory Commission was given the licensing and regulatory functions. In general, the Department of Energy was not subject to NRC licensing for its projects. However, there were exceptions, one of those being high-level radioactive waste repositories.

The Waste Policy Act confirmed the NRC's licensing responsibility. Provisions of the NWPA for licensing closely follow those which the NRC had developed and promulgated as part of its regulations issued prior to the Act, specifically 10CFR60 procedural rules which were promulgated in February of 1981.

The NRC also has statutory responsibilities under the National Environmental Policy Act of 1969 (NEPA) which are relevant to the high-level waste repository licensing process. An important point to remember is that the NWPA modified these NEPA responsibilities by directing NRC to adopt, to the extent practicable, DOE's environmental impact statement prepared in connection with final site selection and licensing instead of preparing its own separate impact statement for licensing action. In any event, we have independent responsibilities under NEPA.

NRC REGULATIONS

Over the past several years the NRC has promulgated detailed regulations which apply to licensing of the high-level waste repositories. One part of the regulation prescribes specific procedures which are to be followed in repository licensing and the other specifies technical criteria which must be met. As I mentioned, the final procedural rule was issued in February 1981. (46 FR 13971). Final technical criteria were issued on June 21, 1983. (48 FR 28194).

To conform to the Waste Policy Act and to incorporate results of experience to date, supplements or changes to the rule are forthcoming. These include amendments to the procedural rule and amended criteria related to the disposal

of waste in unsaturated media (the rule was developed principally to address disposal in saturated media).

LICENSING PROCESS

I would like now to describe the licensing process in some detail as it is specified in our regulations and the Waste Act. Licensing will occur in a multi-step process as shown on the chart (Vugraph 5). This multi-step approach was taken by the Commission recognizing the exploratory nature of the program where additional information will be gained as DOE proceeds from one step to the next in repository development.

The key step in this process is the Commission's authorization of the DOE to start construction of the repository. Construction of the repository will constitute a major commitment to a particular site. At this time, therefore, there must be a demonstrable, high degree of confidence that the proposed site and design will protect public health and safety and the environment. There can be no known safety issues which have not been thoroughly addressed at the time repository construction starts. Later licensing steps -- granting of a license to operate the repository, and amendments of the license to permit permanent closure and final license termination -- are confirmatory in nature. That is, NRC will review the additional information and experience gathered during construction and operation to verify that conditions, which are important to safety and upon which construction authorization was predicated, still exist.

The regulations require that before submitting an application for construction authorization the DOE performs extensive characterization. This is necessary to assure hard facts are available to support the kind of safety determinations required before firm commitments can reasonably be made to one site. The site characterization stage is legally viewed as an informal review process. The NRC regulation and NWPA require that at least three sites be characterized in detail. These investigations will include field tests of geology, hydrology, and other safety related properties in boreholes drilled from the surface; laboratory tests; and exploratory shafts to the proposed depth of the repository where DOE will conduct large scale tests. At the beginning of this stage DOE will submit, and NRC will review, Site Characterization Plans as required by NRC rule and the Act. Other parties, e.g., States and Indian Tribes, of course, will also review and comment on the site characterization plans. I will discuss this review process in more detail later.

[On strong advice from mining companies and experts, the Commission decided that underground testing is essential for testing rock strength and groundwater conditions on a representative scale. This testing will be decisive in predicting repository performance. Only limited statements can be made about underground conditions critical to site-suitability and design from surface boreholes.]

I would like now to focus on the construction authorization proceedings. The next vugraph (Vugraph 6) shows in graphic form the hearing and decision process. The hearing is conducted by an administrative board which will be empaneled by the Commission after receipt and acceptance of the licensing application.

Parties to the proceeding will include, in addition to the DOE and NRC staff, others who can show that their interests are potentially affected by the proposed repository in accordance with NRC's administrative procedures (10 CFR Part 2). In the proceedings, DOE has the burden of proof. In their license application, therefore, DOE must present analyses with supporting data and documents which demonstrating that technical criteria in our regulations will be met.

[The next chart, vugraph 7, shows stages in the NRC review.] Before the hearing process can begin, the NRC staff must complete a critical review of the information submitted by DOE and perform independent [calculations and] assessments using available data to determine if the DOE case can be sustained. A point to emphasize here about the staff's review is that it will include extensive evaluation of the documentation supporting the application to assure that data and information collected and used in DOE's assessments are reliable. Recent experience in the reactor plant licensing area has shown that without

rigorous quality assurance programs which provide the needed pedigree for such information -- for example, certified records on methods and procedures used in collecting data as well as the data themselves -- the information cannot be used or is of limited value in licensing evaluations.

In its review, the staff will also evaluate DOE's Environmental Impact Statement on its chosen site, determine the extent to which NRC can adopt it as permitted by the Waste Act, and prepare any necessary supplemental analyses.

The chart [Vugraph 7] shows the projected schedule for the licensing review and hearing process. We expect it will take about 15 months for the staff to complete and document its review and to make recommendations to the licensing board.

After this, the staff and DOE can expect to undergo intensive examination by intervenors in the licensing process. The formal hearing process is expected to take at least 15 months. DOE and NRC will first undergo discovery and respond to the interrogatories from parties on both sides of the licensing question. Ultimately NRC and DOE will undergo thorough cross-examination with respect to their positions by the same well-prepared parties during an evidentiary hearing before the licensing board.

After the licensing board makes its findings and before construction can be authorized, the Commission, by its regulations, will review the record.

Estimates of the time needed for each of the steps in the licensing review and hearing process are based upon reactor licensing experience and two very important assumptions:

1. That the license application is complete and of demonstrably adequate quality, and
2. That there will be cooperative and effective prelicensing interaction between DOE and NRC to establish in a timely manner what specifically will be needed in the license application.

I will address this more in a moment.

NRC TECHNICAL REQUIREMENTS

First, let me say a few words about the technical criteria contained in our regulations for repositories. The regulations are based upon a multi-barrier approach to waste isolation where both engineered and natural barriers contribute to waste isolation. [Vugraph 8] Given the high stakes involved in

safely solving the high-level waste disposal issue in a timely manner, it was the Commission's judgment that technical criteria which assure an efficient licensing process were necessary. The Commission was concerned that uncertainties inherent in characterizing geologic systems and predicting their behavior over long time frames would result in a protracted hearing process unless some provision was made to compensate by the use of engineered barriers. There are long lead times associated with the waste package development program. The "multi-barrier" approach taken in the regulation helps to assure that an engineered barrier system design will be well enough defined at the time of licensing to assure that licensing proceedings can come to closure in a reasonable time.

In the "multi-barrier" approach, an engineered barrier system is required to compensate for uncertainties in predicting the performance of the geology especially during the period of high radioactivity and heat (i.e., about 300-1,000 years). Similarly, because the performance of the engineered barrier system is also subject to uncertainty, the geology must be able to contribute significantly to isolation on its own merits. [I would note here that the Nuclear Waste Policy Act also explicitly requires that the multiple barrier approach be taken. [Section 121(b)(B)]]

The principal features of the technical criteria setting forth these performance objectives are as follows. First, there is an overall performance objective that specifies an allowable limit for releases of radioactivity to the accessible environment. EPA's general environmental standard for releases of radioactivity from a repository is used as this overall performance objective. Second, there are specific numerical criteria for major barriers to the release of radioactivity. [Vugraph 9] These criteria establish a minimum lifetime for waste packages, a maximum release rate from the engineered barrier system, once the waste packages begin to fail, and a minimum groundwater travel time to the accessible environment. Third, there are express provisions which give the flexibility to modify the numerical criteria if DOE can make a case that this would be acceptable. For example, the requirements on waste package lifetime are expressed as a range, where DOE must propose and defend a specific value based upon site specific considerations such as thermal characteristics of the waste and properties of the host rock. A minimum lifetime of 300 years is required but the Commission will not require more than 1,000 years. In addition to the numerical criteria, the regulations specify qualitative siting and design criteria that must be explicitly addressed by DOE. [Vugraph 9]

PRELICENSING AND CONSULTATION PROCESS

It should be obvious that it would be costly and disruptive if NRC were to review information gathered by DOE for the first time when a formal license application is submitted and then find some significant fault with it. The lead time associated with many of the repository design development and data-gathering activities is very long. For example, it will take at least several years to complete testing in underground facilities to support licensing decisions. Consultation between NRC and DOE must start early in the planning of DOE's site investigation and engineering development programs to help assure that the programs are properly focused.

Variety of Consultation Forms -- SCA is Principal Mechanism

Prelicensing consultation and guidance will occur in a variety of forms. [Vugraph 10] This is necessary given the wide variety of technical issues involved, the many levels of detail that are of concern, and the exploratory nature of site investigations. The principal mechanism for this consultation, as provided for in the Waste Act and NRC regulation, is DOE's submission of a Site Characterization Plan to the NRC and other interested and affected parties such as States and Indian Tribes. The NRC staff will comment on this plan to the DOE through a document which will be made widely available to the public, a

so-called Site Characterization Analysis. The Site Characterization Plans are to comprehensively identify the potential licensing issues that must be addressed at each site and to present specific plans for resolving these issues. Through our analysis of these Site Characterization Plans, NRC staff will be giving specific guidance to DOE. Also, to assure that the process is capable of identifying and dealing with new issues as investigations progress, NRC staff will analyze and comment on DOE's semi-annual reports that are required by the Waste Act.

Before the Nuclear Waste Policy Act was passed, in accordance with our regulations, the DOE submitted to us a Site Characterization Report for the Hanford site. This report had basically the same scope and purpose as the site characterization now required by the NWPA. In our Analysis of this report we raised a number of important questions about the direction of the planned characterization activities. After receiving our comments and on the basis of subsequent interactions, DOE modified a major part of its site investigation program at the Hanford site. I think this case is illustrative of the kind of constructive dialectic you can expect to see in prelicensing consultations.

Interactive Not Prescriptive Process

As I described earlier, the Commission elected not to take a highly prescriptive approach to regulations for the repository. For this reason, guidance on specific licensing information needs is being developed through an interactive process.

This chart [Vugraph 11] shows the amount of interaction that has occurred over the past several years at each of the DOE sites. These meetings and site visits enable NRC to begin its review of the large amount of data collected to date and presently being collected and to consult on data interpretations and licensing issues which arise from them. Discussions are also held on DOE's plans for further data gathering activities and, where possible, agreements are reached at the staff level on what will be necessary and sufficient for resolving issues. Such meetings also assure DOE has prompt access to NRC for discussions and explanations relative to the intent, meaning and purpose of NRC comments and guidance.

Critical Reviews of DOE Reports

Critical reviews are performed on a continuing basis by the NRC staff of selected important DOE reports, planning documents and data gathering

procedures. The question asked by the staff in reviewing these documents is whether information being generated will be both necessary and sufficient for licensing purposes. These reviews are documented and provided to DOE -- they constitute another guidance mechanism. It is in this context that NRC staff will review the Environmental Assessments to be issued by DOE in connection with its site screening decisions.

Additional Rulemaking on Selected Issues

The results of the informal consultations between the NRC staff and DOE are not necessarily binding upon the Licensing Board or Commission in the actual licensing case. For this reason, we intend to pursue additional rulemaking on selected, important potential licensing issues as such issues reach staff resolution based on information from ongoing investigations. This will help assure that regulation stability is provided to the prelicensing and licensing process and permit closing out issues as site characterization proceeds. Issues could not be raised again in the formal licensing proceedings.

GENERAL FEATURES OF PRE-LICENSING PROCESS

Openness

While the prelicensing consultation and guidance phase is not in the strict legal sense a formal part of the licensing process, we have taken steps to make it an open one. [Vugraph 12] To establish the guiding principles for interactions between the NRC and DOE on site investigations and potential licensing issues, a Procedural Agreement was developed and signed by the two agencies in June of 1983. By this agreement, technical meetings between the agencies are open to the public as observers. Affected states and Indian tribes are given special notice and their representatives have been attending these meetings. We are now working out ways to make it easy for the public to find out about each meeting, such as by providing toll free phone information services. All meetings are documented and these records, along with reports and other correspondence between agencies, are placed in public rooms. Documents such as our Site Characterization Analyses and guidance documents prepared on our own initiative are noticed in the Federal Register and made available upon request.

With the amount of close interaction between NRC and DOE that is occurring, questions have been raised about how NRC staff will keep its independence. In addition to the sensitivity the staff has for maintaining independence of view, the openness of the process and the care with which technical interactions are being documented helps assure that this occurs. [Also, I might add that the programs of independent research being conducted by the NRC into selected high-level waste issues to independently confirm measurements made by the DOE and, in general, buttress our technical positions, further assures independence.]

Immediate Access to Data -- Continuing NRC Review

Current information being generated from site investigations must be reviewed on a reasonably continuous basis by the NRC staff. This is the key to raising issues at earliest time possible. Therefore, the Interagency Agreement requires that data being collected by the DOE be made available to NRC as soon as practicable after it is collected. To facilitate the exchange of information, the agreement also provides for the stationing of NRC representatives on-site. In fact, we now have senior technical representatives reporting to me, which are located in Hanford, Washington; Las Vegas; and

Columbus, Ohio, where DOE has centered its BWIP, NTS and Salt programs respectively.

In addition to being needed for NRC to do its job in a timely manner, providing prompt access to data being generated is needed to give the public and other parties confidence that the program is being operated in an open manner, without the appearance of bias or selective use of the data. We believe this is also consistent with the thrust of the Nuclear Waste Policy Act which, through such mechanisms as consultation and cooperation agreements with States and Tribes, calls for openness with all potentially affected parties.

CURRENT STATUS AND RECOMMENDATIONS

Much progress has already been made, but I would like to make some recommendations to facilitate future progress. [Vugraph 13]

Tentative System Performance Requirements Must be Established by DOE

There is one licensing related issue that has been raised by the NRC staff over the past year that is very important to schedule and overall program management. It is that, as soon as possible, DOE must establish the intended performance requirements for repository system components on a site specific basis. As I indicated earlier, within certain limitations, our regulations give DOE flexibility on a site-by-site basis, to propose specifically what level of performance is required for the various natural and engineered components of the repository system to meet overall safety standards with a high degree of confidence. We believe it is essential that DOE make prompt decisions on these intended component performance requirements. Tentative decisions on performance requirements are needed to provide focus to the repository investigation programs. Without this focus, the programs may not provide an adequate or timely basis for DOE decisions or for NRC reviews. Also, NRC's ability to give timely guidance to DOE on licensing information needs may be hindered and, in some cases, made impossible.

A consequence of not having such component requirements established can be illustrated by considering uncertainties that exist now about schedules for completion of site characterization. A number of studies have been made by NRC, the USGS, and others in the technical community, of the specific types, scale, and duration of testing needed to address potential licensing issues in underground facilities at each site. Construction of exploratory shafts and underground testing will almost certainly be on critical path. The USGS has estimated that this testing could take up to ten years. Other estimates are also substantially longer than the 8 to 27 months estimated in the draft DOE Mission Plan. The area of greatest uncertainty centers on the time it will take to address thermal effects that the heat generated by emplaced waste will have on host rock and groundwater. (Temperatures in the near vicinity of the waste will rise to more than 200° C.)

Resolution of this question is largely dependent on DOE's establishing site specific design performance requirements. Until DOE specifies what credit they will try to take for the host rock formation in waste isolation, it is not possible to say how accurately the thermal effects on nearby rock must be known and, in turn, what scale and duration of testing is required. Also, DOE can reduce or eliminate uncertainty about testing needed by design measures such as limiting the so-called thermal load placed on the host rock by emplaced waste.

The NRC staff stands ready to consult with DOE on design plans and on the tradeoffs proposed among components of the system to remove uncertainties.

[There is a cost and schedule risk that must be weighed in deciding to put off establishing and committing to specific performance requirements for components of the system. The argument for putting off specification of component performance requirements is that one can wait to see how good the natural barriers of a site prove to be by investigation before committing to engineered barrier designs. However, the lead times for completing detailed design and supporting test programs are very long.

Putting off specifying design requirements might mean that some of the cost of these test programs could be saved, if sites turn out unarguably to provide more than enough isolation capability. If this does not turn out to be the case -- if there are still uncertainties -- there is an increased likelihood of missed schedules and higher costs. Providing a redundancy in design of the repository system to remove technical and programmatic uncertainties may, if viewed from a short-term perspective, appear to be quite costly and unnecessary. However, these steps are, we believe, essential to assure that cost over the long term are reasonable and that the program can proceed in a reasonably predictable way.]

DOE Must Put in Place a Formal Quality Assurance Program Right Away
or Risk Doing Work Over. DOE Must Make Quality Assurance Programs,
Technical Credibility, and Identifying and Resolving Licensing
Issues an Overriding Consideration in Evaluating Individual
and Contractor Performance

As we have mentioned several times in our presentation, the need for DOE to carry out its programs with the kind of rigor and documentation that can only be assured by formal quality assurance programs is essential. The detail and precise methods of DOE's management and contracting practices are in a large sense not something we as a regulatory agency should be concerned about. However, it is safe to say that unless assuring quality and meeting licensing information needs is an explicit, overriding factor in evaluating individual and contractor performance, the program will not be a success. Meeting schedules must, of course, be a factor to be considered, but in the long run even schedules will not be met unless the requirements of quality assurance and the licensing process are provided for from the outset. The experience of recent reactor licensing cases has clearly shown this.

DOE Needs Technical Capabilities at the Headquarters Level

While the technical issues that present themselves with the geologic repository are highly site specific, many of the tougher ones are faced commonly by all sites. Deciding on strategies and approaches to resolving potential issues requires careful management of resources that are available. We recommend that you seriously consider alternatives for managing the overall program with a strong, inhouse technical staff. Since, ultimately, decisions on resource management must be made at the top, there is a need for top-level managers to have strong technical support. It would make it possible for important, and inherently somewhat arbitrary, programmatic decisions affecting each of the sites (such as defining internal program systems performance requirements) to be made on a timely basis. While there would still be a need for strong interaction with site-specific programs doing the detailed work and actual data generation, we believe it would make for a more efficient and effective interface on generic licensing issues, of which there are quite a few. [List some examples]

Also, such an organization will help satisfy the need to ensure integration of the repository, storage and transportation programs from standpoint of ensuring

one does not fix its problems by making matters worse later. [Cite here the example of shipping containers and engineered package concerns].

SUMMARY

In summary, I think that the Commission and NRC staff have put in place regulations and prelicensing consultation process that give DOE both timely guidance on licensing information needs and flexibility to do its job in an efficient cost-effective manner at the same time that the process is an open and rigorous one to assure public health and safety. I hope you will agree with me that regardless of what type of organization is set up to manage the program it must have quality assurance, openness and technical credibility.

Thank you very much for your attention. Mr. Davis, Mr. Miller, Mr. Olmstead and I will be glad to take any questions you may have.