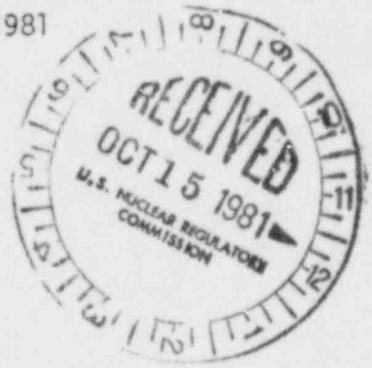
PDR

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 13, 1981



The Honorable Marilyn L. Bouquard, Chairman
Subcommittee on Energy Research and Production
Committee on Science and Technology
United States House of Representatives
Washington, D.C. 20515

Dear Madam Chairman:

In my letter to you dated October 2, 1981, I indicated that the Commission would provide comments on H.R. 1993 and on the draft Bouquard/Lujan comprehensive nuclear waste management legislative proposal by October 14.

Pursuant to that commitment, I am enclosing for the information and use of the Subcommittee comments prepared by the NRC staff on both H.R. 1993 and on the draft Bouquard/Lujan legislative proposal. The Commissioners have not had an opportunity to review fully these comments nor to prepare further views of their own. Accordingly, the Commission or individual Commissioners may wish to supply additional comments at a later time.

Sincerely,

Carlton Kammerer

Carlton Kammerer, Director
Office of Congressional Affairs

Enclosure:
As stated

cc: The Honorable Manuel Lujan

COMMENTS ON MAJOR PROVISIONS OF DRAFT LEGISLATION

SECTION 2 -- DEFINITIONS

Section 2(5): Definition of "disposal," page 3, line 4.

To clarify that emplacement is to take place in a nuclear waste repository, staff suggests that the words "in a nuclear waste repository" be inserted after the word "waste" on line 5.

Section 2(17): Definition of "Test and Evaluation Facility" or "demonstration facility," page 5, line 24.

To assure that the intent of this definition conforms to the capacity limits set forth in Section 10 on test and evaluation facilities, staff recommends that the words "limited-capacity" be deleted and the words "with a capacity for receiving a minimum of forty and a maximum of three hundred full-sized canisters of solidified waste" be inserted after "underground cavity" on line 1 of page 6.

Section 2(18): Definition of "transuranic waste," page 6, line 7.

The words "and with radioactive half-lives greater than five years" should be added at the end of the sentence to assure that waste materials with hazards of such short duration do not have to be disposed of in the same manner as the very long-lived transuranic wastes of most concern.

Section 2(20): Definition of "waste package," page 6, line 14.

To provide some additional latitude and to avoid potential confusion and conflicting interpretations, staff recommends that the definition be amended to conform to the Commission's definition in its 10 CFR Part 60 technical rule. The rule defines waste package as the airtight, watertight, sealed container which includes the waste form in which the waste is stabilized and any ancillary enclosures, including shielding, discrete backfill and overpacks.

SECTION 6 -- SITE CHARACTERIZATION

Section 6(a): In General, page 10, line 24.

To assure that the purpose of site characterization clearly encompasses licensed disposal, the words "for purposes of selecting a site for a licensed repository" should be added after the words "characterization activities" on line 3 of page 11.

Section 6(b): Reviews, page 11, line 9.

Staff notes that the Site Identification Report is to contain much of the information required in the Site Characterization Report under the pre-application review procedures of our 10 CFR Part 60 rule. Both reports would also be required at the same stage of site selection. The Site Identification Report thus could serve as a Site Characterization Report if language were added requiring the identification report also to contain "any other information required by the Commission pursuant to its licensing authority." We would recommend that such language be inserted in paragraph (2)(E) on line 17 of page 12.

Section 6(c): Tests, page 12, line 21.

As written, the Secretary could determine the tests he deems necessary to provide the data required for an application to the Commission without reference to the advisory pre-application review provisions of NRC rules. Such advisory review would help assure both that DOE's activities generate the information NRC needs to evaluate the suitability of the site for geologic disposal, and that they do not compromise the licenseability of the site. We believe that our ability to conduct an expeditious license review would be substantially improved by including some provision for the Commission to advise DOE regarding the selection of tests necessary for a complete license application.

SECTION 7 -- REPOSITORY SITE SELECTION

Section 7(b): Submission of Application, page 14, line 16.

Paragraph (A) on line 23 requires DOE to submit to the Commission a license application for construction and operation of a repository. It would appear, however, that the real intent is to submit an

application for a construction authorization at that stage. We suggest the following change in line 22: "... Section 8, an application for a construction authorization for a repository...." This same change is also required on line 9 of page 15.

On page 15, beginning on line 4, staff is uncertain what Section 7(b)(2) means. If its intent is to remove existing Commission responsibilities under the National Environmental Policy Act in the licensing of geologic disposal, this intent should be clearly stated.

Section 7(c): Licensing Status Report, page 15, line 8.

It is not clear why the Commission would be required to submit a report to Congress on its licensing proceedings at the same time it is to make a final decision on construction authorization.

Section 7(d): Repository Licensing and Construction, page 15, line 21.

While the 24 month deadline for a decision on construction authorization would be extremely difficult, if not impossible, to meet without using the interim licensing provision, we believe the task would be considerably more difficult if the burden were on the Commission alone to keep itself informed, as is provided in the sentence beginning on line 3 of page 16. We believe this sentence should be amended to require the Secretary to keep the Commission fully and currently informed on Department activities, and to conduct any activities the Commission may request to minimize the time needed for application review.

Section 7 (d)(3)(A)(ii) on page 17, line 18, would enable the licensing hearing board to consider only those technical issues affecting construction or operation of the repository. Critical issues affecting decommissioning or long-term post-operational safety could thus go unexamined, even during hearings on license amendments to decommission or terminate the license for the facility. Also, the hearing board could expend appreciable time simply to determine whether the effect of the dispute is "direct." Staff therefore recommends replacing the entire subparagraph with the following language: "(ii) such dispute involves a technical matter affecting the public health and safety of construction, operation, decommissioning, or long-term post-operational

performance of the facility which is the subject of the hearing; and".

Section 7 (d)(7)(A) on line 11 of page 19 appears to require the Secretary to complete construction of the repository regardless of the Commission's decision. Staff strongly recommends amending line 11 to begin with the words: "Subject to Commission authorization of construction, and such terms and conditions as the Commission may require pursuant to the Atomic Energy Act, as amended, ...".

Section 7 (d)(7)(C) presents a similar problem on line 20 of page 19; the Commission may have no choice but to issue a license regardless of our safety findings. Staff strongly urges that this be clarified.

In conversation with Subcommittee staff, NRC staff was unable to ascertain the rule to which subsection (9)(A) is intended to apply on page 20, line 15. Subcommittee staff indicated that the most likely subject is the repository performance standards to be promulgated jointly by NRC and DOE under Section 10(g)(4). If this rule on performance standards is to dispose of all "issues resolved by such rule" for purposes of the Commission's proceedings, as Section 7 (9)(A) provides, the question of deciding what issues the rule has in fact resolved could itself become an additional matter of time-consuming argument.

Under Section 7 (d)(9)(B), in order to make sure that the DOE environmental impact statement is suitable for use by NRC, we would recommend that DOE be required to obtain NRC concurrence on the scope, outline, and the alternatives to be evaluated. Further comments are made in our comments on Section 9.

On Section 7 (d)(11), we would like to note that our ability to meet the requirement to issue our regulations within six months after enactment may not be possible in the absence of the EPA generally applicable environmental standards. If EPA issues its standards soon, we believe we can meet the date. This is discussed further in our comments on Section 9.

SECTION 9 -- GOVERNMENT AGENCY ACTIONS

Section 9(a): General, page 31, line 23.

If the Commission is to be able to conduct expeditious licensing proceedings, it will need a complete license application with adequate supporting information addressing the issues we believe we will have to resolve to meet our licensing criteria. Much of the information developed in the DOE NEPA review would also be required to evaluate the safety aspects of the repository. It would be most helpful, therefore, if paragraph (a)(3) on avoiding duplication of NEPA effort could have a provision in which DOE would agree to examine in its EIS the major issues and alternatives identified by NRC in comments on the scoping of the document. Appropriate language could be added on line 14, page 32.

Section 9(b): Environmental Protection Agency, page 32, line 15.

We are concerned about the current absence of the generally applicable environmental standards from EPA, which EPA has been developing for a number of years. They have not even been issued in draft form for public comment. In their absence, we have been using internal EPA working drafts which have been essentially the same for the past two or three years. If the EPA standards are not issued soon, or they change significantly from their current drafts, it would greatly complicate our ability to meet the six-month deadline for promulgation of our rules as specified in Section 7 (d)(11) of the bill.

SECTION 10 -- RESEARCH AND DEVELOPMENT ON WASTE DISPOSAL

Section 10(b)(2): Operation, page 33, line 14.

Rather than using in situ tests to "develop reliable models," a more accurate description would be "evaluate and improve models".

Section 10(d): Limitations, page 35, line 1.

The staff is pleased at what it believes to be the intent of this provision for NRC authorization before the Test and Evaluation Facility (TEF) can be used for disposal. Since the Commission would also use its authorities under the Atomic Energy Act and the Energy Reorganization Act to make a decision on authorization for disposal,

however, staff suggests that the words "and otherwise applicable law" be added to the end of the sentence on line 3.

Section 10(e): Engineered Barriers, page 35, line 8

The provision under subparagraph (1) for comparability of hazard to uranium ore could be interpreted to require a design life for engineered barriers far in excess of the thousand-year requirement in proposed NRC technical criteria. This in turn could involve the Commission in extended litigation over whether engineered barrier design lives of hundreds of thousands of years can be demonstrated to be achievable for licensing purposes. Staff recommends that this paragraph be deleted after line 9 and amended to read: "The system of engineered barriers and selected geology shall have a design life at least as long as the Commission shall require by rule."

Section 10(g): Nuclear Regulatory Commission Role, page 36, line 11.

The provision under paragraph (g)(4) for a written NRC-DOE understanding for interagency agreement and rulemaking on performance standards appears to cast doubt on the future status of the technical criteria and other performance requirements currently the subject of NRC rule-making. Conversation with Subcommittee staff has confirmed that the performance standards for the waste package and repository design are intended to cover repositories as well as the TEF, and Congressional enactment of an alternative mechanism to resolve interagency differences could be read as a disavowal of the normal rulemaking process for this case. The requirement for an understanding with DOE on peformance standards for the waste package, repository design, and all "major unresolved safety issues" for repository licensing under subparagraph (g)(4) could have far-reaching implications for NRC's relationship with DOE in subsequent licensing proceedings. It could effectively establish DOE as a co-equal in the development of the requirements under which it would subsequently be licensed. If the joint promulgation of standards as provided in this subparagraph is to be the rulemaking to resolve technical issues for purposes of Section 7(d)(9)(A), DOE would also have a major opportunity to determine the issues to be considered off limits in a license proceeding. We cannot support this feature of the bill.

The termination of NRC's consultation and cooperation role in the TEF under subparagraph (g)(5) may prove to be premature. Even if

another site is chosen for the first repository, the TEF site could become a candidate for licensed disposal later if the first site is found unsuitable or is prematurely closed. In addition, there may be a great deal of generic information being developed which would be useful in the evaluation of a repository at another site. This termination provision thus appears to conflict with the requirement in Section 7(d)(1) that the Commission keep itself "fully and currently informed" prior to receiving a license application. We recommend that it be deleted.

Subparagraph (g)(6) appears somewhat ambiguous. Although it provides that all demonstration facilities be built and operated as research and development facilities, which are unlicensed under Section 202 of the Energy Reorganization Act, subparagraph (g)(6) uses the word "demonstration," which does not appear in Section 202, and the subparagraph does not explicitly stipulate that these facilities shall not be licensed. If such exemption from licensure is the Subcommittee's intent, it should be made plain.

Section 11: RESEARCH AND DEVELOPMENT ON SPENT FUEL

Section 11 would direct the Secretary to establish a research and development program for transitional dry storage of commercial spent fuel in Department facilities. Specifically, the Secretary is to identify available space in existing DOE facilities (e.g. reprocessing plant canyons) that can be adapted for safe, dry storage. To provide a variety of development and demonstration experience, the Secretary is directed to identify at least two such facilities if space in these facilities is reasonably adaptable. DOE would then prepare the selected facilities to accommodate at least 100 tonnes of spent fuel initially, with capability for later expansion to not more than 500 tonnes for testing of dry spent fuel storage in galleries.

This provision of the subject bill for development and testing dry storage of spent fuel in galleries in existing DOE facilities is similar to the provisions in HR 7418 introduced last year by then Congressman McCormick. The proposal has been scaled down somewhat since HR 7418 would have required at least two facilities capable of at least 500 tonnes of commercial spent fuel while the present bill would limit the selected facilities to not more than 500 tonnes.

We suggest that Congressional intent on licensing be made explicit and that, if NRC licensing is not required, Congress require DOE to consult with NRC on the design, construction and operation of such facilities since such facilities and/or technology might be subject to licensing at a later time if the testing program is successful.

Section 12: WASTE SOLIDIFICATION AND PACKAGING

The staff applauds the Committee's support over the years for a strong R&D emphasis on engineered barriers. Unfortunately, in the NRC staff's view, the DOE waste management program has not made as much progress (particularly in the waste package area) as we believe is necessary. We would urge some emphasis on increased R&D in this area so that high integrity packages at a reasonable price can be available when needed. The staff recommends that such a feature be built into Section 12.

NRC STAFF COMMENTS
ON
H.R. 1993
THE RADIOACTIVE WASTE RESEARCH,
DEVELOPMENT, AND POLICY ACT

This bill would require the Department of Energy (DOE), in cooperation with the Nuclear Regulatory Commission (NRC) and other federal agencies, to prepare a comprehensive mission plan for the disposal of high-level radioactive wastes (HLW). A detailed process for the implementation of the plan is also provided. NRC finds much to commend in the plan's systematic approach to the identification and resolution of major problems in the national waste management effort. We believe that such an approach should significantly improve the likelihood for solving a number of the institutional and management problems associated with the national high-level waste disposal program.

There are several potential problems in the bill, however. Among the potential problems is a provision for a preliminary license application, and some of the deadlines for Commission action need to be updated. NRC staff is also concerned that the proposed arbitration of state-federal disputes by an independent board could adversely affect the scope and independence of subsequent NRC licensing reviews.

The implementation of the mission plan calls for DOE designation of sites for repositories -- two by 1987, and all remaining sites called for under the plan by 1991. Before DOE can designate a site, however, it must have submitted a "preliminary license application" to NRC and solicited NRC comments on whether DOE should proceed with further consideration of the site for the proposed facility. It is not clear how the "preliminary license application" is related to the pre-application review procedures set forth in our 10 CFR Part 60 licensing rule, nor whether the Commission would have to revise its rule to provide a more formal procedure for a preliminary application.

It is clear, however, that even without additional rulemaking for preliminary applications, the Commission could not meet the proposed deadline of October 1, 1981, for the promulgation of criteria for reviewing applications for intermediate scale and permanent repositories. The portion of 10 CFR Part 60 setting forth technical criteria and performance objectives for licensed geologic disposal was published as a proposed rule last July, and depending on the nature and extent of public

comments, we expect to promulgate the rule in final form sometime next year.

We are concerned about the provisions for an arbitration board to assist the state in obtaining information and resolve its disputes with DOE during the early stages of NRC license reviews. Under the bill, DOE's designation of a site for repository construction would take effect automatically after 30 days unless a state or tribe objects, at which point the bill provides for an "Independent Review and Arbitration Board" composed of Presidential, State Planning Council, and Congressional appointees, the latter from House and Senate Committees with jurisdiction over nuclear waste disposal.

Using its authority to require information from any federal agency and invoking subpoena power if necessary, the Board is to determine whether DOE s site characterization activities, characterization report, environmental impact statement, repository engineering design, designated waste forms, and waste packaging technologies are "adequate," that is, whether they "fully address" those concerns of the state or tribal review board that the Arbitration Board finds significant. If the Arbitration Board finds DOE's designation of a site inadequate for any of the reasons cited in state or tribal objections, the Board must identify what DOE must do to correct the inadequacies. The Board's determination would be final and judicially unreviewable.

These provisions appear to us to be likely to lead to duplicative proceedings on essentially identical issues -- first, evidentiary hearings before the Board, and second, licensing proceedings before the Commission. In each proceeding, the basic question would be the acceptability of the proposed repository in terms of public health and safety and environmental considerations. We believe it would be preferable for adjudicatory proceedings to be conducted exclusively by the NRC. If an independent review by a body composed along the lines described in Section 105 is deemed appropriate, we believe that such review (limited to submission of briefs and oral arguments) should take place after the Commission has made its determinations with respect to issuance of a construction authorization, as provided in 10 CFR Part 60.

We express additional concern about the provisions that determinations of the Board are to be final and not subject to judicial review. This could be construed to mean that such determinations shall be given binding effect by the Commission on principles of collateral estoppel. The Commission cannot accept responsibility for making licensing decisions

unless it has the authority to make independent determinations with respect to matters relevant to those decisions. We doubt that Section 105 was intended to limit the Commission's discretion, but we think that the matter should be clarified.