

DRAFT:bsp
JGDavis
6/3/80

TO: McCormick
FROM: Ahearne

Following the NRC testimony on H.R. 7418, we were asked to provide specific comments on H.R. 7418. As explained in the NRC testimony, our basic comment on H.R. 7418 was lack of inclusion within the Bill of certain procedural elements of the developing national program. Our comments basically bring the process of H.R. 7418 early into the regulatory framework. We believe this will provide for more effective consideration by the NRC of any request to convert a demonstration facility to a full-scale licensed repository.

In examining the Committee Report on H.R. 6627 (which is identical with H.R. 7418, with the exception that H.R. 6627 would exempt high level waste technology-demonstration repositories from NEPA review), we find that there are a number of aspects of the staff report which don't fit well with the developing national waste program. The NRC's high level waste program has been fashioned to provide timely regulation of the waste repositories within the national waste program. A linch-pin of our regulatory program is the selection of the site of the waste repository for consideration for licensing from several characterized alternative sites. It must be clear that under the developing NRC regulation, the conversion of one or all of the demonstration facilities to full scale repositories could not be permitted in the absence of a NEPA process unless the Bill specifically provides for some alternative at the time of conversion from demonstration to full-scale repositories.

In the Committee Report on H.R. 6627, in addition to the siting of the four demonstration facilities (if they are to be converted to full-scale licensed repositories), the following elements are significant among those which may not support converting a demonstration facility to a licensed full-scale repository:

9810210256 800603
PDR COMMS NRCC
CORRESPONDENCE PDR

- Redirection of DOE emphasis from disposal of spent fuel to disposal of reprocessed waste.
- Deemphasis on efforts to identify the geology as a barrier redundant to the engineered barriers with emphasis on engineered barriers.
- Emphasis on the demonstration facilities being used to perform necessary research and development on handling, engineering, space, configurations, and heat dissipation rather than on geologic suitability.
- Emphasis on the demonstration and test of vitrified waste in the near term which may imply deemphasis on research on alternative waste forms.

In examining H.R. 7418, the demonstration period of the four repositories may be considered as an extended effort under the NRC scheme of site characterization to gather the necessary data and information to support a licensing review for a construction permit for a full-scale repository. To lead to the most expeditious licensing review, we believe these demonstration facilities should proceed under the regulatory framework--including other jurisdictional and public input--now being developed by the NRC. We have not envisioned a formal licensing process for site characterization. Rather, the DOE, in response to consultation with NRC, would assure that NRC data and information needs are met. NRC would evaluate and comment upon DOE's site characterization plans. Site characterization could proceed during the demonstration period of the facilities to develop the information needed for consideration for conversion of a demonstration facility to a licensed full-scale repository. In this view, we believe the minimum of 40 canisters of waste at each demonstration facility may be excessive for demonstration purposes and suggest that the demonstration phase be scaled down to the minimum technically needed for the particular demonstration.

We have attached specific suggestions to H.R. 7418 to make the program as described in the Bill more amenable to expeditious licensing considerations. Our comments do not suggest language dealing with the NEPA process but it should be fully understood that NRC supports full NEPA review.

QUESTION FOR THE RECORD

QUESTION:

What is the difference between the small R&D facilities mentioned on page 2 of Davis' testimony and the demonstration facility mentioned in H.R. 7418?

ANSWER:

In the testimony, the phrase "small research and development facilities," intentionally was not quantitative. It was intended to convey the Commission's belief that any unlicensed research and development facility of DOE should be limited to the minimum size technically necessary for the conduct of the research or development. This "size" may vary with the research or development to be undertaken and the NRC believes it is unnecessary and, perhaps, unwise to specify a quantitative value generally applicable to such facilities. The NRC believes that the "smallness" of the activity should demonstrate, on its face, that the purpose of the facility is research and development, not full-scale activity. In the case of H.R. 7418, the NRC did not initially comment on the quantity of waste nor the form of waste to be used in the demonstration since the NRC believed the Bill to have more basic differences from the developing national program.

SPECIFIC STAFF SUGGESTIONS TO H.R. 7418

1. Change Section 2(a)(2) to read as follows:

"Present scientific and technical knowledge is adequate to identify potential repository sites for further investigation. No scientific or technical reason is known that would prevent identifying a site that is suitable for a repository provided that the systems view is utilized rigorously to evaluate the suitability of sites and designs and in minimizing the influences of future human activities."

2. Change Section 2(3) p. 3 line 4, 5 and 6 to read as follows:

"... necessary for the Department to build and operate full-scale high-level radioactive waste repositories pursuant to section 202(3) and (4) of the Energy Reorganization Act of 1974; and"

3. Change Section 3(1) p. 3 (delete lines 20-24) to read as follows:

"... United States. After site screening and prior to site characterization, the Secretary shall select 4 sites for site characterization, deemed suitable for further development into demonstration repositories after having submitted a pre-licensing Site Characterization Report for each prospective technology-demonstration repository to the Director of the Office of Nuclear Material Safety and Safeguards (hereafter referred to as the "Director") of the Nuclear Regulatory Commission (hereafter referred to as the "Commission"). This site characterization report shall include (1) a description of the site(s) to be characterized; (2) a description of the site characterization program including extent of planned excavations, plans for in-situ testing of radioactive and non-radioactive material, investigation activities which may affect the ability of the site to isolate wastes, and provisions to control any adverse, safety-related impacts from site characterization including appropriate quality assurance programs; (3) the criteria used to arrive at candidate areas; (4) the method by which the site(s) was selected for site characterization; (5) identification and location of alternative media and sites on which DOE anticipates submitting subsequent site characterization reports; (6) a description of the decision process by which the site(s) was selected for characterization, including the means used to obtain public and State reviews during selection; and (7) any issues related to the site selection, alternative candidate areas or sites, or design of the geologic repository operation area which the Secretary wishes the Commission staff to review. This site characterization review by the Commission will help insure that the technology-demonstration repositories could be licensed if one or more were deemed suitable for future full-scale licensed repositories. For purposes of minimizing delays in the . . ."

4. Change Section 3(1) p. 4 (delete lines 6-12) to read as follows:

"... involved shall be isolated from the biosphere using a multibarrier approach to waste containment that will consist of both the geological medium and engineered barriers. The Secretary shall develop a program to provide:

(a) a reasonable assurance that the degree of stability exhibited by the geologic environment at present will not significantly decrease over the long term; (b) a reasonable assurance that the site exhibits properties which promote isolation and that their capability to inhibit the migration of radionuclides will not significantly decrease over the long term and (c) a reasonable assurance that the hydrologic and geochemical properties of the host rock and surrounding confining units will provide radionuclide travel times to the accessible environment of at least 1,000 years assuming expected processes and events. The locations of the first two sites shall be identified not later than the end of the second quarter of fiscal year 1982 and the third and fourth sites by the end of fiscal year 1984."

5. Change Section 3(2) p. 5 (delete lines 6-12) to read as follows:

"... and development activities to characterize the geologic media interaction with the engineered barriers required for eventual licensing of a full scale high-level waste repository and to demonstrate the safe disposal of wastes, taking into consideration the necessary handling, engineering, space, configurations, and heat dissipation of such wastes. Each repository shall be designed with a capacity that limits the number of full-size radioactive waste canisters to the "size" required for the specific research and development activity to be performed as presented in the site characterization report pursuant to paragraph (1). These canisters . . ."

6. Change Section 3(3) p. 6 (delete lines 1-4) to read as follows:

"... but not limited to vitrification. The Secretary shall consult with the Commission on the appropriateness of the waste form and overpack canister design pursuant to the site characterization report in paragraph (1). Such barriers shall be design to . . ."

7. Change Section 3(4) p. 6 (delete line 21) to read as follows:

"... to be sited in each State. In addition, the Commission also is encouraged to consult and coordinate with appropriate State officials regarding the site characterization activities pursuant to paragraph (1) of the technology demonstration repositories which are planned to be sited in each State."

8. Change Section 3(5) p. 6 (delete lines 22-25) to read as follows:

"(5) Consistent with existing law, all demonstration facilities authorized in this section shall be constructed and operate as non-licensed research, development, and demonstration facilities. However, with respect to the activities described in this section the Commission, pursuant to regulation or order, may require the Department to provide full and current information, may require the Department to respond to comments and questions, and may make visits

and observations wherever such activities may be conducted, to the extent necessary to identify and assess issues that may be relevant if the technology demonstration repositories are to be converted to licensed full scale repositories in order to exercise its licensing authority under section 202(3) or (4) of the Energy Reorganization Act of 1974; provided that the Commission shall not require a hearing on the record with respect to the exercise of its authority under this section."

9. Add new Section 3(6) at bottom of p. 6:

"The Secretary shall be provided the necessary resources to address the legitimate concerns of the Commission pursuant to paragraphs (1) and (5) in order to assure that a full scale licensed waste repositories will be available at the earliest practicable time."