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MEMORANDUM FOR: Those on Attached List

FROM: Gary Robbins, Project Geologist
High-Level Waste Technical Development Branch
Division of Waste Management

SUBJECT: TRIP REPORT: MEETING OF THE DOE/USGS EARTH SCIENCE
TECHNICAL PLAN (ESTP) WORKING GROUP

Date: Octbber 16 and 17, 1979

Place: ONWI Headquarters, Columbus, Ohio

Purpose: Tom Nicholson, SSSB/OSD, and myself attended the meeting as NRC observers. The purpose of the meeting was to review and revise the latest draft of the ESTP.

Attendees:

- Tom Nicholson, SSB/OSD, NRC
- Gary Robbins, WMHT/NMSS, NRC
- James Duguid, ONWI, Working Group Leader
- Wayne Carbiener, ONWI
- George Evans, BWIP, Rockwell-Hanford
- Cyrus Klingsberg, DOE-HQ
- Robert Schneider, USGS/ Reston
- Scott Sinnock, NTS, Sandia
- Newell Trask, USGS, Reston
- Wendell Weart, WIPP, Sandia
- Robert Wunderlich, DOE, Richland OF-Col.

Background:

The ESTP was conceived in August 1978 as a means to effectively aid in the management of USGS, DOE, and ONWI earth science waste disposal programs. The ESTP Working Group was established on October 6, 1978, to develop the ESTP. The major purposes of the ESTP are: (1) to formally organize individual USGS, DOE, and ONWI research tasks; (2) to show how these tasks address the principal remaining technical questions related to geologic disposal; (3) to identify technical questions that require additional attention; and (4) to identify priorities for future work.

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A draft ESTP was issued for comment in January 1979. The NRC was one of the principal commenters on the draft document. As part of our comments, the NRC staff recommended that the principal agencies in addition to those already involved in the national waste program be represented on the ESTP working group. The NRC was subsequently invited (see letter from S. Meyers to J. Martin, dated July 31, 1979) to attend ESTP working group meetings as observers.

On October 4, 1979, the NRC received a revised working draft of the ESTP which was revised in light of public comments and ESTP subgroup recommendations. The purpose of the meeting of October 16 and 17, 1979, was to revise the working draft.

Major Observations:

1. The anticipated schedule of the ESTP is: completion of a revised draft by November 1 for USGS/DOE review, followed by interagency review for four-six weeks ending December 15, and issuance of the ESTP for public comment on January 30, 1980 with the comment period ending April 1, 1980.
2. The ESTP will be part of a larger National Waste Management Plan (no dates or formulation as of yet).
3. The appendices to the ESTP which describe details of the ONWI, DOE, and USGS research tasks will be attached to the interagency review draft.
4. Costs for projects will be included in the interagency review draft.
5. The working group recognized that some terminology (particularly the use of site characterization) and the licensing process described in the working draft are not consistent with NRC terminology and licensing process. The group decided to delete reference to a licensing process and make the document applicable to any licensing process ultimately decided upon.
6. Several additional questions were introduced into the plan bearing on NRC considerations. These are:
 - (a) Can we evaluate the relative suitability of alternative sites?
 - (b) What quantitative selection criteria can be applied before detailed site characterization?
 - (c) Do we adequately understand confirmatory tests needed at depth?
7. Questions concerning detailed site characterization and in situ investigations were discussed. Issues identified were: the need for assurance that a site is suitable prior to subsurface work, ~~when are tests adequate, are tests confirmatory, and whether tests should be part of the construction~~

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phase. It appeared that there was agreement that the plan should consider subsurface testing in a major section which would be applicable irrespective of when in the licensing process subsurface testing commenced. The group also discussed potential recommendations concerning tests in all relevant geologic media, having generic test facilities and extrapolations of results at one site to another site. It appeared that the plan in consideration of testing at depth would be revised with the assumption that subsurface tests would be required at every potential site.

- 8. Major consideration was given to whether the working draft was a plan. Deficiencies in the working draft were recognized as to: tracking issues from their identification to recommendations for resolution, the need for major reorganization (the group broke up into smaller groups to reorganize and revise portions of the draft); the need to establish priorities, the need to resolve when is an issue adequately resolved, the need to show how the ESTP has influenced the national program, and to more clearly describe recommendations.
- 9. Sections on quality assurance were deleted from the working draft because it was considered to be applicable to the entire program and outside the scope of the ESTP.
- 10. One of the most significant recommendations in the plan is for a national site screening effort to supplement present efforts which are directed at looking for sites on Government land and looking for sites in salt. The national site screening plan would entail successively subdividing the country based on geohydrologic considerations. The ramifications of the plan could be very significant with regard to: (1) the potential for screening groups to reject sites presently under consideration; and (2) raising an issue as to the adequacy of past and current efforts. The need for some consistent screening criteria to be used in different parts of the country was recognized by the group. Also, the site screening would involve a good deal of judgment. As a note, the Siting Subgroup of the ESTP will have a report available in November on the screening process.
- 11. Comments on the working draft by the rock mechanics subgroup were distributed (see enclosure). A significant comment by the subgroup was a criticism of the effectiveness of peer review at the climax and the basalt test facilities (see comment 5 in the enclosure). The ESTP working group noted that changes in response to peer review are being made.
- 12. Substantial revision to the figure on the selection of sites was made in the draft plan.
- 13. The working draft indicated site selection, repository design, and licensing activities were outside the scope of the ESTP. The working group appeared to recognize the ESTP has a strong bearing on these subjects, and the document is being revised accordingly and to indicate that

these are decisions which are outside of the ESTP?

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On the whole, I believe the ESTP working draft was greatly improved at the meeting. However, as a strategy document, it still may be weak and perhaps the NRC should focus subsequent comments directing the group to make more forceful and concrete recommendations. It is anticipated that the NRC will be asked to review the plan during the interagency review.

I would also like to note that Tom Nicholson made many valuable observations at the meeting.

Gary Robbins, Project Geologist
High-Level Waste Technical Development Branch
Division of Waste Management

Enclosure:
As stated

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MEMORANDUM DATED NOV 21 1979

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- W. J. Dircks, NMSS
- J. B. Martin, NMSS
- R. E. Browning, NMSS
- M. J. Bell, NMSS
- L. A. White, NMSS
- M. C. Knapp, NMSS
- J. O. Bunting, NMSS
- S. H. Coplan, NMSS
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- P. Comella, SD
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