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R JOHNSOND MATTHEW

(Return to WM, 623-55)

Mr. Robert Johnson
Division of Waste Management
MS 623 SS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subj: Review of DOE's Salt Information Transfer

Dear Bob:

As you requested, we have reviewed the Technical Data Management System (TDMS) and the information flow for DOE's Salt Project. I would like to comment on DOE's system in light of the experience that we had in developing the Prototype Earth Science Data Base (PESDB) for the NRC. I've formulated comments in three general areas:

- Scope of the data base (all reports vs "best data")
- Traceability (knowing the source of data)
- Quality Assurance (data accuracy error rates)

These more general comments are followed by responses to the items in your System Requirement review outline.

Scope of the data base. Initially, the PESDB was to include only "evaluated" and summarized data. After reviewing the available data and its potential uses, we determined that individual data points were required in order to effectively use the data. Often, the data that are questionable or vary greatly from the "best data" are indicators of hidden characteristics at a site. From a licensing standpoint, all data are important.

The PESDB was initially restricted to 100 data references with data on the BWIP site. About half of these references contained earth sciences data that were entered into the data base. A total of some 30,000 measurement values totalling some 3 million characters were excerpted from these reports. Page 14 of DOE's description of the Catalogue and Procedures for Requesting Information infers that DOE has catalogued some 11,000 reports related to salt sites. If the amount of data scales linearly with the number of documents, it is possible that computerization of all data may not be possible.

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It appears that the TDMS will provide a common base for DOE contractors to use in performing licensing analyses. The NRC in evaluating a license application must consider not only DOE's best estimate of data values but also other data reported in the literature or gathered in tests.

Traceability. The original data source must be known to use effectively the data in the TDMS. The TDMS must include provisions for documenting the decisions and analyses performed on raw data as it moves through the steps that you have defined: Raw data collection, data reduction, contractor's analysis reports, contractor's data reports and ONWI review.

Quality Assurance. Based on our experience, we believe that for large (>1 million characters) data bases, error rates may range from .1% to .1% or .01%. The Quality Assurance Program should make provisions to determine the error rate periodically and for all feedback into the data processing operation to minimize the error rate.

In response to items on your "review checklist":

- A. Based on the material reviewed, the information management system appears adequate for pre-licensing reviews. A computerized data base with data in addition to "best estimate" data will be useful during licensing. However, the material that we reviewed was quite sketchy; a more detailed system description should be provided by DOE before the NRC makes any definitive statement on the adequacy of the proposed system.
- B. DOE's policy of access to information appears adequate provided that NRC is allowed access to the raw data and a description of the ONWI review process for selecting data for the TDMS.
- C. Generally the policies appear adequate for dealing with items 1-9 with the possible exception of items 5. As stated earlier, the content of the TDMS may not be adequate for all licensing needs.
- D. The information that we reviewed did not contain a description of the plan for system implementation. We were not able to address the adequacy of the aspects of the proposed system in this area.

If you have any questions on this matter, please contact me.

Sincerely,


Douglas K. Vogt
Project Manager