

TO: B. Stillenpde

MEETING REPORT

SUBJECT: LSS Prototype Test

AUTHOR: Rawley D. Johnson

DATE AND PLACE: October 9 and 10, 1989, SAIC Towers Washington D.C.

PERSON PRESENT: CNWEA
R. Johnson

BACKGROUND AND PURPOSE OF MEETING:

The purpose of the prototype testing is for SAIC, the developers of the LSS for DOE to get feedback from representative users to aid in the design of the user interface. Since this is an ongoing test and not all of the participants have gone through the process yet, I will purposefully keep this report brief to avoid prejudicing anyone who might participate in the future. Other participants during the time I was there were Avi Bender, Document Control System Designer (LSS Office), Kirk Balcom, Attorney (State of Nevada) and representatives from DOE document control at the site and Washington D.C. as well as a SAIC engineer from the site.

SUMMARY OF PERTINENT POINTS:

I did bring back a list of the questions that are given to participants to exercise the system. I would appreciate your comments on whether or not you consider the questions appropriate for the particular usage category.

Overall, I thought the test was a good one and it was important to keep in mind that this was not the LSS but only a test. By that, I mean that the database was very small and the system lacked many features. SAIC received significant feedback on the headers for documents and the tradeoffs between the usage of headers, full text and the actual document images that were accessible in searches to answer the questions. Supposedly, there were over 100,000 documents indexed with 2500 in full text and 1250 in image format. The prototype was developed in the "C" Programming language and executed on a VAX with Compaq terminals using bit mapped CRT's for displaying the images.

The two days consisted of the first half-day being spent overviewing the LSS system with instructions on how to search using the prototype user interface. The next one and one-half days were spent doing the actual searches with a questionnaire at the end followed by an extensive exit interview.

IMPRESSIONS/CONCLUSIONS:

As was intended, the test was more helpful to SAIC than to me individually. As a representative of the projected third largest user

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organization. I tried to give significant feedback to them from our perspective across all user types, particularly in completing the questionnaire and during the exit interview. A summary report of the test results will be forthcoming by the end of the year. As the user interface is being designed, procurement has been started for three of the expected six capture stations. I have a copy of the procurement document in my office if it of interest to you. The LSS is about half way through the five year project development cycle and about six months to one year behind schedule.

Overall I thought the test was worthwhile. However, there are major issues to resolve regarding the header format and the structure of the database in order for the capturing and searching of the documents to be successful. It appears that the Centers infrastructure for preparing and submitting documents to the LSS will be compatible and effective as it evolves into more of an automated production system.

SIGNATURE: *Randy A. Johnson* 10/25/89
Date

CONCURRENCE SIGNATURE AND DATE:

Allen R. Whiting 10/31/89
Allen R. Whiting Date
Director, WSE&I

USAGE CATEGORY: PUBLIC INFORMATION (PI)

JOB CONTEXT: A You are a resident of Nevada seeking current views of the state and local governments regarding the repository.

PIJA-T1-01 You would like to find a DOE document (post 1985) that discusses earthquakes within the Nevada Test Site area.

PIJA-T2-01 You would like to do your own evaluation of earthquakes or faulting at Yucca Mountain. What has been written about these topics?

PIJA-T3-01 You would like to find all existing information on DOE's plans to ensure that water wells and springs in the area will not be contaminated by waste in the event of an earthquake or tectonic activity.

PIJA-T1-02 You would like to browse through Nevada's comments on the Consultation Draft SCP concerning tectonics.

PIJA-T2-02 Does the USGS believe that earthquakes or faulting are serious problems for the Yucca Mountain proposed repository location?

PIJA-T3-02 You want to find every possible fault location in Nevada, particularly around Yucca Mountain, and would like to know what maps you need to do this.

JOB CONTEXT B: You are a potential intervenor building a case that among other things, the repository is not needed given already existing storage technologies.

PIJB-T1-01 You would like to see portions of the 1985 Mission Plan that deal with interim storage technologies (e.g. dry cask storage, spent fuel pools, and MRS).

PIJB-T2-01 Has "subseabed disposal" been considered as an alternative? If so, what considerations prompted discarding this alternative?

PIJB-T3-01 You would like to review all information on the transportation of spent fuel from reactor sites to the repository.

PIJB-T1-02 You would like to see if the SCP contains projections (or forecasts) of spent fuel generation or of the amounts of spent fuel to be received and emplaced at the repository.

PIJB-T2-02 Has there been any correspondence sent or any meetings held on the waste form that included discussion of Savannah River's Defense Waste Processing Facility (DWPF).

PIJB-T3-02 You would like to review all information on the Monitored Retrievable Storage (MRS) facility, especially that which discusses the transportation

aspects of the MRS.

JOB CONTEXT C: You are a lobbyist for the National Congress of American Indians trying to get grant money and official party status for the Shoshone Indian Nation.

PIJC-T1-01 What does the Site Characterization Plan say about Indian Tribes? Are any tribes specifically mentioned?

PIJC-T2-01 Has transporting the waste through Indian lands been discussed?

PIJC-T3-01 You would like to review all the information concerning consultation and cooperation agreements, grants, and impact assistance.

PIJC-T1-02 What does the Nuclear Waste Policy Amendments Act of 1987 (NWPAA or "Amendments Act") say about grants, consultation and cooperation agreements, and impact assistance?

PIJC-T2-02 What were the concerns of the Indian nations near BWIP (e.g., the Yakimas, Umatillas and Nez Perce)?

PIJC-T3-02 You would like to review all correspondence from or to any Indian Nation since 1985.

JOB CONTEXT D. You are an interested party concerned about the Yucca Mountain repository's effect on the water table underneath.

PIJD-T1-01 You would like to see a map or diagram showing the location of the water table (known as the Calico Hills aquifer) in relation to the repository.

PIJD-T2-01 How has DOE planned to characterize the Calico Hills aquifer (which you have also heard referred to as the "saturated zone" at Yucca Mountain)?

PIJD-T3-01 You would like to review all the information since 1980 that discusses characterization of the "saturated zone." Of that material, you are curious as to how much of it relates specifically to the Yucca Mountain project (as opposed to other projects).

PIJD-T1-02 You would like to see NRC's comments on DOE's original plans to drill into the Calico Hill aquifer.

PIJD-T2-02 You would like to find some journals or conference papers that would give you some information on how groundwater travel time is calculated or that describe the hydrogeologic properties of tuff rock.

PIJD-T3-02 You would like to review all the information available on the Calico Hills aquifer.

USAGE CATEGORY: MANAGEMENT AND ADMINISTRATION (MA)

JOB CONTEXT A: You are a Quality Assurance Manager at DOE and must demonstrate to NRC that site characterization and repository design activities have been conducted under a qualified (NRC-approved) QA program.

MAJA-T1-01 You would like a copy of NRC's Technical Position on determination of radionuclide solubility.

MAJA-T2-01 What are NRC's comments on DOE's QA program since 1987?

MAJA-T3-01 You want to find all information in the data base on 10 CFR 50 (Code of Federal Regulations), Appendix B, or NQA-1 standards.

MAJA-T1-02 You would like to see the minutes of an NRC/DOE meeting on quality assurance held on July 1, 1985.

MAJA-T2-02 What is NRC's plan for reviewing DOE's quality assurance program? How will the program be assessed?

MAJA-T3-02 You would like to see all material in the data base that discusses any of the following:

- Q-list
- Structures, systems and components important to safety
- Items and activities important to safety
- Items and activities important to waste isolation

JOB CONTEXT B: You are an OCRWM program analyst involved in evaluating progress of the repository program and preparing budget estimates.

MAJB-T1-01 You need the latest published schedule for the repository program, showing the major milestones.

MAJB-T2-01 You would like to compare cost information from 1985-1987 on the NNWSI and BWIP potential repository projects.

MAJB-T3-01 In order to compare cost estimates from one year to another, you would like to see all 1987 and 1988 DOE documents that discuss projected program costs. In particular, are there differences between cost information in the Consultation Draft SCP and the SCP?

MAJB-T1-02 You would like to browse through the table of contents of the June 1987 Mission Plan Amendment.

MAJB-T2-02 What does DOE's Nuclear Waste Fund Program include? How is the fund financed?

MAJB-T3-02 You would like to see all correspondence signed by S. Rousso, C. Kay, or B. Rusche.

JOB CONTEXT C: You are in the Congressional Affairs Office (of either the State, NRC, or DOE) and are responsible for drafting responses to Congressional questions and for drafting hearing testimony.

MAJC-T1-01 You would like to see the latest press release from Senator H. Reid's office.

MAJC-T2-01 Under the Nuclear Waste Policy Act, was any grant money provided to the State of Nevada or to local governments?

MAJC-T3-01 What are DOE's plans for sinking (excavation or construction) of the exploratory shaft facility? You want to preview all documents that discuss these plans in order to summarize them and show the current status.

MAJC-T1-02 You would like to see comments on the Environmental Monitoring and Mitigation Plans by either Edison Electric Institute (EEI) or the Utility Nuclear Waste Management Group (UNWVG).

MAJC-T2-02 You have been asked to help prepare testimony for a member of the Nevada State Assembly for an upcoming hearing on repository site characterization. You want to see if any previous testimony by an assemblyman exists, and examine it to assist in your preparation.

MAJC-T3-02 What meetings have taken place between NRC and DOE since 1984 that have included a representative from the State of Nevada as either an attendee or as a participant?

JOB CONTEXT D: You are in the LSS Administrator's office and are reviewing requests for access to the LSS.

MAJD-T1-01 You want to refresh your memory on what the procedures are for LSS access and would like to review NRC's revisions to the licensing procedures in 10 CFR 2.

MAJD-T2-01 When is the LSS scheduled for implementation?

MAJD-T3-01 Who commented on the Consultation Draft SCP, the Environmental Assessment for Yucca Mountain, and the June 1987 Mission Plan Amendment?

MAJD-T1-02 You want to know if the latest Mission Plan Amendment discusses the LSS or potential parties to the licensing process (e.g. browse through the Table of Contents)

MAJD-T2-02 You want information on the Citizen Alert Environmental Group which is headed by Bob Fulkerson. How do they feel about the selection of Yucca Mountain as a potential waste repository?

MAJD-T3-Q2 You would like to reivew all information that discusses the licensing process.

USAGE CATEGORY: TECHNICAL AND ENGINEERING (TE)

JOB CONTEXT A: You are a State of Nevada geologist wanting to know what data exists on the existence of faults near the Yucca Mountain site.

TEJA-T1-01 You would like to find a geologic map of the Yucca Mountain Site. A possible source is the index prepared by USGS around 1984 on geologic maps around the Yucca Mountain site. Find a map that you could use in your research and get a copy of it.

TEJA-T2-01 What might the magnetic anomalies identified and evaluated at Yucca Mountain indicate?

TEJA-T3-01 You want all USGS Open File Reports (USGS-OFR- XXXX) in the data base on the subject of faulting or tectonics.

TEJA-T1-02 You remember a journal article on hydraulic fracture stress measurements at Yucca Mountain and would like to see if the article may be of help to you at this time.

TEJA-T2-02 What methods have been used to study detachment faulting in Nevada since 1980? You need to know for a report you're writing on faulting at Yucca Mountain.

TEJA-T3-02 You want everything that is available in the data base on faults in the Yucca Mountain area.

JOB CONTEXT B: You are an NRC hydrologist responsible for reviewing DOE's drill hole geohydrology data.

TEJB-T1-01 You would like to find a map of drill hole USW-G1 at Yucca Mountain, showing the depth of the drill hole and the geologic formations that it penetrates.

TEJB-T2-01 You need the following information about drill holes USW G-4 and USW H-5 at Yucca Mountain: year drilled, purpose for drilling, depth.

TEJB-T3-01 You need to compile a list of all the drill holes that have been studied at Yucca Mountain.

TEJB-T1-02 After reviewing a bibliography, you identified a report you would like a copy of. You wrote down the number of the report but not the title. The report number is USGS-OFR-84-450. Search for the report, browse it in full text to make sure it is what you want, and then request a copy.

TEJB-T2-02 You know that D.L Bish has done some work on the mineralogical characteristics of tuff at Yucca Mountain. What minerals has he identified as

being present in the Yucca Mountain tuff, according to reports or articles he has published?

TEJB-T3-02 Find everything you can on the hydrogeologic characteristics of the Topopah Spring Member of the Paintbrush Tuff geologic formation.

JOB CONTEXT C: You are responsible for assisting DOE in integrating repository site and waste package performance assessment studies for the total system performance assessment (required for the license application).

TEJC-T1-01 You would like a copy of a report by B. Ross, issued around 1986, that discusses disruptive scenarios for a high-level waste repository at Yucca Mountain.

TEJC-T2-01 What scenario classes are being considered by DOE in order to develop the Complementary Cumulative Distribution Curve (CCDF) in the total system performance assessment? You know Sandia has done some of this work.

TEJC-T3-01 You would like to browse through the abstracts of all Sandia documents related to performance assessment modeling in order to synthesize what the current thinking is.

TEJC-T1-02 You heard that some of the calculations you are looking for on groundwater flow in the unsaturated zone might have been done at Yucca Mountain by Lawrence Berkeley Laboratory (LBL). Would they be useful?

TEJC-T2-02 Have any diagrams of the waste package been published since 1986?

TEJC-T3-02 You need to find out what computer codes are being used by DOE or its contractors to evaluate (a) groundwater travel time and (b) waste package reliability.

JOB CONTEXT D: You are a DOE geochemist managing the geochemical investigations during site characterization and must decide what data and models are valid to develop a complete understanding of the geochemical processes at Yucca Mountain.

TEJD-T1-01 You are assessing various methods for determining radionuclide solubility in groundwater and want to know if NRC has issued any technical positions on what methods are acceptable from a regulatory perspective. If so, you would like to read the abstract and then decide whether or not to request a copy.

TEJD-T2-01 You are reviewing results of contractor solubility experiments on technetium in geochemical systems and are interested in whether there have been prior experiments anywhere that corroborate the results of your contractor's experiments. (You remember seeing a report on this several years ago by another

country.)

TEJD-T3-01 You want to find all published discussions of the mineralogic and petrologic characterization of the Yucca Mountain site. These can be reports, journals, or conference papers.

TEJD-T1-02 You are reviewing a topical report drafted by a contractor that identifies the sorption properties of tuff at Yucca Mountain, based on experiments of core samples. You would like to see the raw data (e.g., data sheets, logs, lab notebooks, etc.) describing the conditions under which the experiments were conducted.

TEJD-T2-02 You would like to find some tables that describe the element concentrations in ground water at or near Yucca Mountain.

TEJD-T3-02 You are interested in browsing through the abstracts of reports or papers that discuss data collected from existing drill holes on the depth of, the chemical composition of, and any changes to the ground water in the saturated zone at Yucca Mountain.

USAGE CATEGORY: REGULATORY AND LICENSING (RL)

JOB CONTEXT A: You are a DOE contractor involved in developing the waste package design for the license application and you need to be sure that the design will meet all relevant NRC regulatory requirements.

RLJA-T1-01 What are NRC's comments to DOE on the draft SCP design report regarding waste package isolation?

RLJA-T2-01 What are the waste package issues in relation to 10 CFR 60 (Code of Federal Regulations) requirements?

RLJA-T3-01 You would like to see all correspondence between NRC and DOE since 1964 on repository design.

RLJA-T1-02 Have there been any NRC NUREG reports providing guidance on waste package reliability since 1985?

RLJA-T2-02 Have DOE and NRC met to discuss the waste package, waste form, performance assessment or quality assurance since 1985? Were design issues discussed? If so, what were they?

RLJA-T3-02 What waste package issues were identified by DOE or NRC at the time of site characterization plan preparation?

JOB CONTEXT B: You are a lawyer for a potential intervenor trying to decide whether or not to intervene in the license proceeding.

RLJB-T1-01 Your client does not believe DOE applied a proper decision-aiding methodology to the ranking of the five previously nominated sites. You need to know what DOE's decision-aiding methodology was and you have heard it referred to as a "multiattribute utility analysis" (MUA). You also know that the MUA was formalized in a DOE publication sometime in 1986.

RLJB-T2-01 You would like to see a listing of any formal agreements or memoranda of understanding between DOE and other organizations and between NRC and other organizations.

RLJB-T3-01 What commitments has DOE made since 1984 regarding public participation in the program? Specifically, you are interested in any discussions regarding consultation and cooperation agreements with interested parties, public hearings, public information programs, and opportunities to review and comment on major documents.

RLJB-T1-02 Your client is among many who still challenge the validity of the DOE Siting Guidelines in 10 CFR 960. You would like a copy of those guidelines.

RLJB-T2-02 Have any public hearings been held on the nomination of Yucca

Mountain as a potential repository site? If so, could you obtain transcripts or reports of them?

RLJB-T3-02 Your client is concerned that the scope of DOE's environmental studies may not comply with the intent of the law as it relates to NEPA. You would like to search the data base for any documents or correspondence related to environmental assessments, environmental impact statements, and the National Environmental Policy Act (NEPA).

JOB CONTEXT C: You are an NRC engineer involved in reviewing parts of DOE's license application concerning man-made openings (e.g., shafts, boreholes and drifts). You want to make sure all man-made openings comply with regulatory requirements for waste containment and isolation.

RLJC-T1-01 You would like to see DOE's Conceptual Design Report which was forwarded with the SCP.

RLJC-T2-01 What is the "Q-List"?

RLJC-T3-01 What are DOE's plans for drilling, blasting, and excavating the exploratory shaft facility and nearby drifts? You are interested not only in the Site Characterization Plan but any other reports or papers discussing this subject.

RLJC-T1-02 You would like to see the report by Sandia Labs on repository sealing concepts for the Nevada Nuclear Waste Storage Investigations Project.

RLJC-T2-02 Where are shafts, boreholes, and drifts located at Yucca Mountain?

RLJC-T3-02 What were the issues involved in preparation of the SCP Conceptual Design Report?

JOB CONTEXT D: You are a representative of the NV Nuclear Waste Project Office helping to develop the State's comments on the Draft Environmental Impact Statement for the repository.

RLJD-T1-01 You would like to peruse the Table of Contents of the DOE Environmental Assessment for the Yucca Mountain Site.

RLJD-T2-01 How will DOE handle accidental radiological releases?

RLJD-T3-01 What studies have been done, as part of the high-level waste program, on desert flora and fauna?


RLJD-T1-02 What are the State of Nevada's laws concerning water rights and use?

RLJD-T2-02 You would like to find any diagrams or tables illustrating population density around Yucca Mountain.

RLJD-T3-02 How will DOE and NRC implement the National Environmental Policy Act (NEPA)?

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

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