Civilian Radioactive Waste
Management System

Management & Operating
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Removing Technology Constraints from 10 CFR 2 Subpart J

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Issue Summary

- **Some technical language in the rule is unnecessarily specific as to implementation.**
  - **Specifies <u>design</u> based on then-current technology, not <u>requirements</u>**
- **Minor changes to the language will give DOE the ability to produce a better system at a lower cost and with less technical and schedule risk.**
  - **Better for the end-users, better for the waste fund**

- **Technology has changed dramatically since the rule was written. Examples:**
  - **Modern client-server architectures, CD ROM, SGML, Graphical User Interface (GUI) and associated development tools.**
- **Language reflects "then-current" technology rather than implementation-independent requirements**

History, Continued

- **DOE briefed LSSARP on technology constraints issue 10/5/93**
  - **Well received, but no decision to date**

Purpose of Today's Update

- **Provide update on technology constraining language in the rule.**

- **Solicit on-the-record acceptance of recommendation to remove technology-constraining language from 10 CFR 2.**

This will allow DOE to proceed with the LSS requirements document without these constraints.

Why is a Change Better for All Parties?

- **Rapidly changing technology dictates that design issues not be codified - requirements should be stated in technology-neutral language.**

- **Constraining the LSS design to older technology will result in a less "user friendly" system. Example: "Terminals" implies use of character-based "dumb terminals" vs. graphical user interface (GUI) running on work stations.**

Why is a Change Better for All Parties?

- **Loss of flexibility in design options can result in a more costly system and a longer development schedule.**
  - **Commercial Off the Shelf (COTS) systems integration and reuse is the fastest and least expensive approach to achieving an LSS**
  - **Requires flexibility as to detailed implementation and design.**

What Would the Recommended Changes Mean?

- **These language changes would <u>not</u> mean that the LSSARP is dictating a different design (use of CD's, client-server, SGML, etc.)**
  - **These are design decisions, not requirements.**
- **Changes <u>would</u> mean that the rule is silent as to the implementation details, and instead is specifying <u>requirements</u>.**
  - **Result is that the "door is open" for the best solution, based on current technology.**

1. Change references to "dial-up access" to specify "remote access."

   Rationale: Opens the door for CD library distribution and/or high-band width network access.

2. Change references to "ASCII" to "searchable text files"

   Rationale: Opens the door for use of mark-up languages such as SGML, which preserve formatting/font information.

Specific Recommendations, Continued

3. Replace the word "terminal" with "work station"

Rationale: Avoids implication of a "dumb terminal"/mainframe application, opens the door to client/server applications.

4. Remove reference to "optical or magnetic media"

Rationale: Media type is a design decision - new technologies could emerge during the LSS system life cycle.

Specific Recommendations, Continued

5. Remove requirements for signed paper copies from rule

Rationale: Rule is inconsistent in requiring an electronic environment and electronic filings but dictating "one signed paper copy".

6. Formally embrace electronic mechanisms for the "signing" of filings and other documents

– Rationale: Failure to formally accept electronic mechanisms will result in a dual, redundant work flow involving electronic and paper copies.

Recommendation

DOE recommends that the LSSARP go on record as recommending that NRC modify the rule to:

- Remove technology-constraining language as described in this briefing, and

- Advise DOE to write the LSS requirements document accordingly.