

Meeting Report

DATE: January 18, 2006

TIME: 8:00 a.m. - 10:00 a.m.

PLACE: U.S. Nuclear Regulatory Commission (NRC)
One White Flint North, Room O12 B4
11555 Rockville Pike
Rockville, MD 20852

PURPOSE: Pre-Application License Meeting with the Westinghouse Electric Company LLC to Discuss Proposed Criticality Requirements of Materials License No. SNM-00033

ATTENDEES: Refer to Attachment A

BACKGROUND:

The Hematite facility in Festus, MO is the site of a former fuel fabrication facility that processed uranium and thorium fuel for government and civilian projects. Prior to 1974, the facility handled all forms of uranium from depleted up to fully enriched. After 1974, the facility was primarily limited to processing low-enriched uranium fuel. Westinghouse Electric Company, LLC (WEC) purchased the site in 2000. In 2001 plant operations ceased and WEC submitted a license amendment request to change the scope of authorized license activities to include those activities associated with source removal, limited decontamination and equipment removal (limited decommissioning). WEC requested this pre-application licensing meeting be held to discuss its planned submission of proposed changes to the nuclear criticality safety requirements in Chapter 4 of Materials License No. SNM-00033 for soil and burial pit remediation at the site. WEC also wished to obtain feedback from the NRC regarding the type of information it would expect a licensee to submit for this purpose. This meeting was open to the public for observation.

DISCUSSION:

WEC proposed several changes to the nuclear criticality safety requirements of Chapter 4 of its materials license. WEC maintains these changes are necessary because the current provisions of Chapter 4 of its license are still based on operational activities rather than decommissioning activities.

Enclosure

WEC plans to propose to make minor editorial changes and changes to simplify the text of Chapter 4 of Materials License No. SNM-00033 to reflect its decommissioning status, including eliminating the detailed parameter listings and changing its nuclear criticality program basis from < 5% uranium enrichment to 100% enrichment, removing poison and moderator control provisions, and eliminating the process equipment information.

WEC also plans to propose to make additions to Chapter 4 to specify acceptable methods for determining mass and add individual and array spacing parameters to reflect the shift from those based on low-enriched uranium (LEU) to those for high-enriched uranium (HEU).

WEC will seek an exemption from the 10 CFR 70.24(a) requirement to have a criticality safety monitoring system in place. WEC maintains that it is not practical to have criticality monitoring in the field and there is no risk of nuclear criticality because it believes most of the material that will be encountered during remediation of soil and the burial pits will be diffuse material.

WEC will also request an exemption from restrictions based on mass. WEC plans to propose to have its nuclear criticality program based on the fissile exempt concentration limits provided in 10 CFR Part 71. WEC anticipates that soil and burial pit concentrations will be well below the fissile exempt concentration limits. NRC staff discussed the need for additional characterization of the burial pits. WEC discussed the possible use of portable survey instruments for screening materials to ensure materials are within the fissile exempt concentration limits. Regarding the WEC proposed use of portable survey instruments for monitoring concentration limits in the burial pits, NRC staff pointed out that the burial pits may not have the same properties as soils and it was important to consider this in WEC's instrumentation evaluation.

WEC stated that all buildings have been cleaned out and are awaiting demolition. WEC noted that it has now estimated the U235 source term for building demolition. This was new information for NRC. NRC staff was concerned that this new information was not evaluated under the building demolition license application request. Packaged material from equipment remains on site presently and additional packaged material will result from building demolition. WEC emphasized the need to delay NRC approval of its proposed license amendment request addressing nuclear criticality until after all the presently packaged material on site has been removed from the site. The reason for this request is because the current packaged material spacing requirements are based on the LEU rather than the HEU material and the current packaged material is LEU material.

WEC provided information about the burial pits. In addition to interviews with former employees at the site, WEC stated it has logs which describe what went into 38 pits. WEC does not have coordinates for the pits and cannot correlate the logs to individual pits. WEC stated that there are approximately 20 additional undocumented burial pits on the site that have the potential to contain HEU material.

NRC staff outlined the basic expectations of submissions from licensees regarding proposed changes to criticality requirements. Staff stated that submissions should be process (as related to the decommissioning process) oriented and include an explanation of the general approach being taken, a detailed description of all activities to be performed and a schedule of events. Staff noted that WEC must provide the technical basis for assumptions and choice of methods as well as supporting documents and source references for all parameters provided.

NRC staff advised WEC that when it submits its nuclear criticality license amendment request it must include or make reference to all information applicable to the license amendment request for staff review. Licensees must not assume that NRC has applicable information or data just because this same information was previously provided to NRC as part of an earlier license application requesting a different action.

ACTIONS:

1. NRC will provide WEC with general information (non-sensitive and non-classified), if it exists, used in other approved NRC license applications regarding how the nuclear criticality safety and remediation of enriched uranium in burial pits or soil was addressed.
2. NRC will provide WEC with general information (non-sensitive and non-classified), if it exists, on previous nuclear criticality safety exemptions approved by the NRC, particularly those where exemptions to 10 CFR 70.24(a) were requested.
3. NRC will provide WEC with an update on the status of other licensing actions currently in progress for the Hematite Facility so that WEC will be able to estimate when it expects to submit its proposed license amendment request addressing nuclear criticality for the Hematite Facility.

ATTACHMENTS

- A. Meeting Attendees
- B. WEC slide presentation

Docket No.: 070-00036
License No.: SNM-00033