Meeting Report

DATE: June 17, 2008

TIME: 10:00 A.M. – 2:00 P.M.

PLACE: Offices of Nuclear Energy Institute
1776 "I" Street NW
Washington DC

PURPOSE: To provide and opportunity for information exchange and technical dialogue on issues related to low-level radioactive waste classification and waste concentration averaging.

CATEGORY: Category 2. Public may attend and participate at designated times.

BACKGROUND:

In response to disposal restrictions and other considerations, and on behalf of the Nuclear Energy Institute (NEI), the Electric Power Research Institute (EPRI) has undertaken technical analyses related to the bases for waste classification in 10 CFR Part 61 and waste concentration averaging in NRC's Branch Technical Position (BTP) addressing this topic. NEI/EPRI had first given NRC an overview of their analyses related to waste classification and concentration averaging at a public meeting in October 2007 (ML072850756) and in an Advisory Committee on Nuclear Waste and Materials meeting in September 2007 (ML072700808).

DISCUSSION:

The meeting included NEI and EPRI representatives and their technical consultants, representatives of industry interests, public interest groups, NRC staff, and members of the press. Several individuals participated by teleconference. NRC representation included management and technical staff from the Office of Federal and State Materials and Environmental Management Programs and technical staff from the Office of Nuclear Reactor Regulation. See attendance list, enclosure 1. Patrice Bubar, recently appointed Deputy Director, Environmental Protection and Performance Assessment Directorate, provided introductory remarks and framed the discussion in the context of previous discussions and on-going work by NRC technical staff.

Jim Kennedy, Division of Waste Management and Environmental Protection-Low-level Waste Branch, provided a summary discussion of current staff efforts regarding a subset of waste concentration averaging addressed in the BTP--blending of radioactive waste. Kennedy stated that the staff was following the plan identified in its LLW Strategic Assessment issued in October 2007. Revisions of the Concentration Averaging and Encapsulation BTP is one of the high priority tasks identified by the assessment, and the

Enclosure 1

staff has initiated work on this task. It is the staff's belief that the BTP can be clarified and that it is timely to address blending as a separate issue in advance of other issues associated with the BTP, such as averaging of irradiated hardware. Blending is of particular interest to a number of stakeholders at this time. Internal deliberations are in process and staff expects to inform the Commission on this effort. If any major changes are implemented, the staff expects to provide for a public process that will include coordination with Agreement States and opportunities for public comment. Kennedy also noted that guidance on the use of 10 CFR 61.58, which allows the Commission to authorize alternative waste characteristics or classification, was one of seven high priority tasks identified in the LLW Strategic Assessment, but that this task will not be undertaken until FY09 or FY10.

Ralph Andersen, NEI, summarized the industry perspective on LLRW management. He alluded to a 50 year planning horizon. He said that industry sees the need for both near term adjustments to the current regulatory structure (e.g. NRC work on blending) as well as planning for future circumstances that will look very different from those that informed the development of 10 CFR Part 61. He suggested that while significant changes and legislation may be necessary and appropriate in the long-term, small adjustments to address today's circumstances are appropriate for now. He stated that industry's near term objective, related to some of the research discussed today, is the improvement of flexibility in order to minimize the amount of LLRW that does not have a disposal location.

Phung Tran, EPRI, provided an overview summary (See enclosure 2) of EPRI LLRW research and development work, including the work that was the subject of the meeting's discussion, strategies for minimization of Class B and C waste, and LLRW storage operational guidelines.

The remainder of the discussion focused on a presentation (See enclosures 2 and 3) by David James, EPRI consultant, related to technical analyses of various waste streams and radionuclide concentrations that, according to James, support changes of radionuclide limits that are the basis for the Part 61 classification as well as some of the administrative limitations suggested by the BTP on concentration averaging. He contended that the disposal model (shallow land burial) that was the basis for Part 61 and the BTP was out of date. He suggested that NRC should consider some caveats related to the efficacy of other administrative controls that may negate some of the limitations imposed by the BTP, such as the ten times average limitation on waste "hot spots" and discounting of mass of solidification agents used to solidify filter cartridges.

NRC staff, Chris McKenney and Mike Tokar, provided background related to the technical basis and context of the BTP, suggesting that it was directed at giving individual generators a basis for complying with Part 61 site limitations at the point of origin on a package specific basis. McKenney also mentioned the flexibility afforded by Part 61.58 to create a case specific classification system. Staff also noted, however, that NRC had never been requested to grant a 10 CFR 61.58 authorization in the past, and there are questions about exactly how such approvals could be granted.

Much of the EPRI work is related to reproducing the technical analyses that supported Part 61 in order to reanalyze, using comparable techniques for comparable results, in accordance with today's conditions and dose standards (e.g. International Committee on Radiological Protection 2 vs. Total Effective Dose Equivalent). It was acknowledged that

it was likely that some of the assumptions that informed the analytical bases for Part 61 may not have been well documented.

EPRI suggested the desire for guidance related to engineered barriers for intruder safety analysis in lieu of the depth requirement for Class C waste. NRC staff said that NUREG 1573, “A performance Assessment methodology for Low-Level Radioactive waste Disposal Facilities,” contained information related to performance of engineered barriers for releases to the environment (i.e., non-intruder related) but which might be applicable to intruder analyses.

NRC staff also referenced staff guidance related to waste concentration averaging contained in NUREG 1854, “NRC Staff Guidance for Activities Related to U.S. Department of Energy Waste Determinations, Draft Final Report for Interim Use” (page 3-22). While the guidance is specifically related to waste incidental to reprocessing, many of the principles may be of interest to NEI/EPRI with respect to LLRW in general.

There was agreement that this meeting was for information exchange only and that it was premature for NEI/EPRI to be making a specific request to NRC on the basis of work done to date. However, this meeting was seen as a step in expanding awareness of this type of analyses and possible implications to a broader audience of stakeholders, industry, States, and members of the public.

ACTIONS:

There were no specific follow-up actions identified as a result of this meeting.