

July 26, 2013

MEMORANDUM TO: Richard Correia, Director
Division of Risk Analysis
Office of Nuclear Regulatory Research

FROM: Larry W. Camper, Director **/RA by Aby Mohseni Acting for/**
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

SUBJECT: USER NEED REQUEST TO SUPPORT CEMENTITIOUS BARRIERS
PARTNERSHIP AND RESEARCH RELATED TO ENGINEERED
COVERS

This memorandum describes the Division of Waste Management and Environmental Protection's (DWMEP) user need request to support the Cementitious Barriers Partnership (CBP) and research related to engineered covers.

NRC staff's participation in the below mentioned activities could include participating in meetings, reviewing documents, providing feedback, and sharing comments.

Cementitious Barriers Partnership

The CBP is a collaborative effort between the U.S. Department of Energy (DOE), Savannah River National Laboratory, Vanderbilt University, Consortium for Risk Evaluation with Stakeholder Participation, National Institute of Standards and Technology, U.S. Nuclear Regulatory Commission (NRC), Energy Research Centre of the Netherlands, and SIMCO Technologies, Inc. The CBP's objective is to improve understanding and prediction of the long-term structural, hydraulic, and chemical performance of cementitious materials and waste forms used primarily in nuclear waste disposal. This task will support the NRC mission by allowing DWMEP staff to better evaluate DOE disposal actions associated with Waste Incidental to Reprocessing. Additionally, the Agreement States and others will be able to use the results of the research to evaluate performance of the overpacks, solidification materials, and vaults used in current low-level radioactive waste disposal facility performance assessments.

Research - Engineered Covers

In 2009, DWMEP established a working group designated the "Engineered Covers Technical Group" (ECTG) to assess the technical merits of the findings in NUREG/CR-7028 and its potential impact on waste disposal facilities relevant to DWMEP. In its review, the ECTG recommended monitoring of site-specific performance indicators, including radon and groundwater measurements, for higher risk mill tailings covers at Title I and II sites (ML112300105). The purpose of these recommendations is to allow NRC staff to better evaluate the long-term performance of decommissioned uranium recovery sites.

Related to these NRC recommendations, DOE is conducting a study on engineered covers at legacy sites, which includes monitoring of radon release and soil pedogenesis. NRC staff believes that this research will provide important insight into engineered cover performance at legacy sites as well as advance the state of understanding of engineered covers from the 2010 NRC Workshop on Engineered Barrier Performance and the work of the NRC ECTG. To help support this research through FY14 and FY15, DWMEP will attempt to locate funding through mid-year requests, short falls, and emerging needs.

In conclusion, we believe the participation of NRC staff in the above mentioned activities would further enhance NRC staff's knowledge and provide access to pertinent information necessary to perform technical analyses and make informed decisions.

CONTACT: George Alexander, FSME/DWMEP
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