

October 16, 2008

Keith Peecook, Program Manager
Plum Brook Reactor Decommissioning Program
National Aeronautics and Space Administration
Plum Brook Station
6100 Columbus Avenue
Sandusky, OH 44870

SUBJECT: REPORT OF SEPTEMBER 3, 2008 MEETING WITH NATIONAL
AERONAUTICS AND SPACE ADMINISTRATION

Dear Mr. Peecook:

On September 3, 2008, the U.S. Nuclear Regulatory Commission (NRC) and the National Aeronautics and Space Administration (NASA) met to discuss the Plum Brook characterization and modeling results, and NASA's proposed approach for demonstrating compliance with NRC's cleanup requirements. The meeting report is enclosed.

If you have any questions related to this matter, please contact Chad Glenn of my staff at 301-415-6722.

Sincerely,

/RA/

Rebecca Tadesse, Chief
Materials Decommissioning Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket Nos.: 50-30 and 50-185

Enclosure:
Meeting Report

cc w/encl: NASA Service List

Keith Peacock, Program Manager
Plum Brook Reactor Decommissioning Program
National Aeronautics and Space Administration
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6100 Columbus Avenue
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ML082900908

Office	DWMEP	DWMEP	DWMEP		
Name	CGlenn	SMichonski	RTadesse		
Date	10/16/08	10/16/08	10/16/08	/ /	/ /

OFFICIAL RECORD COPY

Meeting Report

DATE: September 3, 2008

TIME: 2:00 – 5:00 p.m.

LOCATION: Huron Public Library
333Williams Street
Huron, OH 44839

PURPOSE: Discuss results of the National Aeronautics and Space Administration (NASA) Plum Brook dose modeling analysis and proposed options for demonstrating compliance with U.S. Nuclear Regulatory (NRC) requirements.

BACKGROUND:

In August 2005, NASA reported low levels of cesium in some off-site sediment samples along Plum Brook and determined that this material originated in permitted discharges of water during normal reactor operations (1961-1973). In November 2005, NASA worked with appropriate agencies to develop a sampling plan and initiated sampling. NASA subsequently retained a hydrogeological consultant to complete a comprehensive sampling program extending from the mouth of Plum Brook to Sandusky Bay. In January 2008, NASA provided NRC, Ohio Department of Health, county and local officials with a series of reports documenting the results of this characterization program.

DISCUSSION:

On September 3, 2008, the NRC and National NASA staff met to discuss the results of the Plum Brook characterization and dose modeling analysis. A representative of the Ohio Department of Health and interested members of the public also attended this meeting. The agenda is available as ML082310087, the list of attendees is available at ML082900924, and the presentation slides are available at ML082690407 and ML082590542.

During this meeting, NASA staff gave a presentation in which they described the characterization program for the Plum Brook and presented the results of the sampling and analysis. NASA staff also described their dose assessment and supporting information, including: scenarios selected, current local land use, present distribution of contamination in the stream, parameter values selected, and results of the dose calculations. NASA staff discussed their approach for demonstrating compliance with NRC requirements and proposed to use the dose assessment approach (described in NUREG-1757) to demonstrate compliance with NRC's cleanup criteria for unrestricted use. Finally, NASA noted that the characterization information provided to NRC did not include characterization of the portion of the Plum Brook closest to the site. NASA stated that this information, including maps and figures showing the sampling locations, will be provided to NRC.

NRC staff presented its expectations for using the dose assessment approach to demonstrate compliance with the dose criteria for unrestricted use (25 mrem/yr plus ALARA). NRC staff explained that justification is needed for: the source term, exposure scenario, and parameter values selected. NRC emphasized that the source term abstraction is very important in the

dose assessment approach. The reason for this is that in the Derived Concentration Guideline Level (DCGL) approach, the conservative assumption is used that the whole site is homogeneously contaminated to the DCGL value. However, since the dose assessment approach does not have this conservatism built in, it is important for the source term used in the dose assessment to appropriately capture the configuration of the residual contamination. Other important considerations for evaluating the source term using the dose assessment approach include: (a) spatial variability and uncertainty in the concentration of radionuclides; (b) explicit consideration of areas with elevated contamination and; (c) the need for quality data because there is no Final Status Survey in this approach. NRC staff noted that guidance on source term abstraction can be found in NUREG 1757 Vol 2 Appendix I.

ACTIONS:

NASA staff stated that it will provide NRC with outstanding characterization information, including maps and figures showing the sampling locations.

NRC staff stated that it would consult internally and identify the appropriate framework for NRC's review and approval of NASA's proposed approach for demonstrating compliance with NRC requirements.

National Aeronautics and Space Administration Service List - Chad Glenn, Project Manager

cc:

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