Department of Energy
Washington, DC 20585

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MEMORANDUM FOR MATTHEW S. MCCORMICK
MANAGER
RICHLAND OPERATIONS OFFICE

DAVID C. MOODY
MANAGER
SAVANNAH RIVER OPERATIONS OFFICE

FROM: MATTHEW B. MOURY
DEPUTY ASSISTANT SECRETARY FOR
SAFETY, SECURITY, AND QUALITY PROGRAMS
ENVIRONMENTAL MANAGEMENT

SUBJECT: Periodic Reviews of Non-Destructive Assay (NDA) Holdup Measurement Programs

In Defense Nuclear Facilities Safety Board (Board) Recommendation 2007-1, dated April 25, 2007, the Board requested that the Department of Energy (DOE) establish requirements and guidance for in situ non-destructive assay (NDA) programs that are used to demonstrate compliance with nuclear safety limits. On October 24, 2007, the Secretary of Energy accepted Recommendation 2007-1, and issued the Implementation Plan (IP). As a result, site visits to the Plutonium Finishing Plant (PFP), HB-Line, and the Plutonium Fuel Fabrication facility were conducted in 2008, using the lines of inquiry that are included in the attachment. Commitment 5.5.4 of the IP requires that DOE schedule and conduct periodic reviews to ensure that NDA holdup measurement programs are using technology adequate for their intended purpose. A schedule or documentation of evidence that such reviews have been completed is necessary for closure of Commitment 5.5.4.

Please review your annual oversight schedules, and verify that you have either scheduled or completed the review of your NDA holdup measurement programs associated with the PFP at the Richland Office and HB-Line at the Savannah River Office. The Chief of Nuclear Safety and staff are available to assist you in conducting your reviews according to your established schedules. Please provide a report within 14 days of receipt of this memorandum documenting your scheduling or completion status to Mr. Robert Wilson, Office of Safety Management, at Robert.Wilson@emcbc.doe.gov.

If you have any questions, please feel free to contact me or Mr. Todd Lapointe, Acting Director, Office of Safety Management, at (202) 586-4653.

Attachment

cc: R. Lagdon, S-5
L. Berg, S-5
M. Campagnone, HS-1.1
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T. Lapointe, EM-41 (Acting)
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ATTACHMENT

LINES OF INQUIRY

- Does fissionable material holdup in process vessels, gloveboxes, the HVAC, and other accumulation points present a credible criticality accident scenario?
- Are programs and procedures in place for detecting and characterizing accumulations as required by DOE O 420.1B for facilities and equipment that could inadvertently accumulate significant quantities of fissionable materials?
- Is holdup of fissionable material being effectively monitored and controlled as required?
- Of the following types of oversight: Internal organizationally, external organizationally, external to site, which have occurred in the last two years and how frequently (i.e. inspections, safety management evaluations, special reviews, special studies, and follow-up reviews, fact finding meetings, QA reviews to be a calibrating organization, HQ reviews, and DNFSB reviews)?
- How are reviews/assessments performed (i.e., LOIs, document reviews, walk-throughs, interviews, compliance vs. performance-based, etc.)?
- Are there internal/external/self assessment schedules and how are the schedules determined?
- How are assessment results documented?
- How are action items determined?
- How are holdup measurement personnel involved in responses to corrective action plans (CAPS)?
- Are root cause analyses performed?
- How are corrective actions tracked and closure packages completed?
- Are corrective action packages allowed to close based on planned action?
- How are assignments of responsibility assigned for addressing oversight activities?
- What criteria or focus area did oversight and reviews use as a basis for their reviews/findings?
- Are performance metrics generated, or some other means, to promote practices that prevent repeat findings?
- Are outside consultants utilized to provide an independent viewpoint on the overall holdup measurement program?
- How are NDA lessons learned from other facilities reviewed by the NDA staff for potential application at the facilities?
- How are holdup measurement performance metrics established, and if so, what types?
- Where does the in situ NDA holdup program reside in your facility?
- Who provides NDA technical oversight for your entire program?
- Who performs technical data reviews?
- Does the NDA staff demonstrate that they are fully knowledgeable of their assigned tasks and can conduct the operation in a safe and effective manner?
- How does line and/or program management maintain tracking and resolution of holdup measurement deficiencies?

- How are Holdup Measurement funding levels proposed, approved, and adjusted when additional requests are received?
- What are the roles and responsibilities of NDA and holdup measurement staff?
- Where in the organization does the holdup measurement group reside? Where do support personnel (i.e., statisticians) reside?
- Is there adequate staffing to meet demands? How is adequate determined?
- Are the organization structure, functional responsibilities, levels of authority, and lines of communication for the NDA Program and the holdup measurement program documented and understood?
- Are the responsibilities of the holdup measurement project and/or program manager and for the NDA Program clearly defined and understood?
- Do operations and support personnel fully understand functions, assignments, responsibilities, and reporting relationships and can they support line management control of safety?
- Are responsibilities between interfacing organizations well defined and provide for clear and effective communications?
- Are adequate vendor qualifications and oversight programs in place for all procured equipment and service providers?
- Who is responsible for oversight of criticality safety related NDA measurements? Is the same person responsible for safeguards and accountability NDA measurements?
- What are the roles and responsibilities of the NDA personnel in addition to NDA measurements?
- Does the NDA staff review and concur with the applicability of in situ holdup measurements for the proposed NCS requirement and the practicality of proposed limits, controls, and/or measurements that require holdup measurements?
- Does the DOE field office retain NDA-cognizant staff?
- Does the NDA Staff review all operating procedures involving holdup measurement and the use of the data?
- Is the NDA staff involved with decommissioning and construction planning and scheduling prior to commencement of the activities?
- Do all NDA design-related technical documents receive an independent technical peer review before approval for use?
- What organization or job title selects instrumentation and makes instrumentation performance specifications?
- What organization or job title performs initial calibration of instruments? What organization or job title performs routine calibration and validation?
- What organization or job title provides consultation on NDA holdup matters to various facility organizations such as nuclear safety, nuclear materials control and accountability, and waste management?
- Has the minimum number of staff required for operational responsibilities been defined?
- How are specific required measurements delegated and assigned?