## MFFFNPEm Resource

**From:** Dotson, Wesley D. [WDDotson@moxproject.com]
**Sent:** Monday, April 23, 2007 10:08 AM
**To:** David Tiktinsky
**Subject:** MOX Inoffice Review Meeting Notes
**Attachments:** NCS Inoffice Review 17April07.doc

Attached are the Meeting Notes that I collected during the week of 17 - 19 April 07 during the MOX Services Inoffice Technical Review of the Nuclear Criticality Safety documents. These items should be on the agenda for our next meeting. Your feedback, comments or corrections would be appreciated.

It was a very productive week and appreciate the opportunity to work with both Chris and Craig.

Wesley Don Dotson
Senior Licensing Specialist
**AREVA NP**
An AREVA and Siemens Company
**Shaw AREVA MOX Services Project**
wddotson@moxproject.com
Phone: 803 819-2723
Cell: 270 556-2024

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Nuclear Criticality Safety
US NRC Inoffice Review
April 17 – April 19 2007
Kickoff – Day 1

Attendees:
US NRC
Dave Tiktinsky
Chris Tripp
Craig Hrabal

MOX Services
Dealis Gwyn, Manager Licensing and Regulatory Compliance
Wesley Dotson, Senior Licensing and Regulatory Compliance Specialist
Bob Foster (via telecom), Nuclear Criticality Safety Lead Engineer
Bill Hennessy (via telecom), Nuclear Safety Manager

Kickoff – 9:00 AM 17April07

USNRC
Dave Tiktinsky – Introductions and opening comments
Chris Tripp and Craig Hrabal – Opening comments describing their review approach.

MOX Services
Dealis Gwyn – Introductions and general discussion of presentation plan and schedule for the week.
Wesley Dotson – Discussion of logistics for documentation to be presented and MOX Services Nuclear Criticality Safety technical support personnel available for teleconference discussions. As defined by the NRC Review Team the scope for this meeting includes the KDB Dissolution Unit, NDP Primary Dosing Unit, and LCT Laboratory Area Test Line. MOX Services has established an electronic file (eRoom) accessible through the internet, with the first level reference documents for each of these systems/units.

Question and answer process continued throughout the day. Review closed for the day with a conference call including the following NRC and MOX Services representatives:
US NRC
Dave Tiktinsky
Chris Tripp
Craig Hrabal
MOX Services
Dealis Gwyn, Manager Licensing and Regulatory Compliance
Wesley Dotson, Senior Licensing and Regulatory Compliance Specialist
MOX Services technical support personnel participating via telecom:
Bob Foster, Nuclear Criticality Safety Lead Engineer
Mark Valenti, KDB/KPA NCSE Preparer
Jim Bazley, NDP NCSE Preparer
David Vaughn, LCT NCSE Preparer

Nuclear Criticality Safety
US NRC Inoffice Review
April 18, 2007 – Day 2

Nuclear Criticality Safety Review continued.
Attendees:
US NRC
Chris Tripp
Craig Hrabal

MOX Services
Wesley Dotson, Senior Licensing and Regulatory Compliance Specialist
Bob Foster (via telecom), Nuclear Criticality Safety Lead Engineer

Review closed for the day with a conference call including the following NRC and MOX Services representatives:
US NRC
Chris Tripp
Craig Hrabal
MOX Services
Wesley Dotson, Senior Licensing and Regulatory Compliance Specialist
MOX Services technical support personnel participating via telecom:
Bob Foster, Nuclear Criticality Safety Lead Engineer
Mark Valenti, KDB/KPA NCSE Preparer
Jim Bazley, NDP NCSE Preparer

Nuclear Criticality Safety
US NRC Inoffice Review
April 19, 2007 – Day 3

Question and answer process continued throughout the day. Review closed for the day with a conference call including the following NRC and MOX Services representatives:
Attendees:
US NRC
Dave Tiktinsky (present for Exit – Closeout discussions only)
Chris Tripp
Craig Hrabal

MOX Services
Wesley Dotson, Senior Licensing and Regulatory Compliance Specialist
Dealis Gwyn, Manager Licensing and Regulatory Compliance (present for Exit – Closeout discussions only)
Bob Foster (via telecom), Nuclear Criticality Safety Lead Engineer
Mark Valenti, KDB/KPA NCSE Preparer
Jim Bazley, NDP NCSE Preparer
David Vaughn, LCT NCSE Preparer
Michael Shea, MOX Services NCS Engineer (3:20 PM call only)

Inoffice review process was completed for the week.
KPA was only discussed as part of general discussions as they related to KDB and NDP. The review process focused on KDB, NDP, and LCT but was not considered complete during this session.

Exit – Closeout for the week

Open Items for future discussions:

- Use of two admin controls e.g., Operator A and Operator B performing actions independently to meet double contingency requirement e.g., Example 1: Verification of spill cleanup by Operator A and Operator B and Example 2: Lock out of a crane using Operator A and Operator B.
    - Definition of independent verification?
    - How will these Administrative criticality controls be implemented?

- Reportability Question. Examples for discussion:
    - If there are multiple IROFS components/items grouped together as ONE control and any one of the multiple IROFS fails, then is this reportable to the NRC?
    - Same case with one IROFS failed, is the safety function still met?
    - How does this work in respect to 70.72 Facility Changes in reference to Licensee changes to IROFS components/items as equivalent and not requiring prior NRC review/approval.
    - What is stated in the MOX LA relative to NCS Program Reporting.
    - How will MOX treat violations of NCS controls and loss of double contingency e.g., criticality safety concern evaluations, corrective actions, and reporting.

- Need further discussion concerning the adequacy of the identification of specific IROFS components by unique ID e.g., PrHA, NCSEs refer to a generic component type (AOVs) without reference to the specific credited component by ID number. Without unique identification of the credited component it is difficult or impossible to determine the credited control. IROFS and IROFS boundary definitions appear to not be defined or not clearly defined. Need to be able to identify the credited criticality controls (IROFS), the boundary of each control/IROFS in a timely manner.

- Need further discussions concerning Safety Limits and Operating Limits. NCS documents reviewed (NCSE/PrHA/Crit Calcs) identify Safety Limits but do not discuss Operating Limits. Appears that Operating Limits are set at the Safety Limits resulting in no margin for operating anomalies.

  MOX Services response: The NCS documents establish the safety limit or analytical limit and establish that we are highly unlikely to exceed the USL. Operating limits will be developed/identified later.

  NRC:
  - Not clear how the NCSE can determine "highly unlikely" without identifying the Operating Limits?
  - Will operating limits or analytical limits be contained in the NCSE or criticality calculation and when will that be available?

  MOX Services response: Additional discussion/clarification concerning Safety Limits or analytical limits and highly unlikely arguments will be presented at the next meeting.
  The decision as to where the Operating Limits will be documented and controlled has not been finalized at this time.

- While discussing how modeling was done for reflection it was not clear if NCS analysis followed the requirements specified in the CAR. It appears that the MOX LA did not carry forward this requirement from the CAR. Need further discussions on this specific example and an expanded discussion concerning the relationship of the CAR to the LA. Specifically, are NCS analyses being performed as specified in the CAR or have they been changed to support the LA which in some cases may have resulted from design changes as MFFF design is finalized.

- NDP NCSE (35016-2) needs revision to clarify reflection control.

- At the next meeting, need full size drawings for verification of IROFS referenced in the ISA Summary, NCSEs, PrHAs, and SDDs. Electronic and printed 8.5x11 are not legible.