



Management Meeting Related to the Status of the License Review and Inspection Program for the Mixed Oxide Fuel Fabrication Facility

May 21, 2008

Enclosure 3



Background

- Technical review of License Application and Integrated Safety Analyses began in January 2007 and are continuing
- Final Safety Evaluation Report is scheduled to be completed by December 2010



License Review

- Review activities are being done on a discipline specific basis
- Technical reviewers are developing requests for additional information (RAI) based on review findings



RAI Preparation

- NRC and MOX Services are successfully using a communicative approach related to RAI development
 - Initial meetings identified additional information to be reviewed
 - Interactive discussion of NRC questions and information needs
 - Meetings open to the public expect for discussions of “Official Use Only” or “Classified Information”
 - Additional RAI’s are expected to be sent to the applicant in various technical disciplines



MFFF RAI Status

Technical Area	Meeting to discuss draft RAI's	RAI's Sent to Applicant	Response received
Civil/Structural	Conference Call	Yes	Yes
Classified Matter Protection Plan	Yes, 2 nd round of questions	Yes	Yes (1 st round), 2 nd round in Preparation
Criticality Safety (LA only)	Yes	Yes	In Preparation
Fire Protection	Yes	In Preparation	
Confinement Systems	Yes	In Preparation	



Other Review Activities

- Kickoff meetings were held for all technical areas
- A significant number of technical in-office reviews have been held in either Aiken or Bethesda Office
- Additional in-office reviews are scheduled and expect to be continued for some time



Other Interactions

- NRC Headquarters and Region II are working together on interactions
- NRC Quality Assurance Reviews and Audits
 - MOX Services programs and oversight of vendors
 - Vendor Inspections
 - NRC quarterly inspection reports can be found on NRC MOX Website www.nrc.gov/materials/fuel-cycle-fac/mox/licensing.html
- Inspection Reports Include:
 - Letter to licensee senior management
 - Notices of Violations (if any)
 - Executive Summary of inspection findings
 - Inspection Details



Significant Activities From Inspection Reports

- Inspection report covering Oct. 1 through Dec. 31, 2007 (ML080290671)
 - Resident Inspection program for monitoring on-site construction
 - Review of concrete specimen testing
 - Review of low strength concrete in place of engineered fill
 - Review of Certificate holder identified QA items and corrective actions
 - Review of vendor surveillance
 - Review of MOX Services evaluation of their supplier's oversight of their subcontractors
 - Closed Inspection follow-up items
 - No violations identified



Significant Activities From Inspection Reports (continued)

- Inspection report covering Jan 1 through March 31, 2008 (ML081210717)
 - Two violations identified
 - Reinforcing bar not meeting ACI 349 code requirements for minimum bend radius
 - Insufficient justification related to use of reinforcing steel splices that did not meet ACI code requirements



Discussion of Violations

- Reinforcing bar (rebar) not meeting ACI 349 code requirements for minimum bend radius
- Three cases
 - Loose uninstalled rebar
 - Installed rebar not yet embedded in concrete
 - Rebar partially or completely embedded in concrete



Discussion of Violations (cont.)

- MOX Services analyzed the 3 cases
 - Removed non-code conforming rebar that had not been installed
 - Prepared a structural analyses for areas in which rebar had been embedded in concrete
 - Concluded that sufficient rebar development length exists to support the critical structural loads and that the safety function is not impacted



Discussion of Violations (cont)

- NRC (HQ and RII) performed an evaluation of the applicants analyses. Based on its technical review and confirmatory calculations, the staff agrees with the applicant that the embedded rebar are in locations where stresses are low, and thus can perform their intended safety function with the available development lengths without including the bends.
- MOX Services will formally respond to violation



Discussion of Violations (cont)

- Insufficient justification related to use of reinforcing steel overlap splices that did not meet ACI code requirements
 - MOX Services issued a non-conformance report related to rebar overlap splices
 - Closed out non-conformance without providing actual design calculations to justify out-of-tolerance splices
 - Violation of requirements of MOX Project Quality Assurance Plan
- MOX Services will formally respond to violation



Other Significant Activities From Inspection Report (continued)

- Inspection report covering Jan. 1 to March 31, 2008 (continued)
 - Resident Inspection Program for monitoring on-site construction
 - Review of concrete specimen testing
 - Review of low strength concrete fill (placement and testing)
 - Continued review of the disposition of non-conformance report related to concrete cracks
 - Review of piping and embedded plate installation
 - Review of concrete quality control



Other Significant Activities From Inspection Reports (continued)

- Inspection report covering Jan. 1 to March 31, 2008 (continued)
 - Observation of MOX Services audit of a vendor created structural computer code (Georgia Tech Computer Aided Structural Engineering Center)
 - Evaluation of MOX Services vendor's implementation of quality processes to meet applicable codes, standards and regulatory requirements (Premier Technologies) review of MOX Services evaluation of their supplier's oversight of their subcontractors (tank manufacturer)



Other Licensing Related Items to Note

- Exemption to 10 CFR 21.3 granted to MOX Services related to definition of Commercial Grade Item (NRC ADAMS **ML080030393**)
- A Part 21 notification was issued related to Rebar (ML080990635)
- First Annual revision of LA and ISAS (ML080300320, ML080300321)
- 70.23(a)8 – Strategy for compliance (ML081000347)



Other Licensing Related Items to Note (cont)

- Exemption to 10 CFR 21.3 granted to MOX Services related to definition of Commercial Grade Item
 - Exemption from the definition of “commercial grade item” based on impact on its procurement of long lead-time components for the MFFF
 - The Staff found was that the use of a revised definition of commercial grade item for the MFFF does not impact public health and safety. When properly and successfully dedicated, a commercial grade item is deemed by the NRC to be equivalent in its safety function performance to the same or a similar item designed and manufactured under a 10 CFR Part 50, Appendix B quality assurance program
 - MOX Services committed to revising its QA program to include the new definition and will be responsible as the dedicating entity



Other Licensing Related Items to Note (cont)

- Part 21 issued related to Rebar
 - Identified a deviation from a vendor associated with reinforcing bar (rebar)
 - Significant portion of rebar failed to meet the minimum bend radius as specified in ACI standard 315-99 and 349-97



Other Licensing Related Items to Note (cont)

- First Annual revision of LA and ISAS
 - Applicant provided annual update based on their internal procedures (similar to 10 CFR 70.72)
 - NRC held a public meeting to discuss updates (ML080020639)
 - Revisions were based on applicant generated items (e.g., revisions to Nuclear Criticality Safety Evaluations, QA plan updated, corporate name change, etc.) and not on NRC RAIs
 - NRC will consider applicant revisions in its continuing technical review



Other Licensing Related Items to Note (cont)

- 70.23(a)8 change of approach
 - NRC notified the Atomic Safety and Licensing Board that it has determined that a license to possess and use radioactive material will not be issued before a determination that construction of the principle structures, systems and components approved pursuant to 10 CFR 70.23(b) has been completed in accordance with the application (ML081000347)



Conclusions

- Technical review is progressing well and inspections are ongoing
- MOX Services has been very cooperative in arranging meetings and reviews and responding to NRC information needs and questions
- RAI preparation is continuing