



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

April 29, 2009

Enclosure 3



Discussion Topics

- Introduction
- License review status
- Inspection program overview
- Conclusions



Introduction

- Changes in FCSS management
- Commitments and expectations
- Importance of the responses to staff requests for additional information
- Awareness of importance of constructing principal structures, systems and components in accordance with the application



License Review Background

- Technical review of License Application (LA) and Integrated Safety Analysis (ISA) Summary began in January 2007
- Requests for additional information (RAIs) for all technical disciplines were completed in March 2009
- Final Safety Evaluation Report is scheduled to be completed by December 2010
- Construction inspection of activities related to Principle Structures, Systems, and Components (PSSCs) are continuing



RAI Development

- Technical review activities are being done on a discipline specific basis
- Technical reviewers have completed the first round of RAIs
- Additional meetings will be held to discuss the proposed responses to make sure RAIs are being addressed satisfactorily



MFFF LA Review Status

Review Area	Review Kickoff/ meetings/ in-office Reviews	RAI Prepared	RAI Responded to by Applicant	Initial draft SER prepared
Civil/Structural				
Criticality Safety				
Chemical Processing				
Classified Matter Handling				
Confinement				
Fire Protection				
Integrated Safety Analysis Summary				
Instrumentation and Control				
Radiation Protection				
Emergency Planning				
Environmental Protection				
Plant Systems				
Human Factors				
Material Control and Accounting				
Management Measures				



RAIs for the Review of the MFFF LA and ISAS

- Classified information handling - ML071790512, ML080070530
- Civil/Structural - ML072140457
- Criticality safety- ML081060251, ML090160334
- Fire protection - ML081620368
- Confinement systems - ML081840037
- Radiological protection - ML082590305
- Mechanical and fluid systems - ML090510593
- Environmental - ML090510132
- Material Control and Accounting - ML090160557
- Management measures - ML090720157
- Electrical/Instrumentation and control ML090760154, ML090780829
- Integrated safety analysis summary -ML090680618
- Human factors - ML090770028
- Emergency plan evaluation - ML090840132
- Chemical process safety -ML090790583



Verification Plan for 10 CFR 70.23(a)8

- 10 CFR 70.23(a)8 requires that the staff verify construction of the principal structures, systems, and components (PSSC) have been constructed in accordance with the application
 - License to possess and use radioactive material will not be issued until verification is complete
 - NRC staff is developing a formal “Verification Plan” that will be used to document the process the staff will perform in order to determine compliance with 10 CFR 70.23(a)8



Verification Plan for 10 CFR 70.23(a)8 (cont)

- The verification plan approach consists of:
 - Developing clear inspection scoping and sampling guidance using an expert panel review.
 - Developing a process to track inspections, issues, technical reviews, and results by each PSSC.
 - Developing a methodical process for developing and documenting staff recommendations to the Commission in accordance with 10 CFR 70.23(a)(8) prior to issuance of the MFFF license.



Inspection Program Overview

- Resident Inspector Program
- Quality Assurance Inspections
- Construction Inspections



Quality Assurance Inspection Procedures

- QA Program Implementation
- Design and Documentation Control
- Control of Materials, Equipment, and Services
- Inspection, Test Control, and Control of Measuring and Test Equipment
- 10 CFR Part 21 Inspection-Facility Construction
- Problem Identification, Resolution, and Corrective Action
- Control of the Electronic Management of Data
- Supplier/Vendor Inspection
- Inspection of Quality Assurance Interface



Construction Inspection Procedures

- Geotechnical/Foundation Activities
- Structural Concrete
- Structural Steel and Supports
- Piping Relied on For Safety
- Pipe Supports and Restraints
- Mechanical Components
- Electrical Components and Systems
- Ventilation and Confinement System
- Nuclear Welding
- Structural Welding
- Fire Prevention/Protection
- Underground Fire Water Loop and Equipment Installation

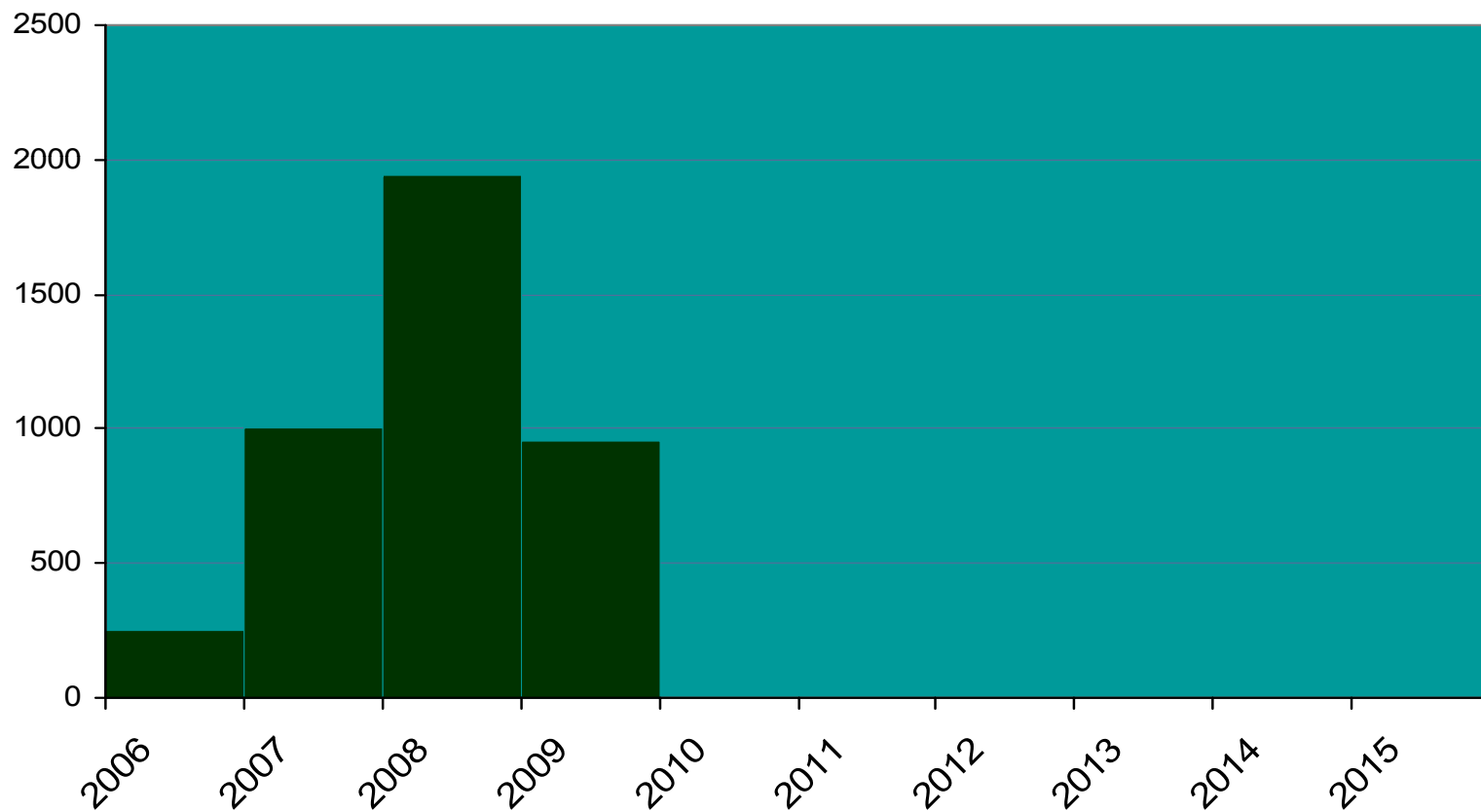


Inspections Completed Since April 2008

- **2008:** April 1 - December 31, 2008
 - ❑ 8 inspections, including 1 reactive (vendor) inspection, in addition to the Resident Inspector Program
 - ❑ Covered 15 Inspection Procedures in the following areas: Concrete, Structural, Geotechnical, QA, and Vendor
 - ❑ Roughly 1,400 hours of direct inspection effort

- **2009:** January 1 – March 31, 2009
 - ❑ 5 inspections, including, 1 PI&R, 1 reactive inspection, 2 vendor inspections, in addition to the Resident Inspector Program
 - ❑ Covered 7 Inspection Procedures in the following areas: Concrete, Structural, Geotechnical, QA, and Vendor
 - ❑ Roughly 780 hours of direct inspection effort

On-Site Inspection Hours Expended at MFFF





Assessment of Applicant Performance

- Region II held an Assessment of Applicant Performance (AAP) in Aiken, SC, on December 15, 2008
 - Discussed Shaw Areva MOX Services' performance in the areas of management measures, facility construction, and licensing activities
 - Covered the period from October 16, 2006, to September 30, 2008
 - The meeting was open to the public
- The assessment was performed using IMC 2630 "Mixed Oxide Fuel Fabrication Facility Construction Inspection Program."
- No specific areas needing improvement were identified for management measures, facility construction, or facility support. The applicant met NRC requirements, and therefore we maintained the core inspection program.



Issued Violations

- **2008:** 4 Violations
 - All violations were categorized as Severity Level IV violations, and the risk significance for these violations was determined to be of very low safety significance
 - 5 Non-Conformances issued against a Vendor
- **2009:** No Violations from the Problem Identification, Resolution, and Corrective Action inspection (IR 70-3098/2009-005)
 - 4 Inspection Reports are not issued yet



Future Inspections

- There are several construction and quality assurance inspections scheduled for 2009
 - Implementation of NQA-1 Quality Assurance program
 - Design control
 - Civil/Structural engineering
 - Mechanical engineering
 - Electrical engineering
 - Civil/Structural construction
 - Installation of mechanical components
 - Procurement
 - Vendor oversight

- Inspection implementation requirements are outlined in IMC 2630, “Mixed Oxide Fuel Fabrication Facility Construction Inspection Program.”



Challenges

- Integration of PSSCs schedule into the construction and inspection schedules
 - Define PSSCs completion dates

 - Increased construction activities
 - Structural
 - Procurement
 - Fabrication
 - Installation
- } Increased inspection activity



Challenges (continued)

- Ensuring vendors and construction contractors are implementing quality assurance requirements
- Designing, redesigning, and design changes as construction continues impacts inspection resources and scheduling
- Verification and validation of completion of construction of PSSCs in accordance with 10 CFR 70.23(a)(8)
 - Risk prioritization of items relied on for safety (IROFS)



Conclusions

- RAIs for all technical areas have been completed
- NRC is developing a formal verification plan for PSSCs
- Inspection activities related to verification of construction of PSSCs is continuing
- Inspection activities will increase as the construction activities increase