Operational Readiness Reviews

"Lessons Learned and Experiences"

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What is an NRC Operational Readiness Review ?

- An NRC Operational Readiness Review (ORR) is a assessment review inspection performed by a multi-disciplined inspection team to assure that a facility, or a major modification to a previously approved facility, can be operated safely within the intended safety basis.
- NRC senior management objectively review and assess the state of readiness of facility operation based on the results of the NRC ORR inspection.

What is an NRC Operational Readiness Review ? (continued)

- The intent of an NRC ORR is to ensure initial and continued safe and effective operation of a facility
- The ORR precedes operational start-up as this is the time when credible reviews and assessments can be made without unnecessarily delaying the operational schedule

ORR Lessons Learned

- Use of licensee/applicant ORR teams have a direct impact on the success of the project
  - Results in more efficient and effective use of NRC resources
  - Inspection issues are typically minimized
- Use of multiple ORRs vs. the MOA-ORRs
- Use of operators and engineers in licensee/applicant ORRs

ORR Lessons Learned (continued)

- Ensure evaluations and procedures are approved at time of NRC ORR
- Ensure license commitments are implemented into procedures
- Verify and validate procedures

Attachment

ORR Lessons Learned (continued)

- Important issues associated with applicant/licensee evaluations:
  - Ensure complete safety analyses – for example, ensure Fire Hazard Analysis (FHA) assumptions and controls are incorporated into procedures
  - Use correct assumptions in dose assessments and criticality safety calculations

ORR Lessons Learned (continued)

- Develop and implement facility readiness criteria that cover all areas of operations
  - Include performance demonstration, implementation of programs, interviews, and review of records
- Review previous ORRs to identify past issues that may have been missed and use lessons learned

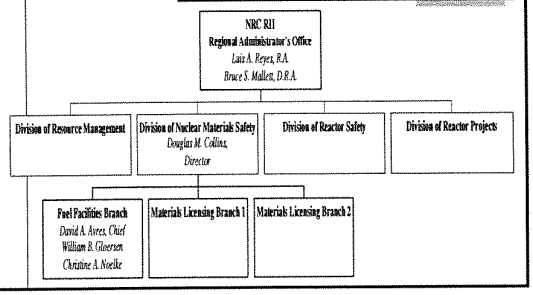
ORR Lessons Learned (continued)

- Practice all activities involved with the startup from start to finish
- Do not declare readiness until able to perform all activities without changes (both administrative and physical)
  - If procedures require technical changes in order to be performed as written, they are not ready

ORR Lessons Learned (continued)

- Use of Realistic Schedules:
  - Schedule an NRC ORR when licensee/applicant ORR is complete
  - Best to change scheduled NRC ORR if project schedule is slipping
    - Better to avoid repeat of NRC ORRs due to lack of project readiness
  - Communicate often with NRC Regional Office
    - Region II/Division of Nuclear Materials Safety/Fuel Facilities Branch
    - In FFB, contact: Bill Gloersen or Christine Noelke

Organization



ORR Lessons Learned (continued)

- Use realistic operator training methods (mock-ups and dry runs)
- Strong Quality Assurance (QA) oversight of vendors and fabricators
- Ensure a management representative is on shift during ORR

ORR Lessons Learned (continued)

- "Safety First" attitude
  - Encourage stop work authority
  - Encourage a questioning attitude in the staff
  - Make use of safety message boards
  - Acknowledge individual/group contributions to safety
  - Start meetings with a safety message

ORR Experiences

- Share industry experience
  - Recent NRC ORRs:
    - Westinghouse
      - Erbia Blending Project – IR: 70-1151/2001-07
    - Nuclear Fuel Services, Inc.
      - HEU Down-Blending Project – IRs: 70-143/96-11, 70-143/96-13, 70-143/96-15
      - Naval Fuel Project – IRs: 70-143/99-02, 70-143/99-05, 70-143/99-06, 70-143/99-09, 70-143/00-04

ORR Experience (continued)

- Share industry experience *(continued)*
  - Examples of industry/government ORR team assessments:
    - Independent Spent Fuel Storage Installation (ISFSI) Projects
    - Fuel Fabrication Facility Projects
    - DOE-LANL Projects

Conclusions

- Senior management involvement and strong QA implementation have a direct impact on the success of the project

Questions ?

- Contact either:
  - Bill Gloersen (404-562-4713 or wbg@nrc.gov)
  - Christine Noelke (404-562-4724 or can1@nrc.gov)