

**Operating Experience Smart Sample (OpESS) FY2007-01
PWR CONTAINMENT SUMP RECIRCULATION PIPE FOREIGN MATERIAL BLOCKAGE**

Note: Highlighted hyperlinked documents should be active if clicked.

SOURCE DOCUMENT: [NRC Information Notice \(IN\) 2006-20, "Foreign Material Found in Emergency Core Cooling System."](#) The IN addresses operating experience from the Oconee site.

CORNERSTONE: MITIGATING SYSTEMS

APPLICABILITY: This OpESS is applicable for inspectors of pressurized-water reactors.

OBJECTIVE: To enable NRC inspector review of licensees' actions, as appropriate, to avoid similar problems as discussed under IN 2006-20. This OpESS is to be a "voluntary" inspection sample item selected by the NRC Inspector.

This OpESS may be selected to determine any licensee corrective actions as a result of issuance of IN 2006-20 or, if applicable, planned and programmatically controlled by the licensee's corrective action program. If no actions are deemed necessary, inspectors should review licensee justification for not taking any actions (e.g., previously inspected and documented).

The intent of this OpESS is for inspectors to observe the condition of emergency core cooling system (ECCS) piping downstream of the containment sumps as far as possible (at least to the first isolation valve) by either direct observation or following a licensee's use of camera (boroscopes, robotic equipment), or by inspection through some other means (video tape review) to ensure foreign material is not present similar to what was identified at the Oconee site.

INSPECTION GUIDANCE

- 1) Use appropriate Baseline Inspection Procedures for reviewing the actions taken by the licensee related to IN 2006-20. Five inspection procedures that can be used are listed below (in order of preference with inspection suggestion listed):
 - [IP 71111.20](#) "Refueling and Other Outage Activities" (during closeout inspection of the sump areas /related piping)
 - [IP 71111.17](#) "Permanent Plant Modifications" (as part of followup to modifications that may affect this area of the plant, example sump modifications)
 - [IP 71152](#) "Identification and Resolution of Problems" (as a selected sample for OpE review)
 - [IP 71111.21](#) "Component Design Bases Inspection" (CDBI, review as part of the OpE review)
 - [IP 71111.15](#) "Operability Evaluations" (as part of an operability review should the inspection discover foreign material that may impact system operability)
- 2) Determine if the licensee received IN 2006-20 and entered it into their operating experience program or corrective active program for review.
- 3) Review any corrective actions taken under the corrective action program (or by other appropriate operating experience tracking program) in response to IN 2006-20.
- 4) Inspect ECCS piping related to IN 2006-20 by either direct observation (live camera/boroscope feeds) [preferred method], or by review of related documentation (video tape or written documentation) which indicates licensee inspection results. The intent is to verify the ECCS piping from the emergency recirculation sump to at least the first isolation valve is free from any foreign material that could impact ECCS operability.
- 5) Adequacy concerns related to licensee actions should be directed to the respective DRP/DRS Branch Chief for further guidance.

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OpESS 2006-01 BACKGROUND INFORMATION

As discussed in NRC IN 2006-20, "Foreign Material Found in the Emergency Core Cooling System," at least one licensee (Oconee on multiple units) discovered foreign material debris in the recirculation piping that could impact ECCS pump operability. With additional sump modifications occurring in response to [Generic Letter 2004-02](#), and [GSI-191, Bulletin 2003-01](#) this modification process may represent an opportune time for both licensee and NRC inspection of this recirculation piping. The IN 2006-20 discussion concludes that 1) the Oconee event illustrates the potential for adverse effects on the ECCS due to foreign material and the importance of thorough inspections; 2) there is a need for maintaining adequate FME controls when working on or near ECCS; and 3) there may be a need for considering inspections of some ECCS lines which may not have been inspected for extended periods.

The concerns were reported in Oconee LER 50-00269/2006-03-0 (ADAMS ML062200342). This foreign material could result in the potential for increased failure probability of the ECCS due to debris accumulation in the recirculation piping and potential for blockage or component damage such as pump shaft breakage, vibration and seal damage and overload trip.

Consistent with the risk significance of this ECCS recirculation pipe debris concern, the staff issued IN 2006-20 to inform licensees of this condition at Oconee. The underlying purpose of the IN is to inform licensees of this operating experience for which they are expected to review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems and ensure this potential condition does not apply to their unit(s).

**REPORTING OF OpESS FY2007-01 INSPECTION RESULTS / TIME CHARGES /
ADDITIONAL ISSUES**

Document any inspection result findings, as applicable, in an integrated inspection report (i.e., quarterly inspection report/ or CDBI report) and reference the title/ OpESS number (example: "Review of Operating Experience Smart Sample (OpESS) FY2007-01, related to Information Notice 2006-20." Otherwise, list the item as an inspection sample including the "OpESS number/ title" under the applicable inspection attachment (i.e., 1R20, 1R17) with no findings of significance identified.

The inspection results from this Operating Experience issue and OpESS FY2007-01 documentation will allow the NRC (NRR/IOEB) to verify the status of licensee response to IN 2006-20, and to determine if the condition warrants further agency action, such as issuance of a Generic Letter or development of a Temporary Instruction for sites that have not responded to IN 2006-20.

Inspection time for this OpESS is to be charged to the normal baseline procedure under which it is being documented (along with any routine preparation and documentation charge times).

It is important to use the related number (OpESS FY 2007-01) in any inspector forum communication for future search capability by other inspectors and the NRR Operating Experience Branch.