

RIC 2006

Session T2E

Use of Operating Experience

Operating Experience – A Regional Perspective

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Regional OpE Sources

- Inspections
- Operating Experience Screened “In” by NRR
- IAEA News Briefs
- Sharing Inspection Findings from all Regions
- INPO/WANO Operating Experience Database
- Information Notices, Part 21s, RIS, Generic Letters, Bulletins

Region III has assigned as a collateral duty an Operating Experience Coordinator



Value Added Findings (VAFs)

- Based on Recommendation from Supervisor
- Provided to All Region III Staff
- Shared among Regions and with HQ

RIII VALUE ADDED FINDING			
VAF NUMBER:	SITE:	RPT NUMBER:	ISSUE DATE:
2005-43		05-XXX/05-XX	11/19/05
Failure to Have Separation Between Redundant Safe Shutdown Cables			
<p>During a Triennial Fire Protection inspection at XXXX, the inspectors identified a Non-Cited Violation for failing to ensure that one redundant train of systems necessary to achieve and maintain hot shutdown conditions was free of fire damage.</p> <p>For a postulated fire in the Reactor Building, the licensee's safe shutdown strategy was to shutdown from the main control room using Division II equipment since Division I equipment could have been damaged by the fire. The strategy was to use the High Pressure Coolant Injection (HPCI) system, a Division II system, to inject water into the core since the postulated fire would have damaged the Reactor Core Isolation Cooling (RCIC) and Standby Feedwater systems. Although HPCI was considered a Division II system, the HPCI pump turbine steam supply inboard isolation valve had Division I control cables. Fire-induced cable damage to these control cables could have caused the valve to spuriously close. A fire-induced failure (hot short) to one of the control cable conductors could have bypassed the torque and limit switches of the motor-operated valve and cause valve closure and motor burnout. The valve could not have been opened locally since it was located inside primary containment, and control cables from the main control room could also have been damaged by a postulated fire. The licensee assumed that a preemptive manual action could have been taken after receipt of a fire alarm. This manual action was to prevent the valve from closing by disconnecting power to the valve before the hot short occurred. The licensee assumed that a hot short would not have occurred within a specified time frame after exposure to a fire. The inspectors questioned the feasibility and the basis of this manual action.</p> <p>If both HPCI and RCIC were lost, reactor pressure vessel (RPV) makeup could have been supplied by blowing down the RPV with Division II Safety Relief Valves (SRV) and then initiating low pressure injection using Division II RHR or CS systems. However, if a LOOP had occurred during the fire, only one Division II SRV would have been available and the licensee relied upon HPCI, with preemptive manual actions. The licensee also believed that nitrogen bottles could have been staged for use of additional Division II SRVs, but the inspectors determined that this action was a hot shutdown repair and therefore, not in accordance with regulatory requirements.</p> <p>The inspectors determined that the feasibility of the preemptive manual action to restore HPCI by disconnecting power to the valve was not credible and the other means of establishing hot shutdown conditions were subject to damage from a postulated fire. Therefore, the team concluded that one redundant train of systems necessary to achieve and maintain hot shutdown conditions was not free of fire damage in the event of a fire in this fire zone.</p> <p>This finding illustrates the importance of maintaining a questioning attitude about licensees' safe shutdown analyses and strategies. Please contact RIII inspectors Alan Dahbur or Audrey Klett for questions about this issue.</p>			
<p>Distribution: J. Caldwell, G. Grant, M. Satorius, C. Pederson, S. Reynolds, DRPIII, DRSIII, B. Holian, R. Blough, D. Chamberlain, A. Howell, C. Casto, V. McCree, P. Habighorst, S. Richards, F. Tobler, S. Iyer, M. Patel</p>			



Bringing It All Together

- Daily Events Meetings
- SAFE Board
- OpE Thursday
- SRA Reviews of Operational Events
- Periodic Training
- Program Reviews

Focusing the Regional Staff on learning lessons from OpE



GETTING SAFETY RESULTS FROM OpE

- On 1/27/05 a single failure vulnerability was identified at a RII facility that could prevent both EDGs and off-site power from supplying power to their respective Safety Buses.
 - 1/28: OpE discussed at RIII morning meeting.
 - 2/2: RIII inspectors confirmed that condition also existed at a RIII facility.
 - As of 2/3 RIII inspectors had confirmed that condition also existed at three other RIII facilities.



GETTING SAFETY RESULTS FROM OpE (Continued)

- 3/14/05 – During inspection preparation for 95003 inspection at a RIII facility, OpE reviewed (NRC Information Notice (IN) 2001-19).
- 3/30 – During actual inspection at the RIII facility, inspectors identified potential oil bubblers mis-assembly similar to that described in IN 2001-19 associated with safety-related ECCW pumps.
- 4/7 – Licensee confirms that bubblers were installed incorrectly, increasing the possibility of oil flow blockage.



GETTING SAFETY RESULTS FROM OpE (Continued)

- 12/9/05 – French Utility EDF determines that Low Pressure Safety Injection and Containment Spray Pumps for 900 MWe reactors could be rendered inoperable by excessive vibration – classified as a level 2 on INES scale.
- 12/16 – Issue briefed at RIII morning meeting - a RIII facility was determined to have similar pumps.
- 12/17 – NRC residents confirm that the RIII facility installation different from EDF such that vibration vulnerability not a problem.

