

Discussion and Proposed Resolution of NRC AIT URI (unresolved issue) Concerning Tech Spec Tracking During and Following EOP Use (Unit 2 6/14/04 LOOP trip)

Issue Summary

The NRC AIT Team questioned the lack of Technical Specification tracking during the LOOP/LOFC Emergency Operating Procedure, and the LCO entry times used immediately after exiting the EOP. The PVNGS station policy and EOP procedures direct that the applicable LCO conditions and actions are entered at the time the EOP is exited.

Background Information

1. 7/01/85 NRC INSPECTION OF PALO VERDE UNITS 1, 2 AND 3

The initial C-E Owners Group development of emergency procedure guidelines was completed in the first quarter of 1980. These emergency procedure guidelines are documented in Report CEN-128. This report was submitted to the NRC staff for review on April 1, 1980. Early in 1981 workshops were held by the CE Owners Group (CEOG) to provide a formal process by which the emergency procedure guidelines documented in Report CEN-128 would be revised to account for multiple failure considerations. The revised emergency procedure guidelines were submitted to the staff on June 30, 1981 as CEN-152. As documented in the Palo Verde Safety Evaluation Report (SER) dated November 1981, the CEOG submitted CE Emergency Procedure Guidelines (CEN-152) to the staff for review on June 30, 1981. These guidelines reflected the reanalysis of transients and accidents, and incorporates inadequate core cooling. Based on preliminary staff comments on the revised guidelines, CE and CEOG agreed to incorporate staff comments into a revised guideline (CEN-152, Revision 1).

2. Background Information for Westinghouse Owners Group Emergency Response Guidelines (ERGs) (September 1, 1983)

The plant technical specifications contain the limiting conditions for plant normal operation in the applicable modes. By abiding by these conditions, the plant's operation would be conducted in a safe manner and the design safety features would be ready to respond if a design basis accident were to occur. One could consider that the technical specifications play a preventative and preparative role in ensuring plant safety. If an accident does occur, the ERGs play a responsive role in dealing with the accidents. The ERGs provide the actions to be performed and parameters to be monitored to maintain plant safety and to achieve optimal recovery.

When the safety systems are actuated and performing their role during an accident, many of the preparative technical specifications will be violated due to the action of the safety systems (e.g., after the RWST is injected into the RCS, its level will be below its technical specification limit). The accident itself could be a violation of the preventative technical specifications (e.g., a LOCA will exceed RCS leak limits).

The ERGs were developed to respond to accident conditions and are supported by extensive analytical background, in most cases best estimate. The actions delineated in the ERGs are those actions necessary to deal with the accident in order to maintain or restore the plant in a safe condition. In general, the technical specification limitations are considered in developing the emergency response actions in the ERGs. However, the ERGs contain actions which will lead to technical specification violations in order to maintain plant safety (e.g., opening pressurizer PORVs during a complete loss of secondary heat sink will violate RCS leak limitations, but is necessary to provide for core cooling and prevent more severe consequence).

C/S

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Although it is desirable to remain within technical specification limits at all times, one must keep in mind that the overall objective is to protect the health and safety of the public. This may require violating a particular technical specification in response to an accident.

The fact that the ERGs provide guidance that may result in technical specification violations was identified to the United States Nuclear Regulatory Commission (NRC) at a meeting on February 9, 1982, to update the NRC on the status of the ERG program. At this meeting and in their internal meeting summary, the NRC "acknowledged that it may be necessary in some emergency situation to take actions which are, or can lead to, violation of technical specifications.

Reference: H.B. Clayton to D.L. Zieman, Meeting Summary, Westinghouse Owners' Group and Westinghouse Emergency Operating Procedure Guidelines, February 24, 1982.

3. Various Letters Regarding of Specific Issues/Questions on Technical Specifications when In EOPs

APS Memo 038-01194-FCB (Subject: Emergency Operating Procedure Strategy Changes), December 30, 1991

APS Memo 038-01181-KWH/FB (Subject: Emergency Operating Procedure Evaluation), December 20, 1991

APS Memo 291-00771-JWD (Subject: Response to CAG's EOP Audit Recommendation), January 17, 1992

APS Memo 161-04644-MEP/RAB (Applicability of 10CFR50.59(x) and Technical Specification When in EOPs), March 5, 1992

There is nothing specifically applicable to this issue. However, the memos are in a green folder on the table in my office for reference if needed.

4. Deviation 25 was taken to CEN 152 to Include 4 specific Technical Specifications in the EOPs

5. Industry Survey Results

A quick survey was conducted with the CE plants. Three responses were received indicating a common approach to that used at Palo Verde. A INPO Nuclear Network Inquiry found the same approach used at the Sizewell B plant. Finally, discussion with the CEN-152 Coordinator at Westinghouse determined that (1) there is no documented position on technical specifications within CEN-152, and (2) the method used by Palo Verde is consistent with CEN-152 and other CE plants.

Summary

To determine LCO entry times associated action(s) during EOP's is not sensible. As stated above, Technical Specifications (TS) provide assurance that the plant is maintained in an analyzed condition prior to the onset of an event. They also provide assurance that the necessary mitigation equipment is available and capable of accomplishing their functions. During the event, EOP's may directly contradict TS since the purpose is to mitigate an event that has occurred. EOP's direct actions such as throttling HPSI flow. This would require both ECCS trains to be declared INOPERABLE and place the unit in LCO 3.0.3. When a component failure occurs during the EOP, mitigation of the event

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must continue. Entering the require LCO and action is not required. If the time of component failure is used instead of the EOP exit time, then another compliance problem exists in that the action may have required periodic surveillances that were not able to be performed during the EOP's and now a different action may be applicable since compliance with the first action was not possible.

Follow-up Action

1. This issue has been added to the Westinghouse Owners Group (WOG) Procedure Working Group meeting agenda (see Agenda item 6 below). The focus should be to determine if this practice is the acceptable industry standard.

August 2004 PWG Meeting

Agenda Supplement for August 25, 2004 (Wednesday)

Agenda Items:

1. Change Request 5043, "Loss of RCP Seal Cooling" (Category 2)
 - a. Resolution of open issues
 - b. Changes needed for approval or abandon and close-out
2. Change Request 5048, "Hydrogen Monitor, Recombiners and Purge Elimination" (Category 3)
 - a. Review and Comment on Markups
 - b. Vote to approve
3. Change Request 5049, "Modify RCS Temperature "Expected Post Trip Band" (Category 3)
4. Change Request 5050, "Adding a new transition step to FRG Entry Procedure (Category 3)
5. Change Request 5051, "Potential Changes in response to SEN-248 (Reactor Scram, Safety Injection Actuation, and Rapid Cooldown Caused by Multiple Equipment Failures" (Calvert Cliffs event)
6. TS compliance during plant emergencies (while in the EOPs). See OE18583 - Palo Verde Units Trip Offline Due to Grid Disturbance (Preliminary OE)
7. Revision 5.3 implementation feedback and issues.
8. Proposal for EPG website update and migration to new software

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