

# PRIORITY 1

(ACCELERATED RIDS PROCESSING)

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SUBJECT: Submits explanation for difference in util philosophy for  
use of EOPs from that found in B&W technical basis document,  
in response to concern described in Exam Repts  
50-269/95-300, 50-270/95-300 & 50-287/95-300.

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**DUKE POWER**

September 7, 1995

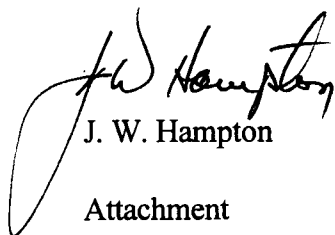
U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Subject: Oconee Nuclear Site  
Docket Nos. 50-269, -270, -287  
Response to NRC Examination Report

Dear Sir:

In response to a concern described in NRC Examination Report No. 50-269/95-300, 270/95-300, and 50-287/95-300, I am submitting an explanation for the difference in Duke Power's philosophy for use of Emergency Operating Procedures from that found in the Babcock Wilcox Technical Basis Document.

Very truly yours,

  
J. W. Hampton

Attachment

cc: Mr. S. D. Ebnetter, Regional Administrator  
U. S. Nuclear Regulatory Commission, Region II

Mr. L. A. Wiens, Project Manager  
Office of Nuclear Reactor Regulation

Mr. P. E. Harmon  
Senior Resident Inspector  
Oconee Nuclear Site

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**ATTACHMENT 1**  
**EXPLANATION FOR IDENTIFIED OCONEE DEVIATION FROM**  
**BWOG TBD GUIDANCE**

**INTRODUCTION**

NRC Inspection Report 95-300 identified a deviation between the Oconee Nuclear Station Emergency Operating Procedures (EOPs) and the B&W Owners Group Technical Basis Document (TBD).

Currently the Oconee method for EOP implementation includes an immediate verification of the status of vital systems once the EOP entry requirements are met. The status check of these vital systems is performed in conjunction with memorized actions which are initiated by symptoms of upsets in heat transfer (loss of subcooling, loss of heat transfer, and excessive heat transfer). Upon completion of these actions, additional EOP procedures are performed as required to complete the accident mitigation strategy. The existing B&W TBD guidance on this issue states that the Vital Systems Status Verification (VSSV) procedure should be exited as soon as symptoms of heat transfer upsets occur, or the procedures for heat transfer upsets should immediately be performed in parallel with the VSSV procedure. This particular area of the Oconee EOP philosophy is a known, intentional deviation from the B&W TBD.

**DETAILED DESCRIPTION**

The reason for the deviation is that Oconee's philosophy is for the operating crew to confirm the proper actuation of safety systems, and systems vital for post-trip plant stabilization and control, prior to responding exclusively to major plant symptoms. This methodology allows the operating crew to obtain a better understanding of overall plant status. This approach was adopted based on the B&W Abnormal Transient Operating Guidelines (ATOG) which received NRC review and approval prior to the full development of the Oconee EOPs. This EOP methodology, while not the optimum mitigation approach for all events, is still considered by Duke Power to be the better approach for mitigation of the broad spectrum of possible plant transients.

The EOPs used in Westinghouse facilities utilize rules of usage which are similar to those used in the Oconee EOP. Verification of automatic vital system actuation is performed prior to using specific symptom procedures. This approach is taken based on the belief that proper operation of vital systems is the first line of defense for potential challenges to the critical safety functions.

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Past performances on the Oconee Simulator have shown that operating crews mitigate symptoms of heat transfer upsets in a timely manner. Effective crew performance is accomplished by completion of the VSSV procedure in conjunction with critical actions taken from memory based on plant symptoms. The memory actions performed, while covered later in specific EOP procedures, are performed in parallel with the VSSV. Operating crew performance is routinely evaluated on these kinds of events during training. It is believed that the scenario in question is an isolated case.

The specific scenario in question (SBLOCA with no HPI) requires some prompt actions by the operating crew based on the loss of subcooled margin symptom. These actions include:

1. Tripping RCPs
2. Initiation of all available HPI (HPI determined to be unavailable in this case)
3. Transfer to guidance for Inadequate Core Cooling (if the loss of SCM evolves into core superheated conditions)

All of these actions are included in the TBD guidance for the loss of SCM symptom. These actions (included in other EOP procedures) are required to be performed by the Oconee operators, from memory, and are performed concurrently with the Subsequent Actions section of the Oconee EOP. (The Subsequent Action section is the Oconee equivalent of VSSV.)

Some Oconee license exam crews experienced delays (40 to 46 minutes) in performing the action of a rapid steam generator depressurization during this event. This action is performed as a part of the EOP cooldown procedure for RCS saturated conditions with degraded HPI in an effort to lower primary pressure so that Core Flood Tanks and Low Pressure Injection can provide a source of RCS injection. This guidance is also contained in the Oconee EOP procedure for Inadequate Core Cooling which was performed immediately when the symptoms of item number 3 (above) were encountered. It is acknowledged that the time required for the exam crews to take these actions was excessive.

A contributing factor to the delay was the time spent attempting to assess and restore the HPI system. In this particular operating exam, manually opening any one of four failed-

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shut suction valves could have restored HPI flow. These actions, by the crew, were considered appropriate in attempting to restore this vital safety system.

The B&W TBD calls for a rapid RCS cooldown to be performed in the guidance for loss of subcooled margin. Using the TBD philosophy, the guidance for loss of SCM would have been used at the onset of RCS saturation and would have resulted in more timely actions for initiating the rapid cooldown of the RCS. This cooldown is an extreme approach intended to be used in extreme cases. This action results in a significant stress cycle on the Nuclear Steam Supply System (NSSS), but is considered acceptable under conditions involving imminent core damage. However, using the TBD approach for this particular scenario raises the following concerns:

1. Would the operating crew be given enough time to attempt to restore the HPI System prior to initiating the rapid RCS cooldown?
2. Would the potential adverse effects of the rapid cooldown outweigh the effects of delays due to HPI System status verification?
3. Is a reasonable delay in initiating this rapid cooldown appropriate given other RCS leak sizes and/or other failures of HPI?

**SUMMARY**

The Oconee position on this issue is that the deviation from the B&W TBD is appropriate and necessary. Progress through the VSSV section, in combination with memorized operator actions, is the best overall strategy for dealing with plant transients. It is acknowledged that the operator response time for the scenario in question (SBLOCA in combination with multiple HPI failures) was excessive. Oconee believes that the best way to decrease this response time without jeopardizing response to other scenarios is to reemphasize timely EOP performance in operator training.

Oconee will take the following actions in response to the NRC's concerns:

1. Discuss the scenario in question and the current TBD guidance at the next B&WOG Operator Support Committee Meeting in September 1995. Based on the B&WOG OSC meeting discussions, determine if a generic TBD change is needed.

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2. Evaluate the Oconee VSSV procedure (EOP Section 5.0) and determine if enhancements can be made to improve crew progression through this portion .
3. If VSSV procedure enhancements are identified, incorporate the changes to the Oconee EOP.
4. Provide the following training:
  - a. Timely progression in the EOP will be reemphasized in operator training. This will be completed by 1/31/95.
  - b. If changes are made to the EOP, training will cover these changes.