

# LICENSEE EVENT REPORT (LER)

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TITLE (4) **Operation in a Condition Prohibited By Technical Specifications**

EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MON	DAY	YR	YR	SEQUENTIAL NUMBER	REVISION NUMBER	MON	DAY	YR	FACILITY NAMES	DOCKET NUMBER (8)	
04	17	97	97	- 0 0 9	- 0 0	05	19	97		0 5 0 0 0	
										0 5 0 0 0	

OPERATING MODE (9) **4**

POWER LEVEL (10) **0 0 0**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR: (11)

10 CFR 50.73(a)(2)(i)(B)  
 OTHER - \_\_\_\_\_

(Specify in Abstract below and in text. NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

**Rod Cook - Compliance Engineer**

TELEPHONE NUMBER  
AREA CODE **313**    **586-1017**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)  YES (If yes, complete EXPECTED SUBMISSION DATE)     NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (16)

Technical Specification (TS) 4.1.3.8 requires the control rod drive housing support to be verified in place by a visual inspection prior to startup any time the support has been disassembled or when maintenance has been performed in the control rod drive housing support area. On April 17, 1997, it was determined that the literal wording of the TS requirement has not historically been considered prior to proceeding into Operational Condition 1, 2 or 3. That is, startup has proceeded without inspecting the housing support after maintenance has been done under the reactor vessel (in the housing support area) if the maintenance did not affect the housing support structure.

The cause for the missed surveillances is a lack of clarity in the TS, TS Bases and procedures regarding "when maintenance has been performed in the control rod drive housing support area." The drywell close-out procedure is being revised to clearly note that an inspection of the CRD housing support structure is required to be performed after any maintenance in the under vessel area above the service platform.

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Initial Plant Condition:

Operational Condition: 4 (Cold Shutdown)  
 Reactor Power: 0 Percent  
 Reactor Pressure: 0 psig  
 Reactor Temperature: 127 degrees Fahrenheit

Description of the Event:

A. Background

The control rod drive (CRD) housing supports [AA] [SPT] are positioned below the reactor pressure vessel (RPV) [RPV] near the control rod housings. The supports limit the travel of a control rod in the event a control rod housing becomes ruptured. The supports prevent a nuclear excursion as a result of a housing failure and thus protect the fuel barrier.

The supports consist of horizontal beams installed immediately below the bottom head of the RPV and between the rows of CRD housings. The beams are attached to brackets welded to the steel form liner of the drive room in the reactor support pedestal. Hanger rods are supported from the beams on stacks of disk springs which compress under the design load. The support bars are bolted between the bottom ends of these hanger rods. The springs pivot at the top, and the beveled, loosefitting ends on the support bars prevent substantial bending movement in the hanger rods if the support bars are overloaded. Individual grids for each CRD housing rest on the support bars between adjacent beams. Because a single-piece grid would be difficult to handle in the limited work space and because it is necessary that CRDs, position indicators, and in-core instrumentation components be accessible for inspection and maintenance, each grid is designed for in-place assembly or disassembly. Each grid assembly is made up of two grid plates, a clamp, and a bolt. The top part of the clamp guides the grid to its correct position directly below the respective CRD housing that it would support in the postulated accident.

When the support bars and grids are installed, a gap of approximately 1 inch at room temperature (approximately 70 degrees Fahrenheit) is provided between the grid and the bottom contact surface of the CRD flange. During system heatup, this gap is reduced by a net downward expansion of the housings with respect to the supports. In the hot operating condition, the gap is approximately 1/4 inch.

Technical Specification (TS) 3.1.3.8 requires the control rod drive housing support to be Operable in Operational Conditions 1, 2 and 3. TS 4.1.3.8 provides the periodic surveillance requirements for the CRD housing support structure to ensure gaps between the grid plates and bottom contact surface of the CRD flange and structural integrity of the housing support are

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maintained following maintenance activities. Specifically, TS 4.1.3.8 requires the control rod drive housing support be verified to be in place by a visual inspection prior to startup any time the support has been disassembled or when maintenance has been performed in the control rod drive housing support area.

### B. Event Description

On April 17, 1997, it was determined that past surveillances may not have been performed consistent with the literal wording of the TS requirement. That is, startup has proceeded without inspecting the housing support after maintenance has been performed under the reactor vessel in the housing support area. The maintenance activities did not affect the housing support structural steel or the gap between the grid and bottom contact surface of the CRD flange (e.g., manipulating control rod position indicating probe (PIP) [AA] or local power range monitor (LPRM) [IG] connectors). However, because these maintenance activities were within the housing support area, they resulted in operation in a condition prohibited by TS and are reportable in accordance with 10 CFR 50.73(a)(2)(i)(B).

### Cause of the Event:

The procedure for drywell close-out reflect the requirements of TS 4.1.3.8 as stated. However, there is a lack of clarity in the TS, TS Bases and procedures as it pertains to "when maintenance has been performed in the control rod drive housing support area". It has been interpreted that if the CRD housing support structure was not affected by maintenance activities (e.g., during control rod position indicating probe connector manipulation, which is a maintenance activity within the housing support area where cable connectors were made or broken) the inspection would not be required. This interpretation is consistent with other inspections to verify structural integrity is maintained if the structural integrity has been affected by maintenance activities, but is inconsistent with the literal wording of the TS.

### Analysis of the Event:

The BWR 4 Standard Technical Specifications (STS) and Bases were reviewed to determine if further insight could be gained into the intent and implementation of the TS Surveillance Requirement. This investigation revealed that the wording of the STS and Bases match the Fermi 2 TS and Bases. Investigation of the Improved Technical Specifications (NUREG-1433, Rev. 1) revealed that this requirement can be relocated from the TS to the UFSAR. The UFSAR also discusses the ability to disassemble each grid to allow PIP and nuclear instrumentation maintenance or inspection, and the subsequent inspection of the CRD housing support structure following reassembly of the structure.

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Historical investigation of the surveillance performance revealed that the inspections have been performed following maintenance when the housing support was affected (i.e., work impacted the structural steel), and inspections not performed were those that followed maintenance in the area of the housing support which did not affect the structure. The scope of other inspections (e.g., operator walkdowns, etc.) were reviewed to determine if the control rod drive housing support surveillance could have been met by these inspections. The review determined no other inspection scope encompassed the inspection required by TS 4.1.3.8. The failure to inspect the CRD housing support following maintenance in the area of the support but not impacting the structure had no effect on the housing support in its ability to perform its intended function. Therefore, the failure to perform inspections following maintenance in the areas of the CRD housing support which did not impact the housing support's structural integrity had no effect on safety.

### Corrective Actions:

#### A. Immediate Corrective Actions

Compliance with the TS requirement was verified to have been met when the inspection was performed on April 10, 1997. No other under vessel maintenance has been performed since that inspection.

#### B. Corrective Actions to Prevent Recurrence

1. The drywell close-out procedure will be revised prior to any required entry into the drywell but no later than June 15, 1997, to clearly delineate the inspection area of the CRD housing support and specify an inspection is to be performed after any maintenance in the under vessel area above the service platform.
2. A TS change to reflect that inspections are only required when maintenance under the vessel potentially affects the ability of the CRD housing support to perform its function is being investigated.

### Additional Information:

#### A. Failed Components

None

#### B. Previous LERs on Similar Problems

None