

February 20, 1998

Roger Newton, Chairman
Regulatory Response Group
Westinghouse Owners Group
Wisconsin Electric Power Company
231 West Michigan
Milwaukee, WI 53201

SUBJECT: REQUEST TO ACTIVATE THE REGULATORY RESPONSE GROUP (RRG)

Mr. Newton:

This letter formally requests the Westinghouse Owners Group activate the RRG. This request is based on the NRC's understanding of a potential small break loss-of-coolant accident coming from the pressure housing of an unused part-length control rod drive mechanism. The issue was identified at Prairie Island, Unit 2 on January 23, 1998. Although the analysis and assessment is ongoing, based on the information to date, the NRC believes this issue represents a potential near-term generic significant safety issue that should be addressed by the RRG.

As outlined in the February 1980 Regulatory Response Plan, the NRC requests the RRG present all or part of the results of an analysis of the issue within 5 working days of this letter (February 27, 1998). Enclosed is information the NRC would like considered in the assessment.

Sincerely,
Original Signed By:
Frank J. Miraglia, Deputy Director
Office of Nuclear Reactor Regulation

Enclosure: As stated

Project No. 694

cc:
Mr. Andrew Drake, Project Manager
Westinghouse Owners Group
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, PA 15230-0355

98-36

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DFP3

DOCUMENT NAME: RRGLTR *See previous concurrence DISTRIBUTION: See attached page

OFFICE	NRR:DRPM	NRR:ADP	NRR:ADT	NRR:DD	
NAME	JRoe*	BBoger*	BSheron*	FMiraglia	
DATE	2 / 20 /98	1 / 98	2 / 2 /98	1 / 98	

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Items for Consideration by the WQG-RRG

A. An Assessment of the Safety Significance

Northern States Power discovered a significant flaw at Prairie Island Unit 2 in a partial length control rod housing weld. The preliminary assessment by the licensee is that this is a fabrication related flaw that was not discovered by fabrication nondestructive examination and pressure testing. At this time, it is not known if similar fabrication flaws exist in other operating units with partial length control rods. If operating units do not intend to immediately shutdown and either inspect or repair the suspect partial length control rods, provide a justification for continued operation until the partial length control rods in each operating unit can be inspected or repaired.

The following are items that should be considered in this assessment:

1. Provide an evaluation for the flaw indications in the CRDM housing that could be postulated from the Prairie Island Unit 2 results. Justify why any flaws postulated in the affected units would be considered acceptable to remain in service without necessitating a repair of the flaws over the remainder of the operating cycle. If applicable, include in your flaw evaluation allowances for crack growth of the flaws that are postulated to occur from the start of the operating cycle to the current time, and for the remainder of the current operating cycle. What are the margins against instability for both normal operating and design-basis loads?
2. Relative to the assessment of the safety significance provide an analysis of the limiting postulated event(s) for the partial length CRDM housings. Include in your assessment the following elements:
 - (a) What is the limiting loss-of-coolant accident (LOCA) associated with a failure of a partial length CRDM housing?
 - (b) What are the estimated consequences of a postulated LOCA resulting from a complete failure of a partial length CRDM housing? Please address the following questions regarding consequences of the postulated event:
 - (1) What is the potential for missiles during the postulated event?
 - (2) What would the consequences be from hydraulic loads, jet impingement loads, and postulated missiles resulting from the postulated event? In particular, address what the consequences would be to the full-length control rods, reactor core, and lines penetrating the affected units reactor vessel during the postulated event as a result of postulated hydraulic loads, jet impingements, and missiles.

- (3) What are the dynamic effects as a result of the postulated CRDM housing break at the indicated crack location (including a description of the dynamic analysis models used to assess the jet thrust force caused by jet flow from the postulated break, and a discussion stating whether or not the models are consistent with the Guidelines provided in NRC Standard Review Plan Section 3.6.2.)?
- (4) What is the minimum number of ECCS [emergency core cooling system] pumps (e.g., low pressure safety injection (RHR [residual heat removal]) pumps, and high pressure safety injection (charging) pumps) that would be required to mitigate the consequences of LOCAs up to and inclusive of the size of the limiting LOCA associated with a complete failure of a partial length CRDM housing in the affected units?
- (5) What is the minimum number of control rods required to bring the reactor core to a subcritical level for postulated LOCAs up to and inclusive of the size of the limiting LOCA associated with a complete failure of a partial length CRDM housing in the affected units?
- (6) The partial length control rod flaw found in Prairie Island appears to be related to the welding of dissimilar metals. Are there any other welds associated with the primary system coolant pressure boundary that involve dissimilar metals and could be subject to similar fabrication flaws?

3. What is the risk significance of a crack similar to that found at Prairie Island at the other affected units?

- B. Provide the time frame for the submittal of the safety assessment for the affected units.
- C. Provide a justification for the response time frame based upon public risk considerations.
- D. Provide a preliminary determination of the units that might be affected.
- E. Provide a schedule for actions such as repairs or inspections for the affected plants.
- F. Provide a discussion of and a schedule for implementation of any compensatory measures to justify the schedule in E. above.

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