January 31, 2006

LICENSEE: Boiling Water Reactor Owner's Group (BWROG)

FACILITY: Affected and Potentially Affected General Electric (GE) BWR's identified in the GE Nuclear Energy issued 10 CFR Part 21 Report dated March 29, 2005 (ADAMS Accession Number ML050950428)

SUBJECT: SUMMARY OF DECEMBER 12, 2005, CATEGORY 2 MEETING WITH THE BWROG, TO DISCUSS 10 CFR PART 21 REPORT ON SAFETY LIMIT 2.1.1.1 OF NUREG-1433/34 (TAC# MC9244)

On December 12, 2005, a public meeting was held via teleconference between the U.S. Nuclear Regulatory Commission (NRC), and representatives of the Boiling Water Reactor Owner's Group (BWROG), at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, MD. The purpose of the meeting was to discuss the results of an updated analysis performed by General Electric (GE) of a pressure regulator failure, which GE had been reported as a 10 CFR Part 21 defect on March 29, 2005 (ADAMS Accession Number ML050950428).

.MEETING DISCUSSIONS AND RESULTS

The meeting generally followed the planned agenda (see ML053350042 for agenda). The overall discussions of the meeting were on the significance of the problem and potential solutions through changes to the technical specifications. Previous analysis showed that the event, a pressure regulator failure-open (PRFO), was terminated by a reactor trip from high water level, but an updated computer code predicted that for some plants the event would instead be terminated by closure of the main steam isolation valves due to low pressure, and that in some instances the pressure could be below the minimum pressure-at-power requirements specified in Safety Limit (SL) 2.1.1.1 of the affected plants' technical specifications. The purpose of this SL is to ensure the integrity of the fuel during steady state operation, normal operational transients, and anticipated operational occurrences.

Several major conclusions were reached during the meeting.

- To the best of the BWROG's knowledge a safety limit had not actually been violated at an operating reactor;
- No plant had made any setpoint changes or other modifications in response to the Part 21 report
- The reported issue did not involve an immediate safety concern because the GE analysis showed that the event actually increased the margin to the minimum critical power ratio
- Industry intended to propose changes to the standard technical specifications to address the issue, and anticipated this to occur in about six months.

DESCRIPTION OF ENCLOSURES TO THIS DOCUMENT

A list of attendees is provided in Enclosure 1. Additional details of the meeting are provided in Enclosure 2. Anticipated action items are shown in Enclosure 3. Enclosures 4, 5, and 6 are the materials presented by the BWROG to the NRC during the meeting.

Public Meeting Feedback forms were not received.

Please direct any inquiries to David Roth at 301-415-2749, or der@nrc.gov.

Sincerely,

/RA/

David E. Roth
Technical Specifications Branch
Division of Inspection & Regional Support
Office of Nuclear Reactor Regulation

Enclosures:
1. List of attendees
2. Meeting Details
3. Anticipated Action Items
4. BWROG's Presentation
5. Proposed Solution 1: Draft Bases Change
6. Proposed Solution 2: Draft Change to SL

cc: see next page

Letter to Boiling Water Reactor Owner's Group (BWROG) dated January 31, 2006

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Ozzie Vidal
Principal Engineer, Southern Nuclear Operating Company
P.O. Box 1295
Birmingham, Alabama, 35201.

Randy Jacobs
Transient Analysis Manager
GE Nuclear
P.O. Box 780, M/C L-10
Wilmington, NC 2840

Barry Myers
Technical Expert - Nuclear Engineering
DTE Energy
Fermi Energy Center - 240 TAC
6400 North Dixie Highway
Newport, Michigan 48166,

Nancy Chapman
SERCH Manager
Bechtel Power Corporation
5275 Westview Drive
Frederick, MD 21703-8306

Jason Post
Manager, Engineering Quality and Safety Evaluations
GE - Nuclear, M/C L10
3901 Castle Hayne Road
Wilmington, NC 28401

Jens Andersen
G E Nuclear Fuel
M/C F21
Castle Hayne Road
Wilmington, NC 28402-0780

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DISTRIBUTION:
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ADAMS: ML060440360-memo, ML053620270-enclosure 4, ML053620273-enclosure 5, ML053620272-enclosure 6

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Office	NRR/ADRO/DIRS/ITSB	NRR/ADRO/DIRS/ITSB	NRR/ADES/DSS/SBWB
Name	D. Roth	T. Boyce	Z. Abdullahi
Date	1/31/06	1/26/06	1/23/06

OFFICIAL RECORD COPY

List of Attendees

Name	Organization
Jens Andersen	Subcommittee/Global Nuclear Fuel
Nancy Chapman	Subcommittee/Bechtel
Randy Jacobs	Subcommittee/General Electric
Barry Myers	Subcommittee/Detroit Edison
Jason Post	Subcommittee/General Electric
Ozzie Vidal	Subcommittee/Southern Nuclear Operating Company
Zena Abdullahi	NRC
Thomas Boyce	NRC
Michelle Honcharik	NRC
Rich Laura	NRC
Stephen Pannier	NRC
David Roth	NRC
George Thomas	NRC

Meeting Details

The meeting followed the published Agenda (Adams Accession Number ML053350042). The presenters discussed the information contained in the slides (Enclosure 4) and the two proposed solutions (Enclsoure 5 and 6).

The BWROG Subcommittee presented information on two proposed solutions to the SL 2.1.1.1 issue. The first being a Technical Specification (TS) bases change only; the second being a TS change eliminating SL 2.1.1.1 and creating a new LCO in Power Distribution limit Section 3.2.

The staff queried the Subcommittee about several issues. The NRC inquired about the actual safety significance of the pressure regulator failure-open (PRFO) event described in the Part 21 report. The Subcommittee stated that the event actually increased the margin to the minimum critical power ratio (CPR), and therefore the pressure regulator failure was not a safety concern. The CPR is that power in the assembly that is calculated by application of the appropriate correlation(s) to cause some point in the assembly to experience transition boiling, divided by the actual assembly operating power. (Although not explicitly discussed during the meeting, the NRC has previously stated, "Since the parameters that result in fuel damage are not directly observable during reactor operation, the thermal and hydraulic conditions that result in the onset of transition boiling have been used to mark the beginning of the region in which fuel damage could occur. Although it is recognized that the onset of transition boiling would not result in damage to BWR fuel rods, the critical power at which boiling transition is calculated to occur has been adopted as a convenient limit." Source: BWR 4 Standard Technical Specifications Bases 2.1.1.2a.)

The Subcommittee stated that SL 2.1.1.1 was intended to preclude the need for CPR calculations below 785 psig. When the Subcommittee performed the low pressure calculations associated with the PRFO, they determined that the depressurization transient would increase the critical bundle power and decrease the actual bundle power. This results in an increase in the critical power ratio (CPR=CP/AP) which means that showed that SL 2.1.1.1 was overly-conservative for this depressurization transient since the event does not threaten fuel cladding integrity.

NRC asked the Subcommittee if the underlying event of a pressure regulator failing open had actually occurred. The Subcommittee stated that this event did occur at Peach Bottom, but did not result in a violation of the SL 2.1.1.1. However, the event prompted the review which led to the current Part 21 report.

NRC discussed the impact of exceeding a Safety Limit and the requirement to obtain NRC approval prior to restarting the reactor. The Subcommittee responded that they were aware of the requirements and that the facility did not exceed a Safety Limit therefore this action was not required.

The NRC asked for confirmation of the plants impacted and if any compensatory actions have been taken. Subcommittee responded that the impacted plants are listed in the Part 21 Report, and that a survey verified that no compensatory actions have been taken. The Part 21 report had specifically recommended that no plant changes were needed.

The remainder of the discussion related to removal of the SL2.1.1.1. The NRC stated that a proposed change to the SL would require an analysis that would prove that the removal of the SL would not impact any other limitations associated with the current safety limit. All parties agreed that a full analysis and review would need to accompany the recommended solution.

NRC stated that the preference would be for a Technical Specification change, and expressed some reservations about the suggested Bases-only change. However, further analysis would be needed to determine the correct path forward.

The Subcommittee will present their recommendations to the full BWROG Technical Specifications Issues Coordination Committee in December, and anticipated submission of a traveler from the Technical Specification Task Force (TSTF) by June 2006 with a final proposed solution.

The NRC continued to conclude that the Part 21 report did not constitute an immediate threat to public health and safety, and found the time for a final solution to be acceptable.

Anticipated Action Items

Subcommittee

1. Subcommittee to present its recommended solutions to the full body of the Technical Specifications Issues Coordination Committee (TSICC) of the BWROG during a December 2005 meeting.

2. Upon TSICC approval the Subcommittee will initiate and generate a Technical Specification Task Force (TSTF) Traveler for NRC review and approval.

3. Subcommittee will tentatively deliver the TSTF submittal to the NRC by June 2006.

NRC

1. Continue internal discussions on acceptable solutions (Tech Spec Branch / Roth) pending the submission of a TSTF traveler in June 2006.