



ENTERGY

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June 5, 1992

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Very Respectful

Director

Grand Gulf Nuclear Station

U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
Response to Generic Letter 88-01, Supplement 1

GNRO-92/00070

Gentlemen:

By this letter, Entergy Operations, Inc. is providing its response to Generic Letter (GL) 88-01, Supplement 1, "NRC Position on Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping" dated February 4, 1992. The supplement provided acceptable alternative staff positions to some of those delineated in GL 88-01 and also provided clarification for some staff positions.

By a letter dated October 1, 1990, the NRC transmitted its Safety Evaluation and associated Technical Evaluation Report of Grand Gulf Nuclear Station's (GGNS) response to GL 88-01. The October 1, 1990 letter indicated that GGNS had acceptably implemented the technical aspects of GL 88-01 by accepting the Staff's recommendations on IGSCC inspection, mitigation and other aspects of IGSCC detection by incorporating necessary revisions into the GGNS Inservice Inspection (ISI) Program. The Safety Evaluation also identified four licensing issues for which GGNS was requested to propose license amendments. GGNS responded by a letter dated December 7, 1990.

Supplement 1 provided only one change from the staff positions in GL 88-01 as they apply to GGNS. One of the clarifications involves the addition of a statement in the ISI section of the Technical Specifications (TS) that the ISI program for piping covered by GL 88-01 will conform to the staff's positions in the generic letter on schedules, methods, personnel and sample expansion. Since the ISI section will remain in the improved Standard Technical Specifications, GGNS will propose TS changes to incorporate this statement into the existing TS.

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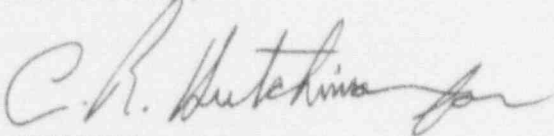
June 5, 1992
GNRO-92/00070
Page 2 of 3

Supplement 1 provided no change to the staff position in GL 88-01 on leakage detection. GGNS will propose TS changes consistent with the staff's position.

GGNS has reviewed the alternative staff positions and clarifications provided in GL 88-01, Supplement 1 and each is presented in the attachment to this letter.

If you require additional information, please advise.

Yours truly,



WTC/SBM/ams

attachment: GGNS Response to Generic Letter 88-01, Supplement 1

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Grand Gulf Nuclear Station Response
to Generic Letter 88-01, Supplement 1

Background

On January 25, 1988, the NRC issued Generic Letter (GL) 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping." Grand Gulf Nuclear Station (GGNS) responded to GL 88-01 on August 8, 1988 (Reference 1). Additional information was provided to the Staff on July 14, 1989 (Reference 2) and April 23, 1990 (Reference 3).

The NRC transmitted its Safety Evaluation and associated Technical Evaluation Report on GGNS's response to GL 88-01 on October 1, 1990. This letter indicated that GGNS had acceptably implemented the technical aspects of GL 88-01 by accepting the Staff's recommendations on IGSCC inspection, mitigation and other aspects of IGSCC detection by incorporating necessary revisions into the GGNS Inservice Inspection (ISI) Program. GGNS was also requested to propose license amendments for four licensing issues.

By a letter dated December 7, 1990 (Reference 4), GGNS responded to each of the four licensing issues and stated that the current Technical Specifications (TS) provided reasonable assurance of maintaining the long-term structural integrity of austenitic stainless steel piping in GGNS.

Generic Letter 88-01, Supplement 1 Responses

On February 4, 1992, the NRC issued Supplement 1 to GL 88-01. Supplement 1 provided acceptable alternative staff positions to some of those delineated in GL 88-01 with regard to the inspection of reactor water cleanup (RWCU) system piping outboard of the containment isolation valves and the leak detection requirements pertaining to the operability of leakage measurement instruments and the frequency of monitoring leakage rates. The supplement also provided clarification on the staff's positions regarding the sample expansion for Category D welds, the effect of shrinkages resulting from weld overlay repairs or stress improvement (SI) on the piping system and its supports and pipe whip restraints and the technical specification (TS) amendments for incorporating the inservice inspection statement and leak detection requirements as delineated in GL 88-01.

The Staff's Safety Evaluation found GGNS's responses to GL 88-01 acceptable, with the exception of the responses regarding changes to TS. Therefore, GGNS has reviewed the alternative staff positions and clarifications in GL 88-01, Supplement 1 with regard to the requested TS changes and provides the following response:

Item (1) of GL 88-01, Supplement 1

The staff found that monitoring reactor coolant system (RCS) leakage every 4 hours creates an unnecessary administrative hardship for plant operators. Thus, RCS leakage measurements should be taken at least once per shift, not to exceed 12 hours.

GGNS's Response to Item (1)

GGNS will propose TS changes consistent with Item (1) of GL 88-01, Supplement 1.

Item (2) of GL 88-01, Supplement 1

The staff found that the radiation level associated with the RWCU system piping outboard of the containment isolation valves is very high; and this portion of piping is designed to be isolable and is generally classified as nonsafety piping. Affected licensees requested that they be exempt from GL 88-01 with regard to the inspection of this piping. However, the service-sensitive stainless steel RWCU system piping is subject to the most aggressive environment with regard to IGSCC; therefore, until the actions associated with GL 89-10 on motor-operated valves (MOVs) are completed by licensees, the staff determined that an inspection of the subject piping on a sampling basis of at least 10 percent of the weld population should be performed during each refueling outage to ensure the structural integrity of the piping.

GGNS's Response to Item (2)

The NRC has accepted GGNS's program for piping inspections. This item does not affect that program or the GGNS TS.

Item (3) of GL 88-01, Supplement 1

The staff's position on leak detection in GL 88-01 requires that for BWR plants operating with any IGSCC Category D, E, F, or G welds, at least one of the leakage measurement instruments associated with each sump be operable and the outage time for inoperable instruments be limited to 24 hours. If the outage time is longer than 24 hours, the licensee should immediately initiate an orderly shutdown. The intent of this requirement is to ensure that the capability to quantitatively measure leakage is not lost for more than 24 hours because this capability is essential for safe plant operation. After discussing this position with the BWR operators, the staff found that leakage can also be quantitatively measured by manually pumping the sump or measuring the differences in sump level. Therefore, the staff finds that manual leak rate measurements can be acceptable alternatives during the period (30 days) when the drain sump monitoring system is being restored, provided the licensee demonstrates their suitability with regard to accuracy and inspectability.

GGNS's Response to Item (3)

Induction Heating Stress Improvement (IHSI) work was completed in Refueling Outage 4 for the 34 Category D welds identified in GGNS's response to GL 88-01. These welds have been IHSI treated and will qualify as Category C welds. All other welds are Category A or B welds. Therefore, this alternative staff position does not apply to GGNS and does not affect the GGNS TS.

Item (4) of GL 88-01, Supplement 1

GL 88-01 requested Category D welds to be 100% inspected every two refueling cycles. There is no need for sample expansion if all Category D welds are examined during each inspection. However, sample expansion is required if Category D welds are examined on a sampling basis during each inspection and cracking is identified during examination. With adequate justification the sample expansion for Category D welds may be limited to the piping system where cracking was found.

GGNS's Response to Item (4)

As stated in the response to Item (3) above, GGNS has no Category D welds; therefore, this alternative staff position does not apply to GGNS and does not affect the GGNS TS.

Item (5) of GL 88-01, Supplement 1

Consistent with Code requirements and the licensee's written commitments, when weld overlay repairs or stress improvement (SI) is applied, the licensee should assess the effect of shrinkages on the piping system and its supports and pipe whip restraints. In addition, the licensee should also assess the effect of the increase in dead-weight and stiffness resulting from weld overlay repairs on the piping systems.

GGNS's Response to Item (5)

The NRC has accepted GGNS's ISI program. This alternative staff position does not affect the GGNS TS.

Item (6) of GL 88-01, Supplement 1

GL 88-01 requested that a plant's technical specifications be amended to include a statement in the section on inservice inspection (ISI) that the ISI program for piping covered by GL 88-01 will conform to the staff's positions in the generic letter on schedules, methods, personnel, and sample expansion. It also stated that if the ISI section is removed from the TS as a result of the TS improvement program this statement will remain in the ISI section. However, in preparing the improved BWR Standard Technical Specifications, the staff determined that the ISI section including the ISI statement will remain in the TS and should not be incorporated in an administrative document.

GGNS's Response to Item (6)

GGNS agrees to propose a change to add this statement to the current GGNS TS. As stated in Reference 4, the current ISI Program reflects and is in compliance with the above staff position.

Item (7) of GL 88-01, Supplement 1

GL 88-01 requested that the staff's position on leakage detection be incorporated into the TS of all affected licensees. The staff subsequently determined that incorporation of the leakage detection requirements in an administrative document is not acceptable.

GGNS's Response to Item (7)

GGNS will propose TS changes consistent with the staff's position on leakage detection.

References:

- 1) AECM-88/0153 dated August 8, 1988 regarding Generic Letter 88-01
- 2) AECM-89/0130 dated July 14, 1989 regarding Request for Additic
Information on Generic Letter 88-01: NRC Position on IGSCC in WR
Austenitic Stainless Steel Piping
- 3) AECM-90/0063 dated April 23, 1990 regarding Additional Information
regarding GGNS IGSCC Program
- 4) AECM-90/0198 dated December 7, 1990 regarding Revisions to Technical
Specification per Generic Letter 88-01