GE Nuclear Energy

General Electric Company
175 Curtner Ave , San Jose, CA 95125

September 30, 2002
02-06NRC.DOC
MFN 02-061

Document Control Desk
United States Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

Subject: **Main Steam Line Valve Out-of-Service Final Report**

Reference: Letter from Jason Post (GENE) to Document Control Desk (NRC), "Main Steam Line Valve Out-of-Service," MFN 02-049, August 23, 2002

This letter provides final notification of a Reportable Condition under 10CFR 21.21(d), as committed in the Reference letter. It was previously submitted as a Reportable Condition for Brunswick Units 1&2 and as a 60 Day Interim Report per §21.21(a)(2) for other plants that may be determined to be affected.

The evaluation has been completed and it has been determined that in addition to Brunswick 1&2, this is a Reportable Condition for Duane Arnold, FitzPatrick, Hatch 2, Nine Mile Point 2, Perry 1, and Pilgrim. The basis for this conclusion is that GE Nuclear Energy (GE) analyses for these plants to justify operation at greater than 75% of rated power with one Main Steam line Isolation Valve (MSIV) Out of Service (OOS) (i.e., one steam line isolated) did not adequately address the long term impact of increased flow induced vibration on the remaining open MSIVs. Without a supporting bases, it cannot be assured that the open MSIVs would be able to perform their required safety function following extended operation at greater than 75% of current rated power with one steam line isolated. This could possibly result in offsite doses in excess of 10CFR 100.11 limits.

The actual impact of this condition would only be of concern if MSIV operability had not been demonstrated following extended plant operation at greater than 75% of current rated power with one MSIV OOS, or if a plant was currently in extended operation at greater than 75% of rated power with one MSIV OOS.

All other plants which have an MSIV OOS analysis provided by GE were either limited to 75% of rated power, or the impact of long term operation on the open MSIVs was adequately evaluated for the power level specified in the analysis.

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If you have any questions, please call me at (408) 925-5362.

Sincerely,

Jason Post

Jason. S. Post, Manager
Engineering Quality and Safety Evaluations

cc: S. D. Alexander (NRC-NRR/DISP/PSIB) Mail Stop 6 F2
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PRC File

Attachment:
1. Reportable Condition Evaluation per §21.21(d)

Attachment 1 – Reportable Condition per §21.21(d)

(i) Name and address of the individual informing the Commission:

Jason S. Post, Manager, Engineering Quality & Safety Evaluation, GE Nuclear Energy, 175 Curtner Avenue, San Jose, CA 95125

(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect:

The Main Steam Line Valve Out-of-Service analysis for:

Utility	Plant Name
Carolina Power & Light	Brunswick 1 and 2
Nuclear Management Co.	Duane Arnold
Entergy Nuclear Northeast	FitzPatrick, Pilgrim
Southern Nuclear Operating Co.	Hatch 2
Constellation Nuclear	Nine Mile Point 2
First Energy Nuclear Operating Co.	Perry 1

(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect:

GE Nuclear Energy, San Jose, California

(iv) Nature of the defect or failure to comply and safety hazard which is created or could be created by such defect or failure to comply:

The MSIV OOS analysis performed by GE evaluated plant operation at greater than 75% of rated power with three active steam lines and one steam line isolated. The GE analysis for the affected plants did not address the effect of potential long-term flow induced vibration degradation on the open MSIVs, including the effect on the MSIV air operated controls. Without adequate justification, it cannot be assured that the open MSIVs would close following extended operation with one MSIV OOS at greater than 75% of current rated power.

If it is postulated that the plant operated for an extended period in the MSIV OOS condition and then a main steam line break were to occur in one of the three operational steam lines, then there is the potential that MSIVs would not close to terminate the release from a steam line break either from a common mode failure of both MSIVs, in the broken line, or failure of one MSIV due to the high flow induced vibration and the other MSIV as the design basis single failure. This condition would result in an un-terminated release, which would exceed the existing 10 CFR 100 radiation release limits.

(v) The date on which the information of such defect or failure to comply was obtained:

June 24, 2002

(vi) In the case of a basic component which contains a defect or failure to comply, the number and locations of all such components in use at, supplied for, or being supplied for one or more facilities or activities subject to the regulations in this part:

A defect has been confirmed to exist in analysis provided by GE for Brunswick 1 and 2, Duane Arnold, Fitzpatrick, Pilgrim, Hatch 2, Nine Mile Point 2, and Perry 1.

(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action (note, these are actions specifically associated with the identified Reportable Condition):

GE has communicated to the affected plants the 75% power limitation when operating with one MSIV OOS.

GE has revised existing internal engineering and program processes to explicitly screen any limiting configurations/conditions for current and future MSIV OOS evaluations.

(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, ore will be given to purchasers or licensees:

GE recommends limiting operation to 75% of current rated power when operating with one MSIV OOS, unless there is an adequate justification to support extended operation at a higher power level.