Docket file

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

January 4, 1990

Docket Nos. 50-321
50-366

LICENSEE: Georgia Power Company

FACILITY: Edwin I. Hatch Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF NOVEMBER 14, 1989, MEETING WITH GEORGIA POWER ON THE PROPOSED MSIV CLOSURE TIME TECHNICAL SPECIFICATION AMENDMENT

On November 14, 1989, the NRC staff met with representatives of Georgia Power Company (GPC) and General Electric to address staff concerns regarding the application of the Moody homogeneous equilibrium model (incorporated into the SAFER Thermal Hydraulic Code) for calculating mass and energy releases following a postulated main steam line break (MSLB) outside containment. The revised MSLB integrated mass and energy release calculation was submitted in support of a proposed GPC Technical Specification (TS) amendment to increase the main steam isolation valve (MSIV) stroke time window from 3-5 seconds to 2-8 seconds.

The staff's chief concern with the use of the SAFER Code is whether the new calculated mass and energy releases for the MSLB (assuming the increased MSIV stroke time window), accounting for calculation uncertainties, are bounded by the current Hatch licensing basis equipment qualification (EQ) curves. To resolve this concern, the staff requested GPC to address three issues:

1. GPC should compare the best estimate (including friction effects if feasible) integrated mass and energy releases as calculated by SAFER against the current EQ basis curves for the MSLB. This comparison should discuss the uncertainties inherent in the SAFER calculation and address whether the SAFER calculation with uncertainties is bounded by the current EQ mass and energy release curves. In this regard, a margin of 20% is thought to be sufficient to bound SAFER calculation uncertainties.

2. GPC should provide a qualitative argument as to whether existing MSLB temperature versus time EQ profiles bound the temperature versus time profile expected to result from the new mass and energy release estimates calculated using SAFER with an 8 second MSIV closure time.

3. GPC should review any existing EQ failure modes and effects analyses for equipment whose environment is governed by the MSLB to ensure that these analyses remain valid for the new SAFER calculated releases.

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The resolution of the above three concerns should provide an adequate basis for the staff to complete the SER for the proposed GPC TS amendment.

Meeting participants are listed in Enclosure 1. Slides presented by GPC are provided in Enclosure 2.

/S/

Timothy A. Reed, Project Manager
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Enclosures:
As stated

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The resolution of the above three concerns should provide an adequate basis for the staff to complete the Safety Evaluation for the proposed GPC TS amendment.

Meeting participants are listed in Enclosure 1. Slides presented by GPC are provided in Enclosure 2.

Timothy A. Reed, Project Manager
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Enclosure 1

ATTENDANCE LIST

Georgia Power Company/NRC

Proposed MSIV Closure Time Technical Specification Amendment

November 14, 1989

NAME	ORGANIZATION
Tim Reed	NRC/DRP/PDII-3
Mike McCoy	NRC/DST/SRXB
Chuck Graves	NRC/RES
Harold Walker	NRC/DST/SPLB
Tim Collins	NRC/DST/SRXB
Gary Sozzi	GE Nuclear Energy
Larry Chi	GE Nuclear Energy
Ken McElroy	Georgia Power Company

Enclosure 2

NRC/GPC MEETING

PROPOSED MSIV CLOSURE TIME TECHNICAL SPECIFICATIONS AMENDMENT

NOVEMBER 14, 1989
WHITE FLINT BUILDING
9:00 - 12:00 A.M.

OVERVIEW OF MSIV CLOSURE TIME SUBMITTAL — GPC

- o IMPACT OF SHORTER STROKE TIME
- o IMPACT OF LONGER STROKE TIME

IMPACT OF LONGER STROKE TIME ON EQ AND RADIOLOGICAL CONSEQUENCES — GE

- o CONSERVATISM IN CURRENT EQ BASIS
- o SAFER MODEL QUALIFICATION AND USE OF HEM BREAK FLOW MODEL
- o JUSTIFICATION OF HEM FOR EQ AND RADIOLOGICAL EVALUATIONS

DISCUSSION/OPEN ITEMS — ALL

0402V

OVERVIEW OF
MSIV CLOSURE TIME SUBMITTAL

- TECHNICAL SPECIFICATIONS (TS) AMENDMENT FOR PLANT HATCH SUBMITTED MAY 13, 1988

- INCREASED MSIV STROKE TIME WINDOW FROM 3-5 SECONDS TO 2-8 SECONDS. OTHER TS REQUIREMENTS NOT CHANGED

- LARGER WINDOW MEANS LESS CHANCE OF FAILING QUARTERLY STROKE TIME TEST

- FAILING STROKE TIME TEST ON INBOARD MSIV AT POWER CAUSES SHUTDOWN OR OPERATION WITH ISOLATED STEAMLINE

- BASIS FOR EXTENDING INTERVAL EVALUATED BY GENERAL ELECTRIC AND INCLUDED IN MAY 13, 1988 SUBMITTAL

OPERATION WITH ISOLATED STEAMLINES REQUIRED
IN 1986 & 1987 AFTER FAILING SURVEILLANCE

0402V

MSIV CLOSURE TIME (CONTINUED)

EXTENDING CLOSURE TIME INTERVAL REQUIRED REVIEW AND REEVALUATION OF DESIGN BASIS

- SHORTER STROKE TIME (3 SECONDS TO 2 SECONDS)
- LONGER STROKE TIME (5 SECONDS TO 8 SECONDS) PLUS INSTRUMENT DELAY TIME (0.5 SECONDS)

SHORTER STROKE TIME EVALUATIONS INCLUDE:

- VESSEL OVERPRESSURE PROTECTION
- THERMAL LIMITS (OTHER TRANSIENT EVENTS)
- LOCA/ECCS
- CONTAINMENT
- STEAMLINE AND MSIV INTEGRITY

TO DATE, NRC HAS REQUESTED NO ADDITIONAL INFORMATION ON THESE EVALUATIONS

MSIV CLOSURE TIME (CONTINUED)

- LONGER STROKE TIME EVALUATIONS INCLUDE:
  - LOCA/ECCS
  - TRANSIENTS
  - CONTAINMENT
  - RADIOLOGICAL RELEASE
  - ENVIRONMENTAL QUALIFICATION
- POSTULATED MSL BREAK OUTSIDE CONTAINMENT INPUT TO EQ AND RADIOLOGICAL RELEASE CALCULATIONS
- GE REEVALUATED MSLB WITH NEW "SAFER" THERMAL HYDRAULIC CODE
  - SAFER/GESTR-LOCA APPLICATION METHODOLOGY
  - 8 SECOND MSIV CLOSURE TIME
  - HEM FOR SATURATED FLUID
- ANALYSIS SHOWED EXISTING (CONSERVATIVE) EQ BASIS (5-SECOND CLOSURE) BOUNDS 8-SECOND CLOSURE IN TERMS OF BREAK FLOW AND BREAK ENERGY

NRC REVIEWERS NOT CONVINCED NEW CALCULATION IS SUFFICIENTLY CONSERVATIVE
