

DOCKET FILE



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

April 19, 1994

Docket Nos. 50-321
and 50-366

LICENSEE: Georgia Power Company, et al.

FACILITY: Hatch Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF FEBRUARY 22, 1994, MEETING WITH GEORGIA POWER COMPANY ON
GENERIC LETTER 89-10 MOTOR OPERATED VALVES - HATCH NUCLEAR PLANT,
UNITS 1 AND 2 (TAC NOS. M88736 AND M88737)

Introduction

On February 22, 1994, the NRC staff met with Georgia Power Company, et al. (GPC or licensee) representatives, and its consultant from S. Levy, Inc., to discuss GPC's request dated February 3, 1994, regarding the scope of Generic Letter (GL) 89-10 as applied to Hatch Units 1 and 2. The meeting was held in response to the licensee's request, at NRC headquarters in Rockville, Maryland. Enclosure 1 lists the attendees and Enclosure 2 contains the licensee's handout.

Discussion

Mr. O. Vidal stated that the purpose of the meeting was to inform the NRC staff that the scope of the licensee's GL 89-10 program had been reevaluated. This reevaluation had resulted in a change to the active safety functions of 98 valves out of a total 190 valves included in the program. Out of the 98, 68 valves were changed to have no active safety functions. The active safety functions of the remainder of the valves were changed to an open or close safety function as opposed to an open and close function.

Mr. Vidal also stated that the reevaluation was performed because: (1) the original scope included many valves which were not required for the mitigation of Plant Hatch design-basis events as described in the abnormal and accident operating section of the "Nuclear Safety Operational Analysis" report for each unit, and (2) the cost of the program and the potential saving of over \$1 million over 5 years due to static testing alone.

In addition, Mr. Vidal stated that the licensee's results of their reevaluation are consistent with General Electric's report on the application of probabilistic risk assessment to GL 89-10. He then proceeded to discuss three evaluations for specific valves that had reclassified active safety functions. These evaluations were for (1) the RHR torus suction valves, (2) the Hatch Unit 2 hydrogen recombiner valves, and (3) the containment spray inboard isolation valves. Furthermore, Mr. Vidal informed the NRC staff that GPC plans to remove 16 hydrogen recombiner valves from the scope of GL 89-10 because these valves were reclassified as having no active safety functions for design-basis events. However, they are considering the feasibility of testing a representative sample of these valves.

9404280027 940419
PDR ADOCK 05000321
P PDR

NRC FILE CENTER COPY

DFOI 11

Also, the staff and the licensee discussed the testing programs for valves that are outside the scope of GL 89-10.

Conclusion

The staff stated that they will review the February 3, 1994, submittal and will inform the licensee, in the spring of 1994, of the results of its review.

Original signed by:
Kahtan N. Jabbour, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

- 1. List of Attendees
- 2. Handout

cc w/enclosures:
See next page

DISTRIBUTION:

- Docket File
- NRC & Local PDRs
- PDII-3 R/F
- W. Russell/F. Miraglia, 12G18
- L. Reyes, 12G18
- S. Varga
- G. Lainas
- D. Matthews
- L. Berry
- OGC, 15B18
- E. Jordan, MNBB3701
- K. Jabbour
- ACRS (10), P-315
- L. Plisco, EDO, 17G21
- E. Merschoff, RII
- C. Casto, RII
- L. Wert, RII
- T. Scarbrough
- M. Razaque

PDII-3:LA	PDII-3:PM	EMEB/BC	SCSB/BC	SRXB	D:PDII-3
LBerry	KJabbour/dt	JNorberg	RBarrett	TCollins	DMatthews
04/14/94	04/14/94	04/19/94	04/12/94	04/14/94	04/19/94

OFFICIAL RECORD COPY
FILE NAME: G:\HATCH\HAT88736.MTG

Also, the staff and the licensee discussed the testing programs for valves that are outside the scope of GL 89-10.

Conclusion

The staff stated that they will review the February 3, 1994, submittal and will inform the licensee, in the spring of 1994, of the results of its review.

Kahtan N. Jabbour

Kahtan N. Jabbour, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. List of Attendees
2. Handout

cc w/enclosures:

See next page

Mr. J. T. Beckham, Jr.
Georgia Power Company

Edwin I. Hatch Nuclear Plant

cc:

Mr. Ernest L. Blake, Jr.
Shaw, Pittman, Potts and Trowbridge
2300 N Street, NW.
Washington, DC 20037

Mr. Marvin Sinkule, Chief
Project Branch #3
U. S. Nuclear Regulatory Commission
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. S. J. Bethay
Manager Licensing - Hatch
Georgia Power Company
P. O. Box 1295
Birmingham, Alabama 35201

Mr. Dan H. Smith, Vice President
Power Supply Operations
Oglethorpe Power Corporation
2100 East Exchange Place
Tucker, Georgia 30085-1349

Mr. L. Sumner
General Manager, Nuclear Plant
Georgia Power Company
Route 1, Box 439
Baxley, Georgia 31513

Charles A. Patrizia, Esquire
Paul, Hastings Janofsky & Walker
12th Floor
1050 Connecticut Avenue, NW.
Washington, DC 20036

Resident Inspector
U.S. Nuclear Regulatory Commission
Route 1, Box 725
Baxley, Georgia 31513

Mr. Jack D. Woodard
Senior Vice President -
Nuclear Operations
Georgia Power Company
P. O. Box 1295
Birmingham, Alabama 35201

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Chairman
Appling County Commissioners
County Courthouse
Baxley, Georgia 31513

Mr. Charles H. Badger
Office of Planning and Budget
Room 610
270 Washington Street, SW.
Atlanta, Georgia 30334

Harold Reheis, Director
Department of Natural Resources
205 Butler Street, SE., Suite 1252
Atlanta, Georgia 30334

February 22, 1994

NRC/GPC Meeting

List of Attendees

NRC

K. Jabbour
C. Casto
T. Scarbrough
M. Razzaque

GPC

D. Atwood
J. Branum
O. Vidal
B. McLeod
R. Engel (S. Levy, Inc.)

**GEORGIA POWER COMPANY
GENERIC LETTER 89-10 MOV ACTIVE SAFETY
FUNCTION EVALUATIONS**

PRESENTATION TO NRC STAFF, FEBRUARY, 22, 1994

PURPOSE OF MEETING

- To inform the NRC that the Plant Hatch Generic Letter 89-10 program was re-evaluated with respect to active safety functions of safety related MOVs.
- To describe the methodology and bases used for the evaluation.
- To inform the NRC of the results of that evaluation.
- To inform the NRC of future plans with respect to MOV testing.
- To solicit NRC feedback on above items.

GENERIC LETTER 89-10
MOV ACTIVE SAFETY FUNCTION EVALUATION

WHAT:

Georgia Power Company performed a comprehensive review of the Plant Hatch Generic letter 89-10 safety related MOVs and their required active safety functions.

WHY:

- To Insure only those valves required by GL 89-10 are included in the testing program
- To Insure the program thoroughly addresses all GL 89-10 program requirements
- To limit the overall cost of the program.

HOW:

- Evaluate the original guidance used to determine required active safety functions for safety related MOVs.
- Establish guidance, including how design basis events will be defined.
- Perform the evaluation.

GENERIC LETTER 89-10
MOV ACTIVE SAFETY FUNCTION EVALUATION
(Con't)

RESULTS:

- Out of an original scope of 292 valves, this evaluation resulted in 98 valves having re-defined, or no, active safety functions
- Consistent with GE Topical Report NEDC-32264, "Application of probabilistic safety assessment to Generic Letter 89-10 implementation", November, 1993.

BENEFITS:

- Testing for future outages may be re-evaluated based on the outcome of the evaluation.
- Testing on hydrogen recombiner valves scheduled for Unit 2 March, 1994 refueling outage is not required.
- An eventual cost savings of many millions of dollars may be realized.

GENERIC LETTER 89-10 GUIDANCE

- Safety related refers to systems and components relied on during and following design basis events to ensure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shutdown the reactor and maintain it in a safe shutdown condition, and (iii) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to 10 CFR 100 guidelines.
- Design basis events defined as conditions of normal operation , including anticipated operational occurrences, design basis accidents, external events and natural phenomena for which the plant must be designed to ensure the functions delineated in footnote 1. The design bases for each plant are those documented in pertinent licensing submittals such as the FSAR.

GUIDANCE FOR HATCH EVALUATION

1. MOV operability during normal operation is established as the plant must be in normal operation prior to design basis events.
2. Valve operability requirements are limited to changing position(s) from normal operating position(s) required to mitigate design basis events.
3. Valve operability is not required during periods of system or component testing.
4. Design basis events are limited to abnormal operating transients and accidents as defined in the Nuclear Safety Operational Analysis (NSOA) report. (Unit 1 FSAR, Appendix G; Unit 2 FSAR, Supplement 15C)
5. System requirements are also established by the NSOA.
6. Pipe breaks are not assumed to occur when the system is not under significant stress. (Defined to be less than 20% of system design pressure per the NSOA.)
7. Consideration of valve mispositioning is not required; this is in accordance with Supplement 4 to GL 89-10.
8. Long term passive failures are not part of the design basis. (Reference 10 CFR 50, Appendix A, definition of single failure, footnote 2)
9. The analysis results for each design basis event and each system's required capability to satisfy the event acceptance limits are stipulated in the plant's FSAR.

DESIGN BASIS EVENTS

- Design basis events were established by using the abnormal operating transient and accident sections of the Nuclear Safety Operational Analysis (NSOA) report.
- The NSOA provides analyses for the plant operations necessary to maintain nuclear safety. Protection sequences are given for each plant event. Chapters 14 and 15 of the Unit 1 and Unit 2 FSARs provide worst case analyses of those events.
- There are a total of 29 events in each of the abnormal operating sections of the Unit 1 and Unit 2 NSOAs.
- The NSOA is located in Appendix G to the Unit 1 FSAR, and Supplement 15C to the Unit 2 FSAR.

POTENTIAL COST SAVINGS

Three major areas of cost in the GL 89-10 program:

- Design basis review
- Static testing
- Dynamic testing

DESIGN BASIS REVIEW COST

Cost of seismic analyses, differential pressure and required torque and voltage , calculations, per valve - \$9,500

STATIC TEST COST

- Cost per valve for initial static test - \$15,000
- Cost per valve for subsequent static testing - \$12000
(It is not uncommon for a single MOV to be tested several times during an outage as a result of corrective maintenance, preventive maintenance, or design modifications.)

DYNAMIC TEST COST

Cost per valve for dynamic VOTES test - \$27,700

POTENTIAL COST SAVINGS (Con't)

TO DATE GL 89-10 PROGRAM COST

- Total of 138 static tests - \$2,101,188
- Total of 48 dynamic tests - \$1,332,480
- Design basis review costs of 292 MOVs - \$2,774,000

Total - \$6,207,668

POTENTIAL SAVINGS

- Savings over five year static testing intervals - \$1,020,142
- Additional savings may also be realized on maintenance of electrical and mechanical calculations.

PROBABILISTIC RISK ASSESSMENT COMPARISON

- PRA was not used as a basis for re-evaluating the GL 89-10 active safety functions.
- All high priority MOVs, as identified in the BWR Owners' Group report, "application of probabilistic safety assessment to Generic Letter 89-10 implementation", still have their required active safety functions intact following this evaluation.
- The high priority MOVs, per NEDC-32264 are:
 1. RHR Service Water heat exchanger flow control valve
 2. HPCI steam isolation valves
 3. HPCI steam inlet valve
 4. HPCI injection valve
 5. HPCI lube oil cooling water valve
 6. RCIC steam isolation valves
 7. RCIC steam inlet valve
 8. RCIC injection valve
 9. RCIC lube oil cooling water valve
 10. RWCU isolation valves
- All valves re-classified as having no active safety function were listed in the NEDC as low priority MOVs.
- Georgia Power Company may use the PRA report to ultimately reduce the frequency of testing on some MOVs.

SAMPLE EVALUATIONS

E11-F004A-D, RHR torus suction valves

- Formerly had active safety functions to **open** and **close**.

Required to open for LPCI and alternate shutdown cooling operation

Required to close to protect against downstream leaks in the pump or piping

- Now only has active safety function to **open**

Required to open for alternate shutdown cooling operation (Criteria #4 and #5).
Valve is not required to open for LPCI operation since it is already open in the standby position. (Criteria #2 and #7)

Not required to close because long term passive failures of the piping or pump is not considered credible. (Criteria #8)

SAMPLE EVALUATIONS (Con't)

2T49, Hydrogen Recombiner Valves

- Formerly had active safety functions to **open** and **close**
- Now valves have **no** active safety functions

This system is not required to function for any design basis event as demonstrated in the NSOA. Per criteria #4 and #5, therefore, they have no active safety function.

SAMPLE EVALUATIONS (Con't)

E11-F021A,B, Containment spray inboard isolation valve.

- Formerly had active safety functions to **open** and **close**.

Required to open to provide containment sprays. Required to close to terminate containment sprays.

- Now has **no** active safety function.

LOCA analysis shows that containment sprays are not required to maintain containment below design temperature and pressure (Criteria #9)

Not required to close for containment isolation since the valves are normally closed, (criteria #2). Termination of containment sprays is accomplished via another valve.

SUMMARY AND FUTURE PLANS

- Plant Hatch has re-evaluated the Generic letter 89-10 program and revised our list of MOVs with active safety functions.
- A total of 98 valves had active safety functions revised. 68 of these 98 were revised to have no active safety function.
- The 2T49 (hydrogen recombiner system) valves are being removed from the scope of MOV testing in the upcoming Unit 2, March, 1994 refueling outage.
- MOV testing scope will be re-evaluated for upcoming outages based on the results of this evaluation.