

yellow

MAY 15 1984

Georgia Power Company
ATTN: Mr. R. J. Kelly
Executive Vice President
P. O. Box 4545
Atlanta, GA 30302

Gentlemen:

SUBJECT: MEETING SUMMARY - PLANT HATCH UNIT 2 - DOCKET NO. 50-366

This refers to the meeting held with members of your staff in the Region II offices on April 24, 1984, at your request. The meeting related to the Unit 2 feedwater nozzle UT indications and the corrective action necessary for future unit operations.

It is our opinion that this meeting was beneficial and has provided for a mutually better understanding of these issues. Your cooperation with us is appreciated. In accordance with Section 2.790 of NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and enclosures will be placed in the NRC's Public Document Room.

Should you have any questions concerning this matter, we will be pleased to discuss them.

Sincerely,

RL

Richard C. Lewis, Director
Division of Reactor Projects

Enclosures:

- 1. Meeting Summary
- 2. Meeting Attendees

cc w/encls:

- J. T. Beckham, Vice President and
General Manager-Nuclear Operation
- H. C. Nix, Site General Manager
- C. E. Belflower, Site QA Supervisor

bcc w/encls: (See page 2)

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bcc w/encls:
NRC Resident Inspector
Hugh S. Jordan, Executive Secretary
Document Control Desk
State of Georgia

RII
BC
BCrowley:jw
5/10/84

RII
JB
Blake
5/9/84

RII
AR
ARHerdt
5/9/84

RII
JA
JAOrshinski
5/11/84

RII
RC
RCLevis
5/14/84

ENCLOSURE 1

MEETING SUMMARY

Name of Licensee: Georgia Power Company

Name of Facility: E. I. Hatch Unit 2

Docket No.: NPF-5

License No.: 50-366

SUBJECT: FEEDWATER NOZZLE INDICATIONS

On April 24, 1984, a meeting was held with Georgia Power Company (GPC) representatives in the Region II offices to discuss GPC's conclusions and proposed plan of action relative to previously discussed UT indications in feedwater nozzle 2N4A. During a previous meeting (see Meeting Summary dated April 9, 1984), GPC presented their preliminary findings and plans for further investigation and possible repair. During the current meeting, GPC stated that, based on further investigation since the last meeting, a decision had been made for continued service without repair of the indications. The following summarizes GPC's presentation and the conclusions of the meeting.

1. NDE Summary

- a. Southern Company Services summarized the NDE evaluations performed to date as follows:

UT Exam by LMT/SCS of all feedwater safe-end area welds, nozzle bores, and inner radius areas per NUREG-0619 - Linear indication located approximately 8 to 15" clockwise from top dead center

GE Manual UT Exam - Confirmation of the indication

Iridium Radiograph - No Crack-Like indications

Boroscope Exam with GE/GPC Personnel (No cleaning) - No detectable indications on the ID of the nozzle or thermal sleeve

MINAC radiography at the three off-set angles - No crack-like indications

UT Exam by SWRI using same examiner and equipment as used in the 1982 ISI - Essentially the same data as in 1982

UT Exam by GE using the GEDAS Automated System - Several Linear indications defined in the same area as the linear indication reported by LMT/SCS

Radiograph review - GE, SCS, and a third party consultant (Sam Wenk) reviewed the fabrication radiographs and the minac radiographs

The conclusion was reached that the UT indications are a result of fabrication flaws and not service induced based on the following:

- The fabrication radiographs have indications similar in nature and located in the same area as the UT indications. They match up very well for comparing UT and RT.
 - The fabrication radiographs for the other quadrants of this weld show no discontinuities, which agrees with the UT.
 - There has been no history of cracking in this weld in any GE plant. All other safe-end welds, nozzle bore areas, and nozzle inner radius areas were examined and there were no recordable indications.
 - There is no evidence of growth in these indications:
 - o The iridium radiography showed no cracking.
 - o We feel the MINAC has the sensitivity to detect cracking at those levels reported by UT examination, e.g., 30% thru-wall.
 - o The 1982 and 1984 SWRI data is essentially the same.
 - o Sizing techniques have been shown to oversize the depth of shallow indications.
 - o UT indications are not representative of fatigue cracking.
 - o The weld is a relatively low stress area and no growth of the indications would be expected during the plant design life.
- b. The NRC questioned GPC relative to why the PSI data was not retrieved and compared with the 1984 data. GPC stated that since the PSI was performed automatically, they considered that the 1982 manual data would be more comparable with present data.

The NRC requested the RT film for review. The film was delivered from GPC Atlanta office and reviewed during the meeting. The NRC personnel and the NRC consultant observed the fabrication flaws referenced above in the original fabrication film.

The NRC also questioned GPC relative to when Unit 1 feedwater nozzles had been inspected and if the inspection data had been reviewed since the Unit 2 indications were found. GPC did not have this information available at the meeting.

2. Fracture Mechanics

- a. General Electric Company presented a fracture mechanics assessment of the nozzle indications including:
 - Stress Analysis
 - Fatigue Initiation
 - Fatigue Crack Growth Evaluation
 - Section XI Fracture Mechanics Assessment
- b. The assessment concluded that:
 - Crack Indications Appear to be Fabrication Related
 - Fatigue Crack Growth Analysis Shows Acceptability for Continued Operation
 - Section XI Code Margins Maintained
 - Crack Growth Predictions can be Confirmed by Inspection at the End of the 18 Month Period
 - Leak Before Break Maintained
 - Continued Operation Justified
- c. Structural Integrity Associates performed an independent Elastic-Plastic Fracture Mechanics leak before break analysis and concluded:
 - Even if the indication is conservatively assumed to be a through-wall crack over its entire length: Design basis safety margins are still maintained, considering all known loads (including thermal).
 - Substantial growth in length is permissible before safety margins are reduced to a point of concern.
 - Such an assumed crack would result in substantial leakage (several GPM) long before any reduction in design basis safety margin.

3. Future Inspections

GPC proposed the following future inspection schedule:

- As an extra measure of conservatism, the indication in the 2N4A nozzle will be reinspected during the next two refueling outages.

- Should the UT data essentially be the same after the above inspection, the examination frequency would revert to every other refueling outage as required by NUREG-0619.

4. Meeting Conclusion

It was concluded that the following actions should occur:

- a. GPC should submit a report to NRC covering evaluation and analysis of the subject indications.
- b. PSI data for the weld in question should be retrieved, reviewed, and compared with current data.
- c. Unit 1 inspection history should be reviewed for similar problems.
- d. GPC stated that a new baseline inspection will be performed on the weld in question to obtain more detailed information on location and size of indications. At the time of this baseline inspection, NRC should be notified in order for someone to witness the inspection.

ENCLOSURE 2

MEETING ATTENDEES

Georgia Power Company Representatives

L. T. Gucwa, Manager Nuclear Engineering, GPC
J. A. Edwards, Senior Regulatory Specialist, GPC
T. Huckaby, ISI Engineer, GPC
T. N. Epps, ISI Supervisor, Southern Company Services
M. Belford, ISI Engineering, Southern Company Services
J. M. Davis, Level III Examiner, Southern Company Services
S. Ranganath, General Electric
J. P. Clark, General Electric
A. J. Miller, General Electric
J. W. Self, General Electric
M. E. Lapidés, EPRI
P. C. Riccardella, Structural Integrity Associates
S. A. Wenk, GPC Consultant

Nuclear Regulatory Commission

A. R. Herdt, Chief, Engineering Branch, Division of Reactor Safety (DRS)
J. J. Blake, Chief, Materials and Processes Section, Engineering Branch
H. C. Dance, Chief, Projects Branch 2, Division of Reactor Projects (DRP)
V. W. Panciera, Chief, Reactor Projects Section 2B, Projects Branch 2
B. R. Crowley, Metallurgical Engineer, Materials and Processes Section
J. L. Goley, Reactor Inspection, Materials and Processes Section
J. F. Rogge, Project Engineer, Reactor Projects Section 2B
J. H. Smith, NRC Consultant, Oak Ridge National Laboratory