Georgia Power Company
333 Piedmont Avenue
Atlanta, Georgia 30308
Telephone 404 526-6526

Mailing Address:
Post Office Box 4545
Atlanta, Georgia 30302

Georgia Power
the southern electric system

L. T. Gucwa
Manager Nuclear Engineering
and Chief Nuclear Engineer

NED-85-422
1746N

June 28, 1985

Director of Nuclear Reactor Regulation
Attention: Mr. John F. Stolz, Chief
Operating Reactors Branch No. 4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
EDWIN I. HATCH NUCLEAR PLANT UNITS 1, 2
PROJECT COMPLETION ADDENDUM TO RECIRCULATION
PIPING REPLACEMENT REPORT

Gentlemen:

By letter dated December 21, 1984, Georgia Power Company advised you of its intent to submit for your information a report on the results of the replacement of the Hatch Unit 2 main recirculation and attached systems' piping during the 1984 maintenance/refueling outage. In lieu of creating an additional report, the enclosed addendum has been prepared to update the information provided in the original report dated November 7, 1983 which was revised by our December 20, 1983 letter. Included in the addendum are corrections to the revised report, along with supplementary information regarding problems observed and resolution, scope of work expansion, final personnel radiation exposure and waste volumes generated. Ten (10) copies of the addendum are enclosed for your convenience.

Should you have any questions in this regard, contact this office.

Sincerely,

L. T. Gucwa

L. T. Gucwa

JAE/mb
Enclosure
xc: H. C. Nix, Jr.
J. N. Grace (NRC- Region II)
Senior Resident Inspector

A001
1/1

PROJECT COMPLETION ADDENDUM TO
RECIRCULATION PIPING REPLACEMENT
REPORT TO NRC

This report was prepared as an update to Revision 1 of the Recirculation Piping Replacement Report submitted to NRC by Georgia Power Company (GPC) letter NED-83-627 dated December 20, 1983. The subject report was originally submitted to NRC by our letter NED-83-552 dated November 7, 1983. Deviations from the revised report sent to NRC during the course of work associated with the Recirculation Piping Replacement Project at Hatch Unit 2 are noted by section. In addition, this report provides supplementary information regarding problems observed and their resolution, scope of any work expansions, final personnel radiation exposure and total volume of waste generated as a result of the Recirculation Piping Replacement Project.

A description of any deviations associated with each section of the original report follows:

Section 2.0 PROJECT DESCRIPTION

The project management organization and the division of project responsibilities described in section 2.0 were used, with the notable exception listed below:

Page 2-3, Paragraph 2.6.1, - The first sentence should read "The piping replacement activity is being conducted under the NNI QA Manual which was approved under the GPC QA program."

Section 3.0 DESCRIPTION OF REPLACEMENT OF RECIRCULATION PIPING

The work associated with the Recirculation Piping Replacement Project was performed as described in the work plan of this section with the following notable exceptions:

Page 3-1, Paragraph 3.1(A) states that recirculation piping and the stainless steel portions of the residual heat removal (RHR) and reactor water cleanup (RWCU) piping to the first isolation valve will be replaced. It was later decided to replace all of the RWCU piping (excluding the one-piece piping penetration) inside the drywell to the first isolation valve outside the drywell.

Page 3-4, Paragraph 3.2.2 describes the methodology involved in replacing "A" and "B" loop piping, utilizing the heat sink welding (HSW) method of stress improvement. Utilization of HSW was limited to the installation of some hanger lugs. Instead of HSW, the field welds received induction heating stress improvement (IHSI) after weldout.

PROJECT COMPLETION ADDENDUM TO
RECIRCULATION PIPING REPLACEMENT
REPORT TO NRC (Continued)

Page 3-11, Figure 2 provides the cutting diagram for Loop "A" of the main recirculation and attached systems' piping. Cut 30A, which severs the 20" RHR piping from the 28" Recirculation System piping, is incorrectly located. Cut 30A should have been located at the adjacent RHR weld (i.e., at the pipe-to-elbow weld) as shown in the enclosed figure.

Section 4.0 COMPONENT DESIGN AND FABRICATION

The design and fabrication of the components used in the Recirculation Piping Replacement Project was performed as described in this section with the following notable exception:

Page 4-6, Paragraph 1 states that the stainless steel portions of the RHR and RWCU piping up to the first isolation valve will be replaced to the same configuration as the existing piping. It was later decided to replace all of the RWCU piping (excluding the one-piece-piping penetration) inside the drywell to the first isolation valve outside the drywell.

Section 5.0 ANALYSES

The various analyses performed to assure the safety of the the reinstalled piping were performed as described in this section with the following notable exception:

Page 5-2, Paragraph 5.3.1, - Due to the fact that all of the RWCU piping (excluding the one-piece piping penetration) inside the drywell to the first isolation valve outside the drywell was replaced, the last sentence in this paragraph should read "The recirculation piping and the RHR suction and return piping, between the tee connection and the drywell wall penetration, as well as the drywell portion of the RWCU piping, will be included in the analyses."

Section 6.0 RADIATION PROTECTION

The Radiation Protection Program Plan was implemented as described in this section with the following notable exception:

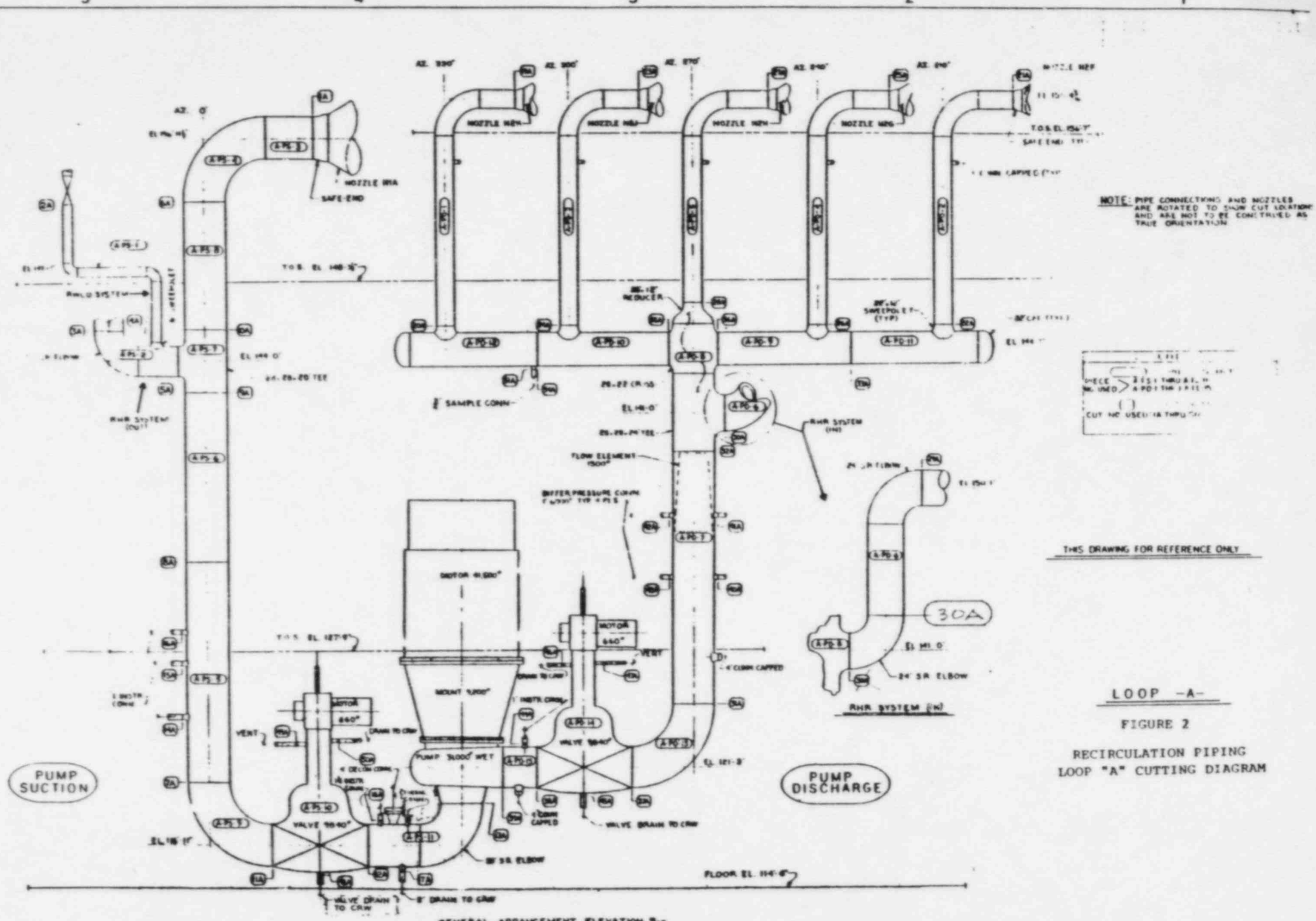
Page 6-4, Paragraph 6.2.3, - The first sentence should read "The management oversight function will be accomplished by an ALARA Overview Committee, including senior representatives of GPC and of project organizations."

PROJECT COMPLETION ADDENDUM TO
RECIRCULATION PIPING REPLACEMENT
REPORT TO NRC (Continued)

Section 13.0 PROJECT SAFETY PROGRAM

The Project Safety Program was implemented as outlined in this section. The following section is corrected to remove a typographical error:

Page 13-2, Paragraph 13.2, - Item F should read "Survey and evaluation of noise and vibration producing equipment with engineering and administrative controls recommended for the elimination and control of hazardous noise."



GENERAL ARRANGEMENT ELEVATION 5-A
(SEE NOTE)

LOOP -A-

FIGURE 2

RECIRCULATION PIPING
LOOP "A" CUTTING DIAGRAM

PROJECT COMPLETION ADDENDUM TO
RECIRCULATION PIPING REPLACEMENT
REPORT TO NRC (Continued)

Supplemental Information

Problems Observed and Resolution -

Recirculation Pump Flow Splitters:

During the course of inspection at the time of piping removal associated with the Recirculation Piping Replacement Project, cracks were observed during liquid penetrant testing of the flow splitter plates on one Recirculation pump. These cracks were located in both base and weld material where the plates connect to the pump casing. Following this discovery, these plates were removed from both pumps by Recirculation Piping Replacement Project personnel and further inspection was conducted to determine the nature of the cracks.

Analysis of metallography test results determined the cause of the cracks to be fatigue cracking. To resolve this problem, the splitter plates were permanently removed at the recommendation of the pump manufacturer.

Scope of Work Expansion -

Additional activities were performed during the course of the project to facilitate efficient control of the work associated with the Recirculation Piping Replacement Project. However, these activities were not part of the Recirculation Piping Replacement Project work scope.

These activities included the following:

- RHR check valve replacement
- Feedwater check valve replacement
- Scram discharge volume decontamination port installation

Final Personnel Exposure -

Based on the evaluation of survey data from previous outages and a shutdown in October 1983, a preliminary estimate prior to the Recirculation Piping Replacement Project indicated the total job radiation exposure would approach 1750 man-rems. The actual total job exposure for the overall project at completion was 865 man-rems. In addition, there were no over-exposures to personnel and no worker had to be removed from radiation area work because of reaching either a quarterly or annual dose limit (5 rem/year).

PROJECT COMPLETION ADDENDUM TO
RECIRCULATION PIPING REPLACEMENT
REPORT TO NRC (Continued)

Supplemental Information (Continued)

Total Waste Generated -

As reported in Revision 1 of the Recirculation Piping Replacement Report, the waste generated was composed of consumables necessary to support the work associated with the project and the piping and other related structures that were removed from the drywell areas.

For the total project, the volume of consumables waste generated was 33,120 $ft.^3$, while the total volume of waste due to piping and other related structures was 5,244 $ft.^3$.