



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30303

Report Nos.: 50-321/84-21 and 50-366/84-21

Licensee: Georgia Power Company  
P. O. Box 4545  
Atlanta, GA 30302

Docket Nos.: 50-321 and 50-366

License Nos.: DPR-57 and NPF-5

Facility Name: Hatch 1 and 2

Inspection Dates: June 11 - 15, 1984

Inspection at Hatch site near Baxley, Georgia

Inspector: *N. Merriweather* 7/9/84  
N. Merriweather Date Signed

Approved by: *T. E. Conlon* 7/9/84  
T. E. Conlon, Section Chief Date Signed  
Engineering Branch  
Division of Reactor Safety

SUMMARY

Areas Inspected:

This routine, unannounced inspection involved 31 inspector-hours on site in the area of a worker's concerns with regard to Newport News Industries' (NNI) recirculation pipe replacement project work of Hatch Unit 2. The concerns involved changes being made to construction work instruction drawings without being properly documented; NNI supervisory personnel discouraging QC inspectors from writing nonconformance reports as required by procedures; and programmatic QA problems were developing because procedures were not being followed.

Results:

No violations or deviations were identified.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*T. Green, Deputy General Manager
- \*A. W. Harrelson, Deputy Project Manager/RPRP
- \*C. R. Stancil, Plant Engineer
- \*R. R. Tracy, Plant Engineer
- D. McCusker, Superintendent of QC
- \*J. M. Watson, RPRP-QC Supervisor
- \*D. J. Vaughn, Senior QA Engineer

#### Other Organizations

- \*B. Nickols, Site QA/QC Manager, NNI
- \*J. Rath, Assistant Project Manager, NNI
- L. Trent, QA Supervisor, NNI
- C. Leonard, Lead Electrical Coordinator, Southern Company Services
- B. Collins, QC Level III, National Inspection Consultants

#### NRC Resident Inspectors

- R. Crlenjak
- \*P. Holmes-Ray

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on June 15, 1984, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings.

### 3. Licensee Action on Previous Enforcement Matters

Not inspected.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Worker's Concerns

Potential Problems: On February 24, 1984, a former worker at the Hatch Nuclear Plant expressed concerns to the NRC investigative staff in Atlanta, Georgia related to the failure to follow established Quality Assurance Program requirements by Newport News Industries personnel at Georgia Power Company's (GPC's) Hatch Nuclear Plant.

The following concerns were given to the NRC investigative staff:

- a. Supervisory personnel for Newport News Industries at the Hatch Nuclear Plant are discouraging inspectors from writing nonconformance reports as required by procedures.
- b. Changes are being made on Construction Work Instruction drawings and these changes are not being properly documented.
- c. There are programmatic QA problems developing because Quality Assurance procedures are not being followed.

These concerns were previously examined during NRC inspection 50-321, 366/84-14. After further review by Region II Staff it was considered appropriate that an additional inspection be performed to review the specific activities of NNI as they relate to the electrical interferences which were removed and which must be replaced as a result of the recirculation pipe replacement project (RPRP).

#### Observations and Resolutions:

Newport News Industries is the prime contractor responsible for performing the work related to the recirculation pipe replacement on Hatch Unit 2. They are part of the Recirculation Pipe Replacement Project (RPRP) which is composed of personnel from GPC, NNI, Southern Company Services (SCS) Butler and National Inspection Consultants (NIC). The latter two, in the electrical and NDE area, are under the supervision of NNI and/or GPC.

NNI site organization is composed of a site manager and an assistant site manager, a construction manager, welding superintendent and project planner all reporting directly to the site manager. Field engineering, purchasing, and administration organizations report offsite to a manager in the home office. The site QA/QC manager reports on all quality matters offsite to a manager in the home office and to the Vice President of Services for administrative matters. The NNI site organization also consists of contract inspection personnel in the areas of NDE and electrical. There are a total of 26 contract QC inspectors. In the electrical area there are presently four contract inspectors provided by National Inspection Consultants working under the direction of a QC supervisor and a NIC contract Level III Electrical inspector.

NNI contract inspectors are responsible for performing first line inspections involving the reinstallation of electrical interferences to verify compliance to procedures, drawings and specifications.

The other organizations involved in the recirculation pipe replacement project are the GPC QC Surveillance Group, GPC Health Physics (HP), and the Southern Company Services Field Engineering group.

The primary function of the GPC QC Surveillance group is to monitor contractor (NNI) quality control activities. The surveillance program is designed to cover all aspects of the recirculation piping system replacement from receipt of material on site through functional testing of restored and completed systems prior to operations. The GPC QC inspectors monitor the QA/QC activities being performed by the contractor organizations to verify conformance to governing codes, regulations, and project and plant procedures. As of this date, there are two contract QC inspectors from Butler Service Group in the electrical area.

The project SCS Engineering group provides architectural engineering support to expedite problem resolution for the Recirculation Pipe Replacement Project. The SCS group is composed of the three disciplines: mechanical, electrical and civil areas with lead engineers in each area. This on-site engineering group reviews and signs NNI's Controlled Work Instructions (CWIs) and performs the initial review of all Field Deviation Requests with final review and approval coming from SCS Nuclear Support Department in Birmingham, Alabama. They also review NNIs Interim Change Notices (ICNs) and NCRs. The HP group provides the Health Physics functions necessary to accomplish the recirculation pipe replacement project.

The NRC inspector interviewed responsible GPC, NNI, NIC, and SCS personnel that are on a day to day basis directly involved with the recirculation pipe replacement project. Additional interviews were held with the deputy general manager and GPC personnel in the plant QC department. NNI procedures, nonconformance logs, GPC QC memo files, and QC inspection records were examined during the inspection of the above listed worker's concerns.

a. Inspectors Discouraged from Writing Nonconformance Reports

This concern was addressed previously by inspection report 50-321, 366/84-14. Additional followup was performed during this inspection to review the problems which were identified by GPC during the first three months of this year, and to review the corrective action taken by NNI in regard to these concerns.

The inspector reviewed the GPC QC Surveillance Group files and found that there had been several memorandums from GPC to NNI identifying QC concerns such as continued procedure violations, use of unapproved rigging techniques, housekeeping deficiencies, hold tag violations, and numerous work instruction changes. The inspector discussed these concerns with appropriate licensee representatives and they indicated that their primary concern was that the NNI QC personnel were not finding these problems. The NNI inspectors had documented several NCRs concerning material or equipment problems identified during receipt inspection and installation however, they were not documenting any NNI procedure violations. GPC's position was that it is incumbent on NNI's QA program to identify these problems during their first line inspection and that immediate corrective action must be taken to turn this program around.

Listed below is in part a chronology of the correspondence between GPC and NNI regarding these concerns:

February 20, 1984 - GPC memorandum 84-QC-13 was issued identifying several QC problems and recommending that a stop work order be issued if corrective action to these problems could not be instituted within a few days. The concerns were identified as follows:

Procedure Violations - Of the nineteen (19) RPRP NCRs issued, eight were written because a procedure or instruction was violated. Almost all of the violations issued in this category dealt with steps being missed or not being performed in the required sequence. The licensee also indicates that a serious trend is developing which must be stopped.

Unapproved rigging

Housekeeping

Hold tag violations

QA Program Noncompliance - there are apparent noncompliances with respect to the NNI QA Program that is specified in NR-1-100 manual. This was identified by the Authorized Inspector. GPC investigated the problem and confirmed that NNI was not in total compliance with their QA manual. GPC subsequently had a meeting with NNI to discuss the differences between NNI's QA program implementation at Hatch and that described in their NR-1-200 manual. As a result of this meeting, recommended actions to the QA program and changes to NR-1-200 were agreed on. Changes would be incorporated into the QA manual and would be tentatively submitted to GPC by February 20, 1984 for approval.

- ° March 2, 1984 - GPC memorandum 84-QC-14 was issued to update the status of the corrective action on the concerns identified in GPC memo 84-QC-13 and to identify additional areas of concern. The licensee states that housekeeping was the only area where there has been minor improvements. The other concerns showed no improvement and were as follows:

Procedure step sequence violations continued. No corrective action has been started to stop this problem.

Hold tags not being used properly.

Controlled Work Instructions do not contain sufficient information to provide an adequate weld traceability record.

Rigging continues to be a problem in that it is very difficult to tell what has been approved from what has not. The approval system is such that all rigging must be approved by SCS prior to performing work. The approval system is not working in some instances.

NNI has not yet made changes to their NR-1-200 QA Manual.

The ICNs to CWIs are so numerous it is very difficult to keep up with the changes.

- ° March 3, 1984 - GPC memo to NNI documenting a discussion between RPRP Deputy Project Manager and NNI's Site Manager confirming that a stop work order would be issued at 4:00 p.m. on March 6, 1984, with the additional qualification that drywell welding could not commence without instituting corrective action on the QC concerns.
- ° March 4, 1984 - GPC memo 84-QC-15 notifying plant QA Site Manager of quality concerns and that a stop work will be issued by 4:00 p.m. on March 6, 1984, unless corrective action can be instituted by both NNI and GPC Power Generation Dept.
- ° March 5, 1984 - NNI memo responds to GPC concerns
- ° March 5, 1984 - GPC indicates that NNIs response must address the following actions to avoid a work stoppage:
  - Revision of the NNI QA Manual to reflect how the job will be administered and controlled
  - Closure of all outstanding NCRs or a definite plan for closure for those which cannot be closed by that time.
  - Identify NNI QA organization staff changes.
- ° March 6, 1984 - NNI provided an additional response and identified QA staff changes. This response adequately addressed the outstanding concerns and was deemed acceptable by GPC.

During the period from January 1984 through March 1984, the licensee identified 24 Nonconformance reports (NCRs). Of the 24 NCRs identified, 19 were attributed to NNI for violating procedures and work instructions; 2 were attributed to General Electric (GE) for lack of documentation for repairs; and 3 were attributed to GPC RPRP QC for material failing to meet specifications.

The inspector reviewed GPC's NCR log and selected NCRs 84-71, 84-21, and 84-37 for examination. This review was to determine if the NCR adequately described the problem, if the forms were properly completed and if adequate corrective action has been taken. NCRs 71 and 37 dealt

with procedure violations for bypassing CWI sign off holdpoints before proceeding with the next step. The final NCR (21) dealt with a welder performing qualification testing on another welder's coupon. NCRs 71 and 37 appeared to be minor and the NCR 21 was considered to be a QA/QC procedure problem in that the QC procedures did not require that the QC inspector reverify, when a test was carried over from a previous day, that the welder was making welds authorized by his assigned coupon.

All of these QC problems had been identified by the licensee around the time the concerned worker was employed at the site. It is considered that GPC QC Surveillance Group was aware of NNI QA Program problems and was actively reviewing NNI's work activities. The GPC Plant Review Board was aware of the quality concerns and it was GPC Management that decided that changes were needed in the NNI QA organization.

GPC have made changes to their procedures for identifying nonconformances (NCRs) and have instituted a Deficiency Report System. As of the date of this inspection, the RPRP QC Surveillance group has issued 29 DR reports. Of this 29 DRs identified, 15 were in the electrical area and are identified as follows:

DR-2-84-73 - In conduit 2 MR 0032 cables have cracks in insulation near connecting lugs.

DR-2-84-71 - Cable (BAX901C15) conductors (red/black) have cracks in the inner insulation at terminal connectors.

DR-2-84-70 - Cable cannot be removed from Conduit 2E16505

DR-2-84-75 - Cable (TFX917C20) showed damage apparently from excessive heat.

DR-2-84-72 - Cable (TMX901C53) was damaged during removal from conduit

DR-2-84-74 - Cable (TFX025C01) showed mechanical damage 14' and 21' from termination point.

DR-2-84-68 - Numerous cables show extensive heat related damage

DR-2-84-69 - Cable Insulation was cracked, hard and brittle for cables CKX907C16, 7 and 8.

DR-2-84-76 - Cable (TFX924C01) outer insulation was damaged.

DR-2-84-197 - Conduit support identification tags were missing.

DR-2-84-198 - Conduit 2 MR 0245 showed signs of rust damage.

DR-2-84-199 - Defective instrument cable

DR-2-84-206 - Excessive bends in conduit 2 MR 0206

DR-2-84-211 - Conduit showed signs of heavy rust also this conduit was improperly bent.

DR-2-84-214 - Cables were found to be improperly spliced per procedures.

In addition to the above licensee DRs, NNI has identified 279 NCRs as of the date of this inspection. This number appears high; however, it does indicate that their QC inspectors are identifying and documenting nonconformances. Several of the NCRs were in the electrical area and were identified during the removal of electrical interferences (basically as found conditions). Out of the 279 NCRs issued, approximately 54 were in the electrical area. The inspector observed that only two had been voided or cancelled.

In summary, NNI had QC problems during the time the concerned worker was employed at the site and GPC management was aware of these same concerns. GPC was documenting and pursuing corrective action in accordance with the approved QA program. On the other hand, the worker's concern regarding NNI discouraging inspectors from writing nonconformances could not be substantiated. However, GPC personnel interviewed indicated that they were concerned about the fact that NNI inspectors were not identifying procedure violations during first line inspections. It is considered that GPC's handling of these concerns was done in accordance with NRC requirements and license commitments.

b. Changes Being Made on Construction Work Instruction Drawings that are not Properly Documented.

NNI's Controlled Work Instructions (CWI) are used as travelers to document step-by-step completion of processes. The CWI lists all drawings, procedures and instructions required, any special equipment, inspections, test and examinations, and all hold/witness points for a specific work activity. Each step of the CWI also references the drawings, procedures, and instructions required for performance of that step.

The applicable procedures for the development and revision of CWIs are Section 10, NNI QAM-200 (Rev D) and NNI Procedure 1918-K-S006 (Rev E). In accordance with these procedures, changes to CWIs are to be accomplished by an Interim Change Notice (ICN). The ICNs are developed by NNI and are transmitted to GPC for review and approval. GPC will review the ICNs in accordance with their procedure HNP-2-10239, Interface For Controlled Documents for GPC Review and Approval. If the ICN requires a technical or design drawing change to the CWI, GPC must issue a Field Deviation Request in accordance with Hatch procedure HNP-809.



In discussing CWIs with the SCS Electrical Coordinator, the inspector learned that SCS acting as the Architect and Engineering concern (AE) on this project developed new as-built drawings before any of equipment was removed. These new as-built drawings were additional to the as-built drawings which previously existed. The AE knew the plant was wired properly from operational history; however, to assure themselves that all electrical equipment removed was properly replaced they developed these new as-built drawings to give an exact picture of what was in the field. These new as-built drawings were incorporated into SCS Controlled Work Instructions which were used by NNI to develop their CWIs.

During initial removal of all electrical interferences, the SCS electrical coordinator made a verbal agreement with NNI management that the as-found condition of electrical installations be red-lined on the Construction Work Instruction drawings if different from what was shown on the CWIs. This information was used as a check of the new SCS as-built drawings to assure SCS Engineering that what was installed in the field was indeed the same as that indicated on the drawings. Also, this information would aid in the restoration of the system by giving an actual picture of how the equipment physically looks as compared to a wiring diagram. This information was never intended or was it used for revising drawings. If discrepancies existed between as-found and the new as-built drawings, each was reviewed by engineering and appropriate design changes were generated by SCS. However, any design changes would have been based on the original as-builts and the SCS CWI drawings or new as-built drawings.

The inspector reviewed CWI books 301 (Instrumentation), 302 (Cable and Conduit), and 303 (Damaged Cable Replacement). These CWI books contain several packages. Each package identifies a particular cable, conduit or instrument for removal or reinstallation.

As of the date of this inspection, there have been a total of 430 ICNs issued against 39 CWIs. In the electrical area there have been 32 ICNs issued against revision B of CWI 301; 87 ICNs issued against revision F of CWI 302; and 9 ICNs issued against revision C of CWI 303. It appears from this review that changes to CWIs are being properly documented.

c. Programmatic QA Problems Developing Because the Quality Assurance Procedures are not being Followed

The electrical work in replacing the interferences was in progress and the inspector reviewed the recently completed CWI 303 packages 6 and 51. Records indicated that work was performed in accordance with procedures and appropriate hold points were signed off. The inspector did observe that in CWI 303 package #51, line number 45 should have been marked N/A before the package was signed off as complete on

June 8, 1984. This discrepancy was very minor and does not indicate a QA program breakdown and is not considered a NRC violation. However, the inspector did indicate to NNI representatives that more attention to details should be given to such matters.

The corrective action taken by NNI on the QC concerns was not specifically discipline related they were applicable to all areas. It appears that the QA program concerns identified by the licensee and described in paragraph 5.a of this section have precluded any problems from developing in the electrical area. The inspector considers that NNI's corrective actions are adequate to prevent recurrence.

Problems which were identified by the concerned employee appeared to be the same concerns which have been documented and addressed by GPC in accordance with the licensee's QA program which has been reviewed and approved by NRC. It is considered that the licensee's actions on these concerns were timely and proper, and the inspector had no additional concerns in this area.