



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-321/94-18 and 50-366/94-18

Licensee: Georgia Power Company
P. O. Box 1295
Birmingham, AL 35201

Docket Nos.: 50-321 and 50-366

License Nos.: DPR-57 and NPF-5

Facility Name: Edwin I. Hatch Nuclear Plant Units 1 and 2

Inspection Conducted: July 18-22, 1994

Inspector: H. L. Whitener
H. L. Whitener

8/18/94
Date Signed

Accompanying Personnel: M. D. Hunt

Approved by: C. A. Casto
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Division of Reactor Safety

8/18/94
Date Signed

SUMMARY

Scope:

This special, announced inspection was conducted in the area of Procurement activities.

Results:

From the areas reviewed the inspectors concluded the following:

Licensee personnel were knowledgeable in their areas of responsibility.

The computerized material data base used in the procurement process was an important tool in controlling the process.

Detailed procedures were developed to implement the Procurement Policy Manual.

Two events which recently occurred at Hatch involved the use of commercial grade material in safety applications. The root cause leading to the installation of commercial grade material in safety systems was identified as personnel error. Adequate corrective action was implemented.

One event recently reported from Hatch involved an inadequate procedure which resulted in a non-conservative test of a charcoal sample. Although the procedure was the prime cause, the failure to specify the details of the test in the purchase order for the services was considered a lack of attention to detail and viewed as a contributing factor. Adequate corrective action was implemented.

That portion of the procurement process reviewed during this inspection was adequately defined. No generic breakdown of the program was identified. The events were determined to be isolated events resulting from personnel errors and inattention to detail in the development and review of documentation.

In the areas inspected, violations or deviations were not identified.

REPORT DETAILS

1. Persons Contacted

Georgia Power Company

- *D. Carter, Materials Supervisor
- *G. Good, Engineering Support Manager
- *J. Hammonds, Regulatory Compliance Supervisor
- *C. Moore, Assistant General Manager, Plant Operations
- *J. Payne, Engineer Nuclear Safety and Compliance
- *S. Tipps, Nuclear Safety and Compliance Manager
- *K. Williams, Supervisor, Procurement Review Section

Southern Nuclear Operating Company

- *R. Davis, Engineer, Safety Audit and Engineering Review
- *O. Fraser, Site Supervisor, Safety Audit and Engineering Review

Other licensee employees contacted during this inspection included engineers, QC Inspectors, technicians, and administrative personnel.

NRC Resident Inspectors

- *B. Holbrook, Senior Resident Inspector
- *E. Christnot, Resident Inspector

*Attended exit interview

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. Procurement Program (38701)

The inspectors reviewed the Hatch Project Nuclear Procurement Policy Manual (NPPM) to gain an understanding of the site procurement practices and policies. This manual is applicable to Plant Hatch personnel and supporting organizations. It provides the policies for compliance with applicable plant criteria and commitments. Certain expendable NDE materials purchased by SCS, fuel, fuel related components, and related services were exempt from the procurement requirements of this manual. A separate program with department controls provides for nuclear fuel vendor qualifications.

The NPPM defines the responsibilities for the managers involved in the program and specifies required training (with reference to 10 CFR 50, Appendix "B" Criterion: II). The manual defines the Procurement Level System and corresponding controls. The initial procurement classification system approved in November 1984, consisted of seven levels with four suffixes and was later revised to six levels. These levels evolved to the four level Procurement Classification System on March 19, 1991. These are defined below:

SR-Safety Related: Items that are relied upon for active and passive functions to ensure:

- A. The integrity of the reactor coolant boundary.
- B. The capacity to shut down the reactor and maintain it in a safe shut down condition.
- C. The capacity to prevent or mitigate the consequences of accidents

CG-Commercial Grade: Items that satisfy all three of the following criteria:

- A. Not subject to design or specification requirements that are unique to nuclear facilities.
- B. Used in applications other than nuclear facilities.
- C. Ordered from the manufacturer/supplier on the basis of published specifications and descriptions.

AQ-Augmented Quality: Items that are not safety related but require the imposition of elevated quality requirements.

NS-Nonsafety Related: Items that do not have augmented quality requirements.

The procurement levels (1 through 6) and suffixes A through D are still defined in this manual to define the requirements that were in effect prior to March 19, 1991.

The policies for initiation, processing, reviewing and approving the purchase documents for materials, services, and equipment were defined in this manual. Appropriate references were made to the applicable Federal Regulations, FSAR Chapters, Regulatory Guides, ANSI Standards, ASME Codes and Technical Specifications.

The content requirements for procurement documents are listed in the NPPM and include the following:

- A. Procurement Level
- B. Administrative Requirements
- C. Article Description Requirements
- D. Service Description Requirements
- E. Technical Requirements
- F. Documentation Requirements
- G. Supplier Selection
- H. Supplier Quality Program Requirements
- I. 10 CFR 21 Reporting Requirements
- J. Nonconformance Reporting Requirements
- K. Rights of Access Requirements

- L. Source Surveillance Requirements
- M. Marking/Tagging Requirements
- N. Packaging/Shipping/Handling Requirements
- O. Fitness for duty
- P. Contractor Access Authorization Requirements

The Procurement Manual specifies training requirements for the personnel completing purchasing documents and performing other duties described in this manual.

As a rule, the majority of the purchase requisitions were generated by the site and processed to become purchase orders at the corporate offices. The corporate office buyers, who have access to the suppliers of equipment, were allowed to make changes when required through approved change orders. All change orders whether generated at site level or corporate level must be properly approved before becoming part of the purchase order.

The corporate offices generate POs in support of design change requests and for large items. The Plant Modification and Maintenance Support Section at the plant generates purchase requisitions after assuring that A/E specifications have been issued.

The purchase requisitions were reviewed by the site Procurement Review Section (PRS) for adequate technical/quality requirements, procurement level, storage level, technical changes, documentation requirements and necessary equivalency determinations when required. Those activities are directed by Administrative Control Procedure (ACP) No. 20AC-MTL-001-OS, Procurement of Materials and Services.

When materials for safety related applications are not available, commercial grade materials are purchased and are tested in accordance with ACP No. 20AC-MTL-003-OS, Commercial Grade Dedication. This procedure references various applicable EPRI, ANSI and NRC documents. Procedure 20AC-MTL-003-OS defines departmental reviews and the personnel requirements for those performing the commercial grade dedication activities. The limitations for equipment testing were listed in the procedure that controls the testing requirements of component and subcomponent parts. The procurement program defines provisions for third party dedication and for post installation testing.

Procedure 20AC-MTL-003-OS is supported by the corporate procedure HNAS-WP-47, Procedure for Commercial Grade Dedication which is used to develop and approve Commercial Grade Dedication Plans (CGDP) and requires familiarity with NRC Generic Letter (GL) 89-02, GL-91-05, EPRI Guideline NCIG-07 and the Hatch Project NPPM.

Corporate management responsibilities were assigned within HNAS-WP-47. Also, the activities and methods for commercial dedication and the reviews, approvals and processing of CGDPs are defined. A complete review of the procurement procedures listed below was not performed at this time. However, the procedures related to the procurement

deficiencies reported by the licensee were reviewed and are identified in paragraph 3.

Additionally, five purchase requests for materials that require a CGDP were selected for independent review and are discussed briefly below:

PO No. 601 4016

Domes, for tornado relief vents - This PO contained three different commercial dedication plans. All dimensions were nominal and visual inspection was required to verify the plexiglas color. The gasket material was based on the manufacture's specification.

PO No. 601 4054

Rechargeable 1.25V Batteries - These batteries were an alternate replacement for the original item. The commercial Grade dedication plan was performed by and certified the suppliers under the same PO. These items were dedicated by GPC after proper review of documentation and critical characteristics were examined.

PO No. 601 3971

Sealant, Silicon, Multi-Purpose - This PO required batch and lot number control. The receipt inspection required visual inspection for quantity and review of certificate of conformance from manufactures that the material was manufactured to the vendor's QA program. Additionally, a limit of contaminants was required. To verify that the material met these requirements a separate PO (601 5099) was issued to an independent laboratory to test the material for contaminants. The satisfactory test report was contained in the documentation.

PO No. 601 5250

Flexitallic Gasket - This PO was changed (CO No. 1) to incorporate a different acceptance criteria to the standards of ASME B16.20 which affected marking, filler materials and thickness.

PO No. 601 5339

3/8" Quick-connect fittings - These items were purchased on the "Like-for-Like" replacement basis. The material, physical and chemical configuration, ID markings, dimensions, and mechanical functional attributes were examined and verified to meet the acceptance criteria. The acceptance criteria was the manufacturer's specifications as listed in a parts catalog. Each fitting was checked for compliance with manufacture's, ASTM, and plant specifications.

3. Procurement Process

The licensee recently reported two events in which non-dedicated, commercial grade components were installed in a safety system application

(LER 50-321/94-006). On May 15, 1994, the High Pressure Coolant Injection (HPCI) system flow controller was removed from service for repairs. Two commercial grade transistors and a capacitor were installed in the HPCI flow controller. Subsequently, on May 20, 1994, when developing a purchase order to restock the controller subcomponents, licensee personnel realized that the installed parts had not been dedicated for safety related service. Further investigation also revealed that on March 14, 1994, a non-dedicated, commercial grade manual amplifier card had been installed in the Residual Heat Removal service Water (RHRSW) flow control system controller for valve 2E11-F068B.

The Resident Inspectors followed the licensee's entry into an LCO; testing to upgrade the parts for safety application; and corrective actions to prevent recurrence. These activities were recorded in NRC Report No. 50-321,366/94-13.

During this inspection the inspectors reviewed the sequence of events which lead to the use of commercial grade material in a safety application; root cause analysis of the events; and certain aspects of the procurement program to determine if a problem exists in the procurement process.

Documentation reviewed by the inspectors, totally or in-part, included but was not limited to the following:

- Hatch Project Nuclear Procurement Policy Manual
- Equipment Location Index (ELI)
- System Evaluation Document (SED), Revision 2
- 45 QC-QCX-001-05, Materials Receipt Inspection
- HNAS-WP-47, Revision 4, Procedure For Commercial Grade Dedication
- 20AC-MTL-001-0S, Procurement Of Materials And Services
- 20AC-MTL-003-0S, Revision 2, Commercial Grade Dedication
- 26MC-MTL-001-0S, Revision 4, Materials Receiving
- 26MC-MTL-006-0S, Revision 1, Procurement Document Processing
- 26MC-MTL-005-0S, Revision 3, Requisition Review for Quality Requirements
- Event Review Team Report 94-005
- LER 50-321/94-006
- LER 50-321/94-007

- Southern Company Services Letter, dated May 20, 1994 (Log: 05940346)
- Southern Company Services Letter, dated May 23, 1994 (Log: 05940346)
- Hatch Plant Organization Charts
- Departmental Directive To All Material Section Personnel
- Significant Occurrence Report 1-94-038
- Deficiency Cards 1-94-1302 and 2-94-1603
- Material Inspection Request

The inspectors found that the licensee had developed a number of procedures to implement the procurement program described in the NPPM. These procedures were reasonably detailed and thorough. Various aspects of procurement were addressed including verification of equipment classifications; development of the equipment requisitions; technical and quality review of requisitions; development and processing the purchase orders; and, receipt, handling, storage and issuance of materials. The program has sufficient self checking and specific procedural instructions in place to meet the specifications of the NPPM.

The Procurement Review Section (PRS) is the group responsible for the technical and quality adequacy of procurement documents. PRS reviews the handwritten requisition which is then typed and again reviewed. The requisition is forwarded to corporate offices where the purchase order is issued and forwarded to the plant. The purchase order is again reviewed for technical adequacy and issued. Changes to purchase orders must be processed in the same way as the purchase order. When the material involved in the RHRSW event was received on site on December 28, 1993, a material inspection and document review failed to identify the material as commercial grade. The purchase order was classified as SR. A change order downgrading the material to CG had not reached the PO file. Consequently, the material was received, stored, and later issued as qualified for use in the RHRSW system. When the material involved in the HPCI event arrived on site on March 11, 1994, it was received and stored as CG as indicated on the purchase order. The material was subsequently issued and used in the HPCI system under the assumption that it had been dedicated for use in a safety application without a formal CGDP.

The events occurred as a result of personnel errors when the downgrading of the controllers from safety grade to commercial grade was not identified in the case of the RHRSW repairs. A second error was made when it was assumed that the controllers had been qualified for safety grade use without a dedication plan in the case of the HPCI repairs.

Another event which involves procurement occurred when on June 13, 1994, it was discovered that a charcoal filter sample was tested by an off-

site laboratory assuming a charcoal bed depth of four inches rather than the actual depth of two inches (LER 50-321/94-007). This would yield non-conservative test results. This matter was investigated in detail by the Resident Inspectors who concluded that the event occurred due to an inadequate test procedure which did not specify the bed depth to be tested and failed to specify appropriate acceptance criteria (NRC Report No.50-321/94-15). The inspectors noted that the purchase order for the testing services did not specify the depth of the charcoal bed to be used. Although the test procedure was judged as the proper place to specify test conditions, failure to prescribe the details of the required test on the purchase order was viewed as a lack of attention to details in the purchase order. This finding is consistent with the licensee's Quality Assurance findings in the area of Material Control as discussed below.

The inspectors reviewed the audit findings of the Safety Audit And Engineering Review Reports of December 10, 1991, September 30, 1992, and August 25, 1993, in the area of Material Control. In the evaluation section of the August 25, 1993, report, QA found that the number of minor discrepancies in the document review area indicated a lack of attention to detail.

Based on discussions with procurement personnel; a walk through of the procurement process; review of the documentation listed above; and an independent review of a sample of commercial grade dedication plan procurement packages (paragraph 2); the inspectors concluded that the events were not the result of a program break down.

4. Exit Interview

The inspection scope and results were summarized on July 22, 1994, with those persons, indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results discussed in this report. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

5. Acronyms and Initialisms

ACP	-	Administrative Control Procedure
A/E	-	Architect Engineer
ANSI	-	American National Standard Institute
ASME	-	American Society of Mechanical Engineers
ASTM	-	American Society For Testing Materials
CG	-	Commercial Grade
CGDP	-	Commercial Grade Dedication Plan
CO	-	Change Order (Purchase Order Change)
EPRI	-	Electric Power Research Institute
FSAR	-	Final Safety Analysis Report
HPCI	-	High Pressure Coolant Injection
LER	-	Licensee Event Report
NDE	-	Non Destructive Examination
NPPM	-	Nuclear Procurement Policy Manual

NRC - Nuclear Regulatory Commission
PO - Purchase Order
PRS - Procurement Review Section
RHRSW - Residual Heat Removal Service Water
SCS - Southern Company Services