



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA ST., N.W.  
ATLANTA, GEORGIA 30323

Report No.: 50-425/88-28

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

Docket No.: 50-425

License No.: CPPR-109

Facility Name: Vogtle 2

Inspection Conducted: May 9-13 and 23-26, 1988

Inspectors:

*G. A. Belisle*  
R. W. Wright

*6/16/88*  
Date Signed

*McKenzie Thomas*  
M. Thomas

*6/16/88*  
Date Signed

Approved By:

*G. A. Belisle*  
G. A. Belisle, Chief  
Quality Assurance Programs Section  
Operations Branch  
Division of Reactor Safety

*6/16/88*  
Date Signed

SUMMARY

Scope: This special, announced inspection was conducted in the area of Readiness Review Module Appendix F, Inspector Qualification.

Results: Appendix F presents an accurate description and evaluation of the Unit 2 inspector qualification and certification program with the following exception.

One violation was identified in this area (Failure to utilize certified Field Level III inspectors as required by ANSI N45.2.6 - 1978, paragraph 5).

8807120081 840624  
PDR ADOCK 05000425  
Q PNU

## REPORT DETAILS

### 1. Licensee Employees Contacted

- \*D. M. Fiquett, Assistant Project Construction Manager II
- \*A. B. Gallant, Project Compliance Coordinator, and Technical Support Group Supervisor
- \*L. R. Glenn, Quality Control Manager
- E. D. Groover, Quality Assurance Site Manager - Construction
- \*S. D. Halton, Quality Assurance Support Supervisor
- D. C. McAfee, Technical Support Group Engineer and Appendix F Readiness Review Member
- \*R. W. McManus, Assistant Project Construction Manager II, and Readiness Review Manager
- \*P. D. Rice, Vice President, and Vogtle Project Director

Other licensee employees contacted during this inspection included various disciplined GPC/contractor technical and NDE QC inspection personnel.

\*Attended exit interview

### 2. Introduction

The scope of this Appendix F assessment plan (submitted to NRC on March 30, 1988) is to evaluate the acceptability of programs for qualifying and certifying all GPC and site contractor QC personnel involved in constructing Unit 2 after June 1985.

Unit 1's RR Appendix F (submitted to NRC on February 7, 1986) evaluated the acceptability of programs and inspector qualifications for both Unit 1 and Unit 2 prior to June 1985. VEGP was designed and constructed as an integrate facility and construction personnel involved in the inspecting Unit 1 also performed Unit 2 inspections. NRC Inspection Report No. 50-424/86-24 dated October 1, 1986, concluded that the Unit 1 Appendix F assessment of VEGP IQC programs was satisfactory.

The RR assessment program for evaluating the qualifications and certifications of post June 1985 Unit 2 QC inspectors consisted of three major activities. These activities evaluated the project IQC procedures, evaluated project training programs, and evaluated project QC inspector certification records. The RRT review used a specific checklist for each assessment activity. The commitments assessed for implementation are current through November 1, 1987, and Amendment 34 of the FSAR.

### 3. Methodology

The NRC Unit 2 technical Appendix F review and evaluation was conducted in the Region II office during May 2 - 6 and May 16 - 19 and was supported by onsite inspection activity during May 9 - 13, and May 23 - 26, 1988.

The Region II inspection review effort for Unit 2's Appendix F consisted of the following:

- Reviewing all VEGP IQC licensing commitments to insure completeness

- Reviewing all GPC and site contractor IQC procedures revised since June 1985 to insure proper commitment implementation therein

- Reviewing GPC or contractor QC inspector certification records to ascertain agreement with current project procedures and RG 1.58

- Reviewing VEGP IQC training programs for acceptability

- Reviewing the Unit 2 NRC inspection program at VEGP for its adequacy

- Interviews with several contractor and GPC inspection personnel concerning the adequacy of their IQC programs

- Summary of conclusions

### 4. Licensee Commitments And NRC Requirements

RR maintained the Unit 1 commitment matrix current for design and construction by reviewing FSAR Amendments, responses to Inspection and Enforcement Bulletins, and correspondence to the NRC. Additionally, during the Unit 1 RR assessment, the task force identified project controls (construction procedures, etc.) that implemented the commitment requirements and listed them on a document called the implementation matrix. The Unit 1 implementation matrix was reexamined by appropriate project organizations for updating the matrix data to reflect the latest implementing documents for Unit 2. The RR group verified the updated implementing matrix accuracy. The RR group examined all audits conducted by GPC QA and Bechtel Western Power Company QA. They also examined NRC inspection results performed in the area of IQC that were conducted subsequent to the Unit 1 Appendix F date. These audits resulted in four findings which identified discrepancies in documentation requirements or use of a wrong code edition. The findings did not identify deficiencies in inspector qualifications. NRC violations were not identified. The above resulting findings applicable to this appendix were factored into the licensee's review and assessment of the Unit 2 IQC program. Additionally, former Unit 1 Appendix F findings were evaluated to determine if they were still applicable to Unit 2 and, if so, were they being properly addressed in Unit 2 programs.

As described in Section 3, the project is committed to ensure that GPC's and the contractor's IQC programs conform to RG 1.58, R1-1980. In accordance with RG 1.58-1980, technical inspectors were qualified and certified according to requirements established by ANSI Standard N45.2.6-1978. NDT examiners are qualified and certified according to ASNT Recommended Practice No. SNT-TC-1A-1975.

The only substantial change to the above mentioned commitments since the Unit 1 Appendix F review appeared in Amendment 16 discussed in Section 1.9.58.2 of the FSAR. In lieu of SNT-TC-1A-1975, the licensee elected to endorse SNT-TC-1A-1980 for qualifying GPC construction and nuclear operations personnel performing nondestructive examinations. Additionally, most of the "shoulds" contained in the 1980 edition were replaced with "shalls" except for two instances which are clearly denoted. This change applied only to GPC NDT personnel and did not affect VEGP site contractors committed to SNT-TC-1A-1975.

The inspectors reviewed all the commitments identified in the Appendix F Commitment Matrix and confirmed they were the same as those in Vogtle FSAR Amendment 34. The inspector's review of Generic Letters and NRC Bulletins written since 1985, and examination of the Vogtle SER did not identify any questions pertinent to the licensee's IQC program commitments. The inspectors ascertained that the Unit 2 IQC commitments satisfied NUREG-0800 Guideline Areas 2D, Provisions To Assure Adequacy Of Personnel Qualifications, and 10B, Organizational Responsibilities And Qualification Established For Individuals Or Groups Performing Inspections. The inspectors concluded that the Unit 2 Appendix F Commitment Matrix as submitted is correct, complete, and adequate for VEGP IQC programs.

#### 5. GPC Implementation Programs And Procedures Review

The NRC inspectors reviewed the Unit 2 Implementation Matrix contained in Section 3 to ascertain if it reflected the current implementing documents and to verify that the program and procedures established to implement the requirements of the Commitment Matrix were identified and appeared reasonable. Additionally, the inspectors examined the GPC/Contractor programs and implementing procedures described in Sections 4 and 6.4.1 to determine that they conformed to the requirements of the matrix.

The RRT developed three comprehensive inspection checklists which included all the requirements of ANSI N 45.2.6, SNT-TC-1A-1975 and SNT-TC-1A-1980 respectively. These checklists were used in assessing GPC/Contractor IQC programs and for verifying procedure conformance to licensing commitments. The assessment resulted in three RR findings (2RRF-21F-001, 002, 003) for procedures that lacked details or contained errors. GPC's corporate NDE Procedure GEN-12750, R3 did not require NDE personnel to have a high school diploma or GED diploma, nor was that requirement present in NISCO Procedure ES-116-2, R1, for Levels II and III technical inspectors. Subsequent examination of certification files for the GPC NDE, and NISCO Levels II and III technical inspectors confirmed that all personnel had either high school diplomas or a GED diploma.

Procedure GEN-12750, R3, also specified on Exhibit G1, that the required training for leak testing Level II was 8 hours whereas the 1980 edition of SNT-TC-1A recommends 16 hours of training. The Project was found to be giving a 16 hour leak test training course making this deficiency an administrative type error.

PPP Procedure II-2, revision dated August 15, 1986, did not address the SNT-TC-1A-1975 requirement to find at least 90 percent of the known indications. Although this specific requirement was not specified by procedure it was being adhered to by NDE examiners.

The NRC inspectors reviewed the above RR findings and verified that affected procedures were revised to incorporate the above mentioned requirements. The NRC inspectors reviewed the subject check lists (contained in Section 8) to assure they contained all the requirements of the above mentioned ANSI Standard and ANST Recommended Practices. The inspectors cross referenced all (100 Percent) of the RRT check list item results to the applicable GPC/Contractor implementing IQC procedures to ensure their findings were correct and that no conflicting procedural revisions had been incorporated since the Appendix F review.

Based on this 100 Percent NRC inspector review of all GPC/Contractor implementing procedures (described in Tables 4-1 and 6-2) that had been revised since June 1985, the inspectors concluded that all the VEGP IQC commitments and regulatory requirements were contained within these procedures with the following exception.

FSAR, Section 1.9.58, specifies that VEGP commits to RG 1.58, R1, which endorses ANSI N45.2.6-1978 with a few exceptions that are discussed in detail. Procedure QC-A-01, Qualification and Certification of Technical Inspectors, is GPC's construction procedure for implementing of ANSI N45.2.6-1978 requirements. Procedure QC-A-01, R5, (Sections 4.5 and Exhibit 15) allows an Administrative Level III person to perform the functions specified in ANSI N45.2.6-1978 (Section 4 and Table 1) as Field Level III responsibilities although the administrator's education and experience qualifications may or may not be equivalent. Level III Administrators are appointed by the Manager of Quality Control by memorandum. Review of the FSAR exceptions to ANSI 45.2.6-1978 revealed that GPC did not mention the use of an Administrative Level III position in lieu of a Field Level III inspector to perform these functions. Since no exception was taken, a commitment to comply with the ANSI Standard means the specific education and experience recommendation of the standard has to be followed. This item was identified as violation 425/88-28-01, Failure to Utilize A Field Level III Inspector As Committed Per ANSI N45.2.6-1978. This violation only applies to GPC technical inspectors and does not affect GPC NDE nor any contractor inspection personnel.

During the procedural inspection review, one other isolated deficiency of no safety significance was identified. While reviewing Procedure QC-A-01, R5, the inspector found that FPCN No. 7 was not incorporated as indicated by the procedure's cover page. Discussions with cognizant personnel and subsequent documentation reviews revealed that before Revision 5 was issued, FPCN No. 7 was reviewed and modified. The personnel on the approval cycle for Revision 5 were all familiar with the above modification and approved it for issue on April 6, 1987, but failed to notice that the description of the revision on the cover page had not been corrected. Prior to leaving the site the licensee issued a new cover page to QC-A-01, R5, which stated it incorporated FPCN No. 7 as Modified.

#### 6. Inspector Certification Records

The RRT examined 37 GPC/Contractor QC inspector certification files which contained a total of 235 certifications using the inspector certification checklists found in Section 8. The RRT identified three deficient record findings (2RRF-21F-004, 005, 006), two of which involved GPC and WPS QC inspector personnel receiving physical eye examinations by persons for which had no documented evidence of their qualifications or training in this area. The third finding involved some WPS inspector certification forms that were not entirely completed. The RRT inspector examined the remedial actions and actions taken to prevent recurrence for these findings and found them satisfactory.

NRC site verification activities performed included reviewing a sampling of both the GPC and site contractor inspection certification files that were examined by the RRT and the expansion of that sample to others not examined by the RRT. This NRC inspection effort resulted in one finding. Examination of five PPP QC inspector certification files not previously reviewed by the RRT revealed one that was missing a letter of certification for UT Thickness Measurement. NRC examination of other supporting documentation (training, attendance, and testing records) verified the subject inspector was certified in the area but for some reason the letter of certification was inadvertently left out of his certification file. The PPP Training Officer corrected this oversight prior to the NRC inspector leaving the site.

#### 7. Evaluation Project Training Programs

During the Unit 2 RR assessment, the inspector training programs were reviewed using a training program checklist (see Section 8) that addressed nine issues. Attributes for the evaluation checklist were based on broad industry issues that were extracted from the concerns expressed in NRC Construction Assessment Team Inspection Reports from different facilities under construction.

The NRC inspectors examined the above completed checklists and supporting procedural evidence and ascertained that VEGP IQS program was not affected by the above industry training issues.

## 8. NRC Inspection Program And Inspection Reports

The NRC inspectors examined the NRC's Construction Inspection Program implemented for Unit 2 since June 1985, and concluded that the VEGP IQC activities and programs have continued to be satisfactorily covered and generally in accordance with requirements. This was accomplished by examining a random sample of Region II Inspection Reports covering procedures ending in xxx53 and xxx55 (work observation and records review), procedure 35061 (QA inspection of work activities) and resident inspection reports.

The inspector examined previous NRC inspection findings as of April 4, 1988; for Unit 2 in the area of IQC. This examination disclosed that one Severity Level V violation was issued since June 1985. Violation 425/86-45-02 was issued for failure to provide training for electrical engineers and QC staff on the use of Raychem Products. However, subsequent NRC followup of this violation (NRC Inspection Report No. 425/87-06) disclosed that the training deficiency only applied to Project Field Engineers and not to QC personnel. Consequently, no IQC violations have been identified since June 1985. Review of the above mentioned inspection reports and previous findings indicated that no adverse trends existed in Unit 2 IQC program.

## 9. Inspection Personnel Interviews

The NRC inspector conducted interviews with several Contractor (3-PPP, 2-WPS, 1-NISCO, 1-P/K-F) and GPC (5) inspection/testing personnel concerning:

- ° their training, education and qualifications
- ° the capabilities and qualifications of their fellow inspector type co-workers
- ° their opinion of the adequacy of the inspection procedures in the areas they are certified to inspect
- ° how problems are identified and handled
- ° their opinion of management's handling of problems identified
- ° their opinion of management's attitude toward quality

The NRC inspector received generally positive and favorable responses to all of the above questions asked. There were no negative comments or opinions expressed concerning their inspection programs, and no one was aware of any existing plant hardware problems that had not been adequately addressed. All inspectors felt their co-workers (both present and past) were well qualified to handle their respective inspection responsibilities and continue to do so. Several inspectors stated that some inspectors may be more conscientious and do their job better than others, but all

inspection requirements are enforced and inspected properly by everyone. The crafts go beyond minimum acceptable construction requirements to ensure their work task receives QC acceptance. They stated that their inspection programs (implementing procedures) have been continually revised, generally for the better as construction progressed to the point that they are now rather fine tuned. They stated that the training inspectors have received has been good, more than adequate to handle their job and may be useful in securing another line of work when Unit 2 construction is completed. They also stated that management is understanding and attentive to the problems they identify, takes time to explain differences of opinion on issues, and appears to have favorable attitude toward quality.

#### 10. Conclusions

The Appendix F executive summary states, "RR concludes that adequate programs exist to ensure that the quality of inspector certifications and the licensing commitments within the scope of this appendix have been implemented." Section 6.3 further states, "The review team found that project programs as implemented meet licensing commitments. Inspector certifications were acceptable and records were in good order with the exception of a few record keeping, or administrative errors."

As a result of the NRC verification activities conducted and discussed in this report, the inspectors concluded that Appendix F (including the above summary statements) reflect an accurate description and evaluation of the Vogtle Unit 2 IQC program with the one exception taken as noted in paragraph 5. Subsequent examination of the GPC QC Manager appointed Level III Administrators disclosed that most met the education and experience requirements of a Field Level III inspector or were college engineering graduates with considerable engineering experience. GPC currently has and has had a viable working IQC program. The NRC also concluded that Unit 2, Appendix F is adequate.

#### 11. Exit Interview

The inspection scope and results were summarized on May 26, 1988, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

Violation 50-425/88-28-01, Failure to utilize certified Field Level III inspectors as committed per ANSI N45.2.6-1978, paragraph 5.

## 12. Acronyms And Initialisms

|       |   |  |
|-------|---|--|
| ANSI  | - | American National Standards Institute                |
| ASNT  | - | American Society for Nondestructive Testing          |
| FPCN  | - | Field Procedure Change Notice                        |
| FSAR  | - | Final Safety Analysis Report                         |
| GED   | - | General Education Development                        |
| GPC   | - | Georgia Power Company                                |
| IQC   | - | Inspector Qualification and Certification            |
| NDT   | - | Nondestructive Testing                               |
| NISCO | - | Nuclear Installation Services Company                |
| NRC   | - | Nuclear Regulatory Commission                        |
| P/K-F | - | Pullman Construction Industries/Kenith-Fortson, Inc. |
| PPP   | - | Pullman Power Products                               |
| QA    | - | Quality Assurance                                    |
| QC    | - | Quality Control                                      |
| RG    | - | Regulatory Guide                                     |
| RR    | - | Readiness Review                                     |
| RRT   | - | Readiness Review Team                                |
| SER   | - | Safety Evaluation Report                             |
| UT    | - | Ultrasonic   |
| VEGP  | - | Vogtle Electric Generating Plant                     |
| WPS   | - | Williams Power Services                              |