



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

Report Nos.: 50-259/86-15, 50-260/86-15, and 50-296/86-15

Licensee: Tennessee Valley Authority  
 6N38 A Lookout Place  
 1101 Market Street  
 Chattanooga, TN 37402-2801

Docket Nos.: 50-259, 50-260 and 50-296

License Nos.: DPR-33, DPR-52,  
 and DPR-68

Facility Name: Browns Ferry 1, 2, and 3

Inspection Conducted: April 7-10, 1986

Inspectors: *L R Moore* 5/7/86  
 L. R. Moore Date Signed

*G A Belisle for* 5/6/86  
 J. H. Moorman, III Date Signed

Approved by: *G A Belisle* 5/6/86  
 G. A. Belisle, Acting Section Chief Date Signed  
 Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection was conducted on site in the area of quality control inspection activities.

Results: No violations or deviations were identified.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

J. Beasley, Quality Control (QC) Shift Supervisor  
R. Cooper, QC Inspector  
P. Cox, QC Inspector  
J. Craver, QC Inspector  
\*J. Daniel, Compliance  
D. Gatewood, QC Inspector  
T. Gilbert, Nondestructive Examination (NDE) Unit Supervisor  
\*N. Godwin, Compliance  
M. Holland, QC Inspector  
\*J. Hutton, Assistant to the Plant Manager  
F. Jefferson, QC Shift Supervisor  
F. Johnson, QC Shift Supervisor  
\*L. Jones, Quality Assurance (QA)  
K. Lindsey, QC Inspector  
\*B. Morris, Compliance  
J. Norris, Acting Quality Engineering Supervisor  
L. Parvin, Quality Analyst  
D. Sears, QC Inspector  
J. Turner, QC Inspector  
T. Ziegler, Plant Superintendent-Maintenance

Other licensee employees contacted included office personnel.

#### Other Organization

\*G. Turner, Site Quality Manager, Stone and Webster

#### NRC Resident Inspectors

\*G. Paulk, Senior Resident Inspector  
C. Patterson, Resident Inspector  
C. Brooks, Resident Inspector

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on April 10, 1986, with those persons indicated in paragraph 1 above. The inspector described the area inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee.



The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items

Unresolved Item were not identified during the inspection.

5. Quality Control (QC) Inspection Activities

- References:
- (a) 10 CFR 50.54(a)(1), Conditions of licenses
  - (b) 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants
  - (c) TVA-TR75-1A, Quality Assurance Program Description for the Design, Construction, and Operation of TVA Nuclear Power Plants, Revision 8
  - (d) Regulatory Guide 1.58, Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel
  - (e) ANSI N45.2.6-1978, Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants.

The following procedures were reviewed by the inspectors to determine if requirements in the above listed references were incorporated into the licensee's program for QC inspection activities:

Nuclear Operations Quality Assurance Manual, Part II, Section 5.3A, Training and Certification Program for Quality Control Inspectors, 10/12/84

Area Plan Program No. 0202.14, Qualification and Certification Program for Nondestructive Examination Personnel, 3/6/85

Browns Ferry Standard Practice, BF-3.2, QC Inspection Program, 12/23/85

Browns Ferry Quality Assurance Staff Section Instruction Letter 8.1, Inspector Training and Certification, 7/28/82

From this review, the inspectors determined that the current QC inspector training program appeared to meet existing regulatory requirements.



The inspectors reviewed job descriptions for QC inspection personnel. TVA Topical Report, Topic J, Table 17D-3 defines an alternative to Regulatory Guide 1.58 in that job descriptions are used to designate inspector qualification requirements and duties rather than the Level I, II, and III categories outlined in ANSI N45.2.6-1978. The inspectors verified that job descriptions for Engineering Associates (SE-3,-4,-5) adequately document minimum qualification requirements and duties for QC inspection personnel. Personnel records reviewed did not identify any deviations from minimum qualification requirements. The SE-3,-4,-5 job descriptions closely corresponded to Levels I and II in ANSI N45.2.6-1978. Level III inspectors are not authorized on site.

Exceptions are not taken to the NDE inspector guidance described in the American Society for Nondestructive Testing Recommended Practice No. SNT-TC-1A, June 1980. The inspectors did not identify any deviations from the guidance of this industry standard.

A review of selected QC inspector qualification records and interviews with 8 QC inspection personnel identified examples of lapsed eye examinations, lack of continuity of proficiency documentation, and inadequate documental basis for on-the-job training (OJT) waivers.

The inspectors interviewed a random selection of QC inspector personnel. The questions were structured to provide a consensus on the QC inspector training program from the personnel involved in the training. The consensus of the inspectors interviewed was that the Power Operations Training Center (POTC) courses were not site specific and that such training was of limited benefit except to newly hired personnel with minimum previous inspection experience. As the majority of inspectors had previous experience, this training was of little value initially or for recertification requirements. The OJT program was unstructured which reduced the effectiveness of this training. The QC inspectors were required to supplement POTC and OJT training with individual study to achieve the knowledge level necessary for satisfactory job performance. Discussion with a QC shift supervisor indicated that although the work load was heavy and a deterrent to structured training, supervisors were able to authorize overtime for training. The more commonly recognized weakness in the training program was the lack of training on specific procedures and instructions utilized by the QC inspectors.

The inspector concluded based on personnel interviews and existing procedures that the training program for QC inspectors was fragmented and difficult to implement. In addition, programmatic requirements were being loosely implemented and the classroom training had much room for improvement.

These and other weaknesses were identified by Quality Assurance Survey QBF-S-86-0033, BFN-QC Inspector Qualification and Certification Program, and Quality Audit Branch Report QBF-A-86-0004, Plant Staff Performance, Training, and Qualification.



Quality Assurance Survey QBF-S-86-0033 was conducted February 10 thru March 7, 1986. As a result of this survey, four corrective action reports (CARs) were issued to address generic and/or programmatic problems requiring higher level management attention. In addition, three discrepancy reports (DRs) were issued and seven areas of concern were identified. CARs were issued for certifying QC personnel prior to tests being graded, improperly dating certifications, allowing eye examinations and continuity requirements to expire, and failing to document prior inspector experience. DRs were issued to document that the POTC in Chattanooga had improperly documented some inspectors inservice visual examination qualifications and allowed a QC inspector to take more than the allowed reexaminations without the approval of the inspectors branch chief. The other DR was issued against the plant QA staff for failure to obtain all required signatures on inspector qualification records when a qualification was waived.

Areas of concern that were documented in the survey included allowing QC inspectors to maintain continuity in a discipline (electrical or mechanical) by performing an inspection in only one subject of that discipline. This allows inspectors to maintain certification in one or more subjects that they rarely perform inspections on. Also noted was that to become certified (and paid) as a journeyman level inspector, an individual must be certified in seven areas. Obtaining and retaining an indepth knowledge of seven disciplines is difficult. Since this surveillance was awaiting final signature prior to issuance at the time of the inspection there were no formal responses to any of the items. However, discussions with the Site Quality Manager confirmed that he was aware of the problems and that actions to resolve specific problems as well as other problems were being addressed in the general QA/QC reorganization.

Quality Audit Branch Report QBF-A-86-0004 was issued March 4, 1986. Section 12 of the audit covered the Training and Certification Program for Quality Control Inspectors. This audit identified essentially the same problems as QA survey QBF-S-86-0033.

The QA/QC department at Browns Ferry was undergoing reorganization. An individual contracted from Stone and Webster was recently assigned as the Site Quality Manager. He had established more middle level management positions to insure additional management attention at the working level. This includes creating a position for a full-time training coordinator. Not all of the positions were filled at the time of this inspection.

Since all problems identified by the inspectors were previously identified by the licensee and the licensee is taking aggressive, far-reaching corrective actions to rebuild the QC inspector training program, NRC action is not warranted at this time. However, this area will be reinspected after the licensee has implemented their corrective actions.

Within this area, no violations or deviations were identified.