



Public  
Service®

FORT ST. VRAIN NUCLEAR GENERATING STATION  
PUBLIC SERVICE COMPANY OF COLORADO

Q-18  
Issue 12  
Page 1 of 14

TITLE: QA MONITORING AND AUDIT PROGRAM

RESPONSIBLE FOR	<i>MS Ferris / am</i>			
AUTHORIZED BY	<i>R. J. Davis</i>			
PORC REVIEW	EORC 7 2 2 APR 2 4 1987			EFFECTIVE DATE 5-1-87
DCCF NUMBER (S)	87-0438			

B70B1B0302 B70B10  
PDR ADDCK 05000267  
Q PDR



TABLE OF CONTENTS

	<u>Page</u>
1.0 PURPOSE . . . . .	3
2.0 APPLICABILITY . . . . .	3
3.0 GENERAL REQUIREMENTS . . . . .	3
4.0 PROCEDURE . . . . .	4
4.1 QA Audit and Monitoring Activities . . . . .	4
4.2 Monitoring Program . . . . .	4
4.3 Audit Program . . . . .	5
4.4 Certification of Auditors . . . . .	7
4.5 Recertification Documentation . . . . .	7
4.6 Audit Records . . . . .	8
5.0 REFERENCES . . . . .	8
6.0 ATTACHMENTS . . . . .	8
Q-18A "Auditor Qualification Requirements" . . . . .	10
Q-18B "Record of Lead Auditor Qualifications" . . . . .	13
Q-18C "Annual Review of Auditor/Lead Auditor Qualification Form" . . . . .	14
7.0 COMMITMENTS . . . . .	9



### 1.0 PURPOSE

This procedure describes the Quality Assurance monitoring and audit practices employed by the Quality Assurance Division to verify and document conformance of activities to the requirements of the Quality Assurance Program.

### 2.0 APPLICABILITY

This procedure applies to all activities subject to requirements of the Quality Assurance Program.

### 3.0 GENERAL REQUIREMENTS

Practices employed are required to assure that:

- a) A comprehensive system of planned periodic audits are employed to verify conformance of activities, procedures and instructions affecting quality to applicable requirements and to determine the effectiveness of the Quality Assurance Program.
- b) Audits are performed to pre-established procedures and checklists by trained personnel with no direct responsibility for the areas being audited.
- c) \*\*\*See Commitment 7.1\*\*\*  
  
Auditors and Lead Auditors meet the requirements of ANSI N45.2.23 as described in Attachment Q-18A.
- d) Audit results are documented and the results are reviewed by management responsible for the area(s) audited.
- e) Any adverse audit findings are documented in accordance with APM Q-16 and are reviewed and investigated by management of the audited area to determine and schedule appropriate corrective action.
- f) Follow-up actions are conducted to verify implementation of any required corrective actions.
- g) Organizations subject to QA auditing and monitoring provide required access to facilities, personnel and records.



#### 4.0 PROCEDURE

##### 4.1 QA AUDITING AND MONITORING ACTIVITIES

4.1.1 The QA Operations Manager (QAOM) has overall responsibility for scheduling and performing of sufficient formal audits to verify that the Fort St. Vrain Quality Assurance Program is effectively serving its intended purpose, and for assuring that the system of formal audits is supplemented by monitoring actions.

4.1.2 The QA Services Manager (QASM) has primary responsibility for scheduling and performing supplier/contractor audits to evaluate and verify the capability and adequacy of supplier/contractor quality assurance programs to provide required materials and services. Requirements unique to these vendor evaluation program audits are delineated in MPRM-11, "Supplier Qualification Procedure".

##### 4.2 MONITORING PROGRAM

Continuing observations are utilized to verify conformance of on-going operations, or work in process, to quality program requirements.

4.2.1 Monitoring activities are performed utilizing pre-planned instructions and checklists as described in the Quality Assurance Monitoring Manual (QAMM-1).

4.2.2 Monitoring is performed by personnel who meet qualifications for auditors described in Attachment Q-18A. Auditors-in-training may assist in the performance of monitoring activities.

4.2.3 Conditions adverse to quality noted during monitoring activities which are not fully documented and resolved during the monitoring actions are documented in accordance with the requirements of APM Q-16.

4.2.4 Follow-up actions, to verify effective implementation of previous corrective actions may be conducted, at the determination of QA management, in conjunction with monitoring activities as described in QAMM-1.

#### 4.3 AUDIT PROGRAM

Formal FSV Project audits are performed by the Nuclear Facility Safety Committee (NFSC), as required by Technical Specification AC 7.1.3, and by QA as required by 10CFR50 Appendix B, Criterion 18. Guidelines for the scheduling, preparation, performance and close-out of these audits are delineated in QAAP-1, "Guidelines for Quality Assurance and Nuclear Facility Safety Committee Audits".

4.3.1 The QAOM is responsible for preparation and maintenance of an audit schedule that assures coverage (including NFSC audits) of areas and activities affecting quality at least once every two years.

4.3.2 The audit system is periodically reviewed and revised as necessary to assure that audit coverage and the schedule reflect current activities.

4.3.3 The frequency and extent of audits is based on an area's importance to safety, security, performance history and management changes or other changes which may affect quality program effectiveness.

4.3.4 The Manager, QA may require the performance of unscheduled or unannounced audits when, in his judgment, such action is justified.

4.3.5 Audits are performed by a Lead Auditor and auditors qualified as described per Attachment Q-18A using audit checklists or procedures developed prior to starting the audit. Auditors-in-training, personnel not yet qualified according to Q-18A, and Technical Specialists may assist in the conduct of the audits. Persons having direct responsibility for an area or function are not eligible to serve as auditors for such areas or functions, nor may they be involved in selection of the audit team.

4.3.6 Lead auditors are responsible for planning each audit. Audit plans are reviewed by the Supervisor, QA Auditing and QA Operations Manager, and approved by the Manager, Quality Assurance.

a) In order to assure the lead auditor is able to maintain the level of involvement required by ANSI N45.2.12, the lead auditor shall be limited administratively to performance of the lead auditor function on no more than two audits at the same time.

- 4.3.7 The Supervisor, QA Auditing assures that notification of an audit is sent to the affected organization. Such notification includes the audit purpose, scope, schedule and identifies the audit team.
- 4.3.8 A pre-audit conference is conducted by the Lead Auditor with the QA Operations Manager, the Supervisor, QA Auditing and the affected managers, or designees to:
- a) Explain the audit plan and sequence.
  - b) Arrange for affected organization contacts.
  - c) Discuss plans for the the post audit conference, based on the nature and scope of the audit.
- 4.3.9 During conduct of an audit, any conditions identified requiring immediate action are promptly reported to affected managers.
- 4.3.10 Conditions adverse to quality identified, but not corrected during the audit, are documented on in accordance with the requirements of APM Q-16. Adverse conditions corrected during the audit are documented as observations in the Audit Report.
- 4.3.11 Post audit conferences are conducted by the Lead Auditor with the QA Operations Manager, the Supervisor, QA Auditing and the affected organization managers or designees to review and, if required, clarify the results of the audit.
- 4.3.12 An audit report is prepared by the Lead Auditor, reviewed by the Supervisor, QA Auditing and the QA Operations Manager, and approved by the Manager, QA. Copies of the report are distributed to the audited organization and the Vice President, Nuclear Operations within 30 days of the post-audit conference.



#### 4.4 CERTIFICATION OF AUDITORS

The QAOM is responsible for providing or arranging for training required for qualification and certification of QA Auditors. Attachment Q-18B is employed to record qualification point accumulations required to permit certification. The QAOM is authorized to certify Lead Auditors and Auditors based on supporting evidence and judgment of the candidate's capability to function as an Auditor or Lead Auditor. Certification records are maintained by the QAOM until transmitted to the Records Center.

#### 4.5 RECERTIFICATION DOCUMENTATION

4.5.1 The QAOM is responsible for reviewing the qualifications of each Lead Auditor to determine if each is maintaining his proficiency.

- a) Certification of this review is documented in the "Annual Review of Auditor/Lead Auditor Qualifications" (Attachment Q-18C).
- b) Lead auditors shall maintain their proficiency through one or more of the following:
  - 1) Regular and active participation in the audit process.
  - 2) Review and study of codes, standards, procedures, instructions, and other documents related to quality assurance programs and program auditing.
  - 3) Participation in training programs related to auditing functions.
- c) Based on the review, the QAOM may extend the qualification of the Lead Auditor, require retraining, or require requalification.
- d) Lead Auditors who fail to maintain their proficiency for a period of two years or more shall require requalification.

- 1) Requalification shall include retraining and reexamination per ANSI N45.2.23 - 1978, Paragraphs 2.3.3 and 2.3.5 respectively, and participation as an Auditor in at least one nuclear quality assurance audit.

#### 4.6 AUDIT RECORDS

The QAOM is responsible for assuring adequacy and completeness of audit and monitoring records.

Records are maintained by the QAOM until transmitted to the Records Center.

#### 5.0 REFERENCES

- 5.1 FSAR - Appendix B, "Quality Assurance Program for Plant Operation"
- 5.2 ANSI N 45.2 - 1971, "Quality Assurance Program Requirements for Nuclear Power Plants"
- 5.3 ANSI N 45.2.12 - 1974, "Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants"
- 5.4 ANSI N 45.2.23 - 1978, "Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants"
- 5.5 APM Q-7, "Control of Procured Materials, Equipment, and Services"
- 5.6 APM Q-16, "Corrective Action System"
- 5.7 QAMM-1, "Quality Assurance Monitoring Manual"
- 5.8 QAAP-1, "Guidelines for Quality Assurance and Nuclear Facility Safety Committee Audits"
- 5.9 MPRM-11, "Supplier Qualification Procedure"

#### 6.0 ATTACHMENTS

- 6.1 Q-18A, "Auditor Qualification Requirements"
- 6.2 Q-18B, "Record of Lead Auditor Qualifications"
- 6.3 Q-18C, "Annual Review of Auditor/Lead Auditor Qualification Form"





## 7.0 COMMITMENTS

The step(s) and section(s) listed below may not be deleted without issuance of comparable controls. The procedure itself, if initiated as a result of commitment corrective action, may not be deleted without issuance of comparable controls.

7.1 Step 3.0(c) is a result of commitments P-82042 and G-82008.

### AUDITOR QUALIFICATION REQUIREMENTS

#### 1.0 Qualifications for Auditors

- 1.1 Auditors must possess experience or training consistent with the scope, complexity or special nature of the activities to be audited, demonstrated by past audit experience, quality assurance monitoring activities, or special training; or shall be given appropriate indoctrination training or orientation for specific audits to be performed.
- 1.2 Auditors shall be competent in the performance of audit functions and shall have a working knowledge and understanding of ANSI N45.2, and 10CFR50, Appendix B. Competence may be developed by one or more of the following:
  - 1.2.1 Orientation to ensure a working knowledge and understanding of ANSI N45.2, N45.2.12, and the applicable procedures for implementing the audits to be performed.
  - 1.2.2 Training programs to provide general and specialized capability in audit performance. General training includes: fundamentals, objectives, characteristics, organization, performance and results of quality auditing. Specialized training includes: methods of examining, questioning, evaluating and documenting specific audit items, and methods of closing out audit findings.
  - 1.2.3 On-the-job training, experience, guidance, and coaching under the supervision of a qualified and certified Lead Auditor. This includes: planning, performing, reporting, and follow-up action involved in the conduct of audits and monitoring activities.
  - 1.2.4 Participation in two nuclear audits.

#### 2.0 Qualification of a Lead Auditor

- 2.1 In addition to the qualifications set forth by 1.0 above, documented records of a Lead Auditor shall exhibit the following:

2.1.1 Evidence that the auditor has sufficient experience, education and training qualifications to accumulate a minimum of ten points based on the following:

a) Education (4 Points Max.)

- 1) Associate degree (score 1 point), OR,
- 2) associate degree in engineering, physical sciences, mathematics, or quality assurance (score 2 points), OR,
- 3) bachelor degree (score 2 points), OR,
- 4) bachelor degree in engineering, physical sciences, mathematics, or quality assurance (score 3 points).
- 5) Score one additional point for a master degree in engineering, physical sciences, business management, or quality assurance.

b) Experience (9 Points Max.)

- 1) Score one point for each full year of technical experience in engineering, manufacturing, construction, operations or maintenance with a maximum of five points of this type.

If two or more years of this experience have been in:

- i. the nuclear field, score one additional point, OR,
- ii. quality assurance, score two additional points, OR,
- iii. auditing, score three additional points, OR,
- iv. nuclear quality assurance, score three additional points, OR,
- v. nuclear quality assurance auditing, score four additional points.

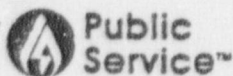


c) Professional Accomplishments (2 Points Max.)

1. Upon verification of certification of competency in engineering, science or quality assurance specialties issued and approved by a State Agency, or National Professional or Technical Society, score 2 points.

d) Management (2 Points Max.)

1. A maximum of two points may be awarded by the employer based on candidate's work performance. Examples of factors to consider include; leadership, sound judgment, maturity, analytical ability, tenacity and QA training courses.
- 2.1.2 Evidence that the auditor has participated in a minimum of five nuclear quality assurance audits within the last three years, one audit of which must have been performed within the year preceding his selection as an auditor.
- 2.1.3 The prospective Lead Auditor shall pass an examination which shall evaluate his comprehension of and ability to apply all the necessary skills of a Lead Auditor.


**FORT ST. VRAIN NUCLEAR GENERATING STATION  
PUBLIC SERVICE COMPANY OF COLORADO**
**AUDITOR / LEAD AUDITOR QUALIFICATION**

NAME _____							
<b>QUALIFICATION POINT REQUIREMENTS</b>							
<b>EDUCATION</b>	4 CREDITS MAX.	<b>CREDITS</b>					
<input type="checkbox"/> 2 YEARS COLLEGE (1-2 pts.) <input type="checkbox"/> COLLEGE DEGREE (2-3 pts.) <input type="checkbox"/> ADVANCED DEGREE (1 additional pt.)							
<b>EXPERIENCE</b>	9 CREDITS MAX.						
TECHNICAL (0-5 pts.) and _____ NUCLEAR INDUSTRY (0-1 pt.), or _____ QUALITY ASSURANCE (0-2 pts.), or _____ AUDITING (0-1 pt.) _____							
<b>PROFESSIONAL ACCOMPLISHMENT</b>	2 CREDITS MAX.						
1. P.E. _____ 2. SOCIETY _____							
<b>MANAGEMENT</b>	2 CREDITS MAX.						
EXPLAIN: _____							
<b>TOTAL CREDITS</b>							
<b>AUDIT COMMUNICATION SKILLS</b>							
_____							
EVALUATED BY: (NAME & TITLE) _____							
<b>AUDIT TRAINING COURSES</b>							
COURSE TITLE OR TOPIC			DATE				
1. _____			_____				
2. _____			_____				
<b>AUDIT PARTICIPATION</b>							
LOCATION	AUDIT	DATE					
1. _____	_____	_____					
2. _____	_____	_____					
3. _____	_____	_____					
4. _____	_____	_____					
5. _____	_____	_____					
THIS INDIVIDUAL IS CERTIFIED AS: <input type="checkbox"/> AUDITOR <input type="checkbox"/> LEAD AUDITOR							
CERTIFIED BY: _____ (SIGNATURE) _____ (DATE)							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">ANNUAL REVIEW</td> <td style="width: 25%;">(SIGNATURE) (DATE)</td> <td style="width: 25%;">(SIGNATURE) (DATE)</td> <td style="width: 25%;">(SIGNATURE) (DATE)</td> </tr> </table>				ANNUAL REVIEW	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)
ANNUAL REVIEW	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)	(SIGNATURE) (DATE)				



FORT ST. VRAIN NUCLEAR GENERATING STATION  
PUBLIC SERVICE COMPANY OF COLORADO

ANNUAL REVIEW OF AUDITOR / LEAD AUDITOR QUALIFICATIONS  
FOR PERIOD FROM \_\_\_\_\_ TO \_\_\_\_\_

NAME (Typed)		NAME (Signature)	
<b>QUALIFICATION POINT REQUIREMENTS</b>			
			<b>CREDITS</b>
<b>EDUCATION</b>			<b>4 Credits Max.</b>
2 YEARS COLLEGE (1 - 2 pts.)			
COLLEGE DEGREE (2 - 3 pts.)			
ADVANCED DEGREE (1 additional pt.)			
<b>EXPERIENCE</b>			<b>5 Credits Max.</b>
TECHNICAL (0 - 5 pts.) and _____			
NUCLEAR INDUSTRY (0 - 1 pt.), or _____			
QUALITY ASSURANCE (0 - 2 pts.), or _____			
AUDITING (0 - 1 pt.) _____			
<b>PROFESSIONAL ACCOMPLISHMENT</b>			<b>2 Credits Max.</b>
1. P.E. _____			
2. SOCIETY _____			
<b>MANAGEMENT</b>			<b>2 Credits Max.</b>
EXPLAIN _____			
<b>TOTAL CREDITS</b>			
<b>AUDIT PARTICIPATION</b>			
1. _____	_____	7. _____	_____
2. _____	_____	8. _____	_____
3. _____	_____	9. _____	_____
4. _____	_____	10. _____	_____
5. _____	_____	11. _____	_____
6. _____	_____	12. _____	_____
<b>AUDIT EDUCATION / TRAINING COURSES</b>			
1. _____	_____	7. _____	_____
2. _____	_____	8. _____	_____
3. _____	_____	9. _____	_____
4. _____	_____	10. _____	_____
5. _____	_____	11. _____	_____
6. _____	_____	12. _____	_____
<input type="checkbox"/> TRAINING RECORDS REVIEWED			
<input type="checkbox"/> WORK HISTORY REVIEWED			
<input type="checkbox"/> AUDIT RECORD REVIEWED			
<input type="checkbox"/> EDUCATION RECORD REVIEWED			
BASED ON ASSESSMENT OF THE ABOVE AREAS, THE PROFICIENCY OF _____ AS AN AUDITOR / LEAD AUDITOR HAS / HAS NOT BEEN MAINTAINED.			
_____ QA OPERATIONS MANAGER		_____ DATE	