Omaha Public Power District

QUALITY ASSURANCE TOPICAL REPORT
(QATR)

NO-FC-10

Revision 15

FORT CALHOUN STATION

Corporate Headquarters

444 South 16th Street
Omaha, NE 68102

Quality Assurance Topical Report
(NO-FC-10) - Revision 15
Transmittal and Summary of Changes

To: Fort Calhoun Station Site Records Management

Revision 15 to the Quality Assurance Topical Report (QATR) is based on NRC approval of a Safety Evaluation issued to Exelon Generation for use at the Oyster Creek facility that allows for use of a 25% audit extension allowance if necessary for a decommissioning unit.

This QATR change assures compliance with 10 CFR 50 Appendix B, *Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants*; 10 CFR 72, *Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste*, Subpart G, *Quality Assurance*; and, 10 CFR 71, *Packaging and Transportation of Radioactive Material*, Subpart H, *Quality Assurance*.

The Quality Assurance Topical Report (QATR) changes include:

- Extends internal and vendor audit allowance to 25% grace allowance.

These changes have been reviewed in accordance with 10 CFR 50.54(a). (Ref. AR 00068819-03 for supporting 50.54(a) evaluations.) This revision to the QATR will be submitted to the NRC for post implementation review as tracked by Action Request Number 00026137-42.

NOS has reviewed these changes as required by FCSI-NO-400 and determined that no change management plan is required due to this change being an administrative scheduling change limited to one department.

These changes are effective August 1, 2020, with implementation required within 60 days after the effective date.

Prepared By: Randy Hugenroth 7/23/20
Randy Hugenroth / Date
Manager – Nuclear Oversight

Approved By: Mary Fisher 7/23/20
Mary Fisher / Date
Vice President – Energy Production and Nuclear Decommissioning

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Policy Statement

The Quality Assurance Topical Report (QATR), NO-FC-10, is the highest tiered document that assigns major functional responsibilities for decommissioning facilities owned and operated by the Omaha Public Power District (Company). For clarity, the terms QATR, Quality Assurance Plan (QAP), and Decommissioning QAP (DQAP) are equivalent.

OPPD announced plans on June 16, 2016, to permanently cease operations of Fort Calhoun Station (FCS). On November 14, 2016, OPPD submitted a Certification of Permanent Cessation of Power Operations to the Nuclear Regulatory Commission (NRC), certifying that FCS had permanently ceased power operations. To address this changing environment at FCS, a DQAP has been developed to support station activities) and the operation of the Independent Spent Fuel Storage Installation (ISFSI).

The FCS DQAP reflects the quality activities pertaining to a decommissioning nuclear site through compliance with established regulatory requirements set forth by the NRC. The DQAP ensures the protection of the public health and safety through performance-based assessments and compliance-based auditing, utilizing implementing procedures and instructions. The DQAP describes the responsibilities for implementing important to safety requirements, establishing and maintaining the DQAP, and assessing the performance of activities subject to the DQAP. The implementation of the FCS DQAP is performed in a graded approach commensurate with the items and activities' importance to safety.

The FCS DQAP includes a general description of the organizational structure and functional responsibilities of station management regarding the implementation of important to safety activities and key facility activities at FCS. The DQAP also outlines the key responsibilities for the Quality Assurance (QA) staff and program expectations for the associated station organizations. The DQAP satisfies the requirements of 10 CFR 50 Appendix B, *Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants*, 10 CFR 71, Subpart H, *Quality Assurance for Packaging and Transportation of Radioactive Material*, and 10 CFR 72, Subpart G, *Quality Assurance for Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste*. Additional regulatory commitments are listed within Appendix C of the DQAP.

1. ORGANIZATION

OPPD is responsible for the establishment and execution of the QA Program at Fort Calhoun Station (FCS). The OPPD organizational structure of functions involved with implementing the FCS DQAP, as well as associated interfaces, is described below with a high level functional organizational structure presented in Appendix A. The titles of managers used in the DQAP are generic; their functional titles and their formal titles may vary. Unless otherwise specifically prohibited, responsibilities of managers described in the DQAP may be delegated to, and be performed by, other qualified individuals.

The ultimate responsibility for operation, maintenance, inspection, test, modification, decommissioning, and storage of spent fuel resides with the OPPD President and Chief Executive Officer (CEO). The Vice President, Energy Production and Nuclear Decommissioning (VP, EPND) ultimately reports to the OPPD CEO and has the overall responsibility for the establishment and execution of the FCS DQAP.

1.1 Responsibilities

1.1.1 The authorities and duties of persons and organizations performing activities affecting the important to safety functions of the Structures, Systems, and Components (SSC) defined in Appendix B are established and delineated in writing. These activities include both performing the functions of attaining quality objectives and the Quality Assurance functions.

1.1.2 The VP, EPND is responsible for spent fuel safety, decommissioning of the station, and nuclear oversight. The DQAP is reviewed and approved by the manager responsible for Nuclear Oversight, and the VP, EPND.

1.1.3 The VP, EPND is responsible for apprising management of the effectiveness of the DQAP implementation and is the arbitrator for non-conformances of unusual complexity. The VP, EPND also directs actions to be taken based on reports and trending of quality issues submitted by the Manager responsible for Nuclear Oversight. Direction for implementing the DQAP activities is provided by the VP, EPND through the manager responsible for Nuclear Oversight.

1.1.4 Management of line organizations involved with decommissioning of FCS are responsible to ensure that the quality of organizational work and activities meets the requirements set forth in the DQAP and implementing procedures.

1.2 Nuclear Oversight

1.2.1 The manager responsible for Nuclear Oversight reports to the VP, EPND and shall not be assigned responsibilities that would prevent the required attention to important to safety matters. Although reporting to the VP, EPND with other line organizations, the manager responsible for Nuclear Oversight shall have the necessary independence from other line management to ensure effective oversight for all organizations. The manager has the following responsibilities:

- Management of day-to-day oversight of implementation of the DQAP for all

important to safety activities.
- Authority and obligation to raise any conditions adverse to quality to the VP, EPND for resolution.
- Assuring important to safety activities are performed in accordance with implementing procedures.
- Managing the performance of periodic audits, assessment, and inspections in order to verify that important to safety activities have been correctly performed.
- Reporting on oversight activities to the VP, EPND.
- Authority to stop work when quality is adversely affected.

1.2.2 Nuclear Oversight personnel report directly to the manager responsible for Nuclear Oversight and implement the relevant provisions of the DQAP utilizing written implementing procedures. They perform independent oversight of line functions and activities. A member of the Nuclear Oversight organization shall not perform oversight of activities for which the member has been directly responsible. Further, they have the responsibility and authority to stop work when quality is adversely affected and immediately raise concerns to the manager responsible for Nuclear Oversight.

1.2.3 Nuclear Oversight personnel shall have sufficient authority and organizational freedom to identify any quality problems and to verify implementation of corrective actions. Additionally, Nuclear Oversight personnel shall have direct access to appropriate levels of management necessary to perform their function and shall be independent from cost and schedule when opposed to quality and nuclear safety considerations.

1.3 Station Management

1.3.1 A manager responsible for decommissioning oversight reports to the VP, EPND and is responsible for managing all decommissioning project activities being performed at FCS.

1.3.2 A manager that is responsible for the operation of the ISFSI, with responsibility for ISFSI emergency planning, reports to the manager responsible for decommissioning oversight.

1.3.3 The manager responsible for radiation protection and chemistry reports to the manager responsible for the operation of the ISFSI.

1.3.4 Managers who are responsible for technical areas, such as engineering (design authority and ISFSI engineering) report to the VP, EPND.

1.3.5 The Independent Safety Reviewer (ISR) performs independent safety reviews as defined in Appendix D.

1.3.6 Other facility staff shall follow the requirements of Appendix D.

1.4 Other Corporate OPPD Organizations (Business Operations)

1.4.1 Supply Chain Management is responsible for procurement of materials, equipment and services, and for preparation, negotiations, and administration of procurement contracts for FCS reporting to OPPD Corporate Management.

1.4.2 Corporate Records reports to OPPD Corporate Management and is responsible for storage and retrieval of company records (including nuclear records) placed in their custody. They interface with site Records Management related to long term storage of nuclear records.

1.5 Delegation of Quality Assurance Work

1.5.1 OPPD may delegate the execution of work under the DQAP to others such as contractors, agents, or consultants; however, OPPD retains overall responsibility for those activities and the DQAP. Delegation is clearly identified in documentation and OPPD retains the right to verify compliance with OPPD quality requirements and regulatory requirements applicable to that organization's QA Program.

2. QUALITY ASSURANCE PROGRAM

2.1 The QA Program for FCS is described in this Decommissioning Quality Assurance Program (DQAP). This DQAP provides control over important to safety and selected decommissioning related activities to an extent consistent with their importance to ensure safety and compliance as defined in procedures. The DQAP includes specific monitoring activities, which are measured against acceptance criteria in a manner sufficient to provide FCS management assurance that the important to safety activities are performed in an acceptable manner. The FCS DQAP requirements apply to structures, systems, or components (SSCs) designated as important to safety defined in Appendix B and those associated regulatory programs in Appendix D.

2.2 The DQAP satisfies the requirements of 10 CFR 50 Appendix B, *Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants*, 10 CFR 71, Subpart H, *Quality Assurance for Packaging and Transportation of Radioactive Material*, and 10 CFR 72, Subpart G, *Quality Assurance for Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste*. Additional regulatory commitments are listed within Appendix C of the DQAP. Implementation of this DQAP is controlled through separately issued procedures, instructions, and drawings. Each organization is responsible for the establishment and implementation of procedures and instructions prescribing the important to safety activities within the scope of this DQAP for which they are responsible.

2.3 Important to safety activities shall be accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. The DQAP takes into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality, and the need for verification of quality by inspection and test where required.

2.4 Changes to the QATR will be implemented in accordance with 10 CFR 50.54(a) and 10 CFR 71.106.

2.5 Program Control and Authority

2.5.1 The Manager responsible for Nuclear Oversight is responsible for ensuring that the applicable portions of the DQAP are properly documented, approved, and implemented (with trained staff, necessary materials, and approved procedures available) before an activity within the scope of the DQAP is executed. Disputes arising between departments or organizations on any QA matter that cannot be resolved at a lower level of management will be referred to the VP, EPND.

2.5.2 Additional requirements for specific programs are described in Appendix D, *Administrative Controls*.

2.6 Personnel Training and Qualifications

2.6.1 Individual managers are responsible for ensuring that personnel working under their cognizance are provided with the necessary indoctrination training and resources to accomplish assigned activities which fall under the scope of the DQAP.

2.6.2 Members of the FCS staff (including audit and inspection personnel) shall have the appropriate qualifications necessary to perform their assigned duties defined in implementing procedures. These implementing procedures provide the criteria utilized for determining and assessing appropriate staff qualifications. Additionally, Appendix D cites references that stipulate the use of specific industry standards addressing qualifications. Training programs are established and implemented to ensure that personnel achieve and maintain suitable proficiency. Personnel training and qualification records are maintained in accordance with approved procedures.

2.6.3 QA Lead Auditors are qualified and certified by the manager responsible for Nuclear Oversight in accordance with approved procedures. Training methods, minimum experience requirements, and certification practices are in accordance with established procedures and based on criteria set forth in QA implementing procedures. Proficiency evaluations are performed and documented as defined in approved procedures.

2.6.4 Records of the implementation for staff indoctrination and training, as well as records for Lead Auditor, Auditor, Technical Specialist, and Inspection Personnel qualification shall be maintained in accordance with approved procedures and show the appropriate documentary evidence of training completion.

2.7 Performance/Verification

2.7.1 Personnel performing work activities such as design, engineering, procurement, installation, maintenance, modification, operation, and decommissioning are responsible for achieving acceptable quality.

2.7.2 Personnel performing independent verification activities are responsible for verifying the achievement of acceptable quality and are different personnel than those who performed the work.

2.7.3 Work is accomplished and verified using instructions, procedures, or other appropriate means that are of a detail commensurate with the activity's complexity and importance to safety.

2.7.4 Criteria that define acceptable quality are specified, and quality is verified against these criteria.

3. DESIGN CONTROL

3.1 The program will ensure that the activities associated with the design of important to safety structures, systems, and components and modifications thereto, are executed in a planned, controlled, and orderly manner.

3.2 The program utilizes the guidance of NUREG/CR-6407 to classify structures, systems and components such that appropriate quality requirements are identified and documented on drawings, component lists, or procurement documents, as applicable.

3.3 The program includes provisions to control design inputs, processes, outputs, changes, interfaces, records, and organizational interfaces.

3.4 Design inputs (e.g., performance, conditions of the facility license, quality, and quality verification requirements) shall be and correctly translated into design outputs (e.g., specifications, drawings, procedures, and instructions).

3.5 The final design output shall relate to the design input in sufficient detail to facilitate design verification. The design process shall ensure that materials, parts, equipment, and processes are selected and independently verified consistent with their importance to safety to ensure they are suitable for their intended application.

3.6 Changes to final designs (including field changes and modifications) and dispositions of non-conforming items to either use-as-is or repair shall be subjected to design control measures commensurate with those applied to the original design and approved by the organization that performed the original design or a qualified designee. Subsequent changes to the original design can be made by FCS as defined in the design control process.

3.7 Interface controls (internal and external between participating design organizations and across technical disciplines) for the purpose of developing, reviewing, approving, releasing, distributing, and revising design inputs and outputs shall be defined in procedures.

3.8 Design documentation and records which provide evidence that the design and design verification process was performed in accordance with the DQAP, shall be collected, stored and maintained in accordance with approved procedures. This documentation includes final design documents, such as drawings, specifications,

calculations, and revisions there to and documentation identifying important steps, including sources of design inputs that support the final design.

3.9 Design Verification

3.9.1 The program will verify the acceptability of design activities and documents for the design of items. The selection and incorporation of design inputs and processes, outputs and changes are verified.

3.9.2 Verification methods include, but are not limited to, design reviews, alternative calculations, and qualification testing. The extent of this verification will be a function of the importance to safety of the item, the complexity of the design, the degree of standardization, the state of the art, and the similarity with previously proven designs.

3.9.3 When a test program is used to verify the acceptability of a specific design feature, the test program will demonstrate acceptable performance under conditions that simulate the most adverse design conditions that are expected to be encountered.

3.9.4 Independent design verification is to be completed before design outputs are used by other organizations for design work and before they are used to support other activities such as procurement, manufacture, or construction. When this timing cannot be achieved, the unverified portion of the design is to be identified and controlled. In all cases, the design verification is to be completed before relying on the item to perform its important to safety function.

3.9.5 Individuals or groups responsible for design reviews or other verification activities shall be identified in procedures and their authority and responsibility shall be defined and controlled. Design verification shall be performed by any competent individuals or groups other than those who performed the original design, but who may be from the same organization. The designer's immediate supervisor or manager may perform the design verification and controls for this are defined in approved procedures.

3.9.6 Design verification procedures are to be established and implemented to ensure that an appropriate verification method is used, the appropriate design parameters to be verified are chosen, the acceptance criteria is identified, the verification is satisfactorily accomplished and the results are properly recorded.

4. PROCUREMENT DOCUMENT CONTROL

4.1 The program will ensure that purchased items and services are of acceptable quality.

4.2 The program includes provisions for evaluating prospective suppliers and ensuring that selected suppliers continue to provide acceptable products and services.

4.3 The program includes provisions for taking corrective action with suppliers (qualified or otherwise) whose products and services are not considered acceptable.

4.4 The program includes provisions for source verification (inspection, audit, etc.) for accepting purchased items and services identified as important to safety when determined necessary.

4.5 The program includes provisions for invoking applicable technical, regulatory, administrative, and reporting requirements (e.g., specification, codes, standards, tests, inspections, special processes, records, certifications, 10 CFR 21) applicable to the procurement to be specified in procurements documents.

4.6 The program includes provisions for ensuring that documented evidence of an item's conformance to procurement requirements is available at the site before the item is placed in service or used unless otherwise specified in procedures.

4.7 The program includes provisions for ensuring that procurement, inspection, and test requirements have been satisfied before an item is placed in service or used unless otherwise specified in procedures.

4.8 The procurement of components, including spare and replacement parts, is subject to quality and technical requirements suitable for their intended service.

4.9 The program includes provisions for the identification of critical characteristics and methods of acceptance for the dedication of a commercial grade item or service for its use in an important to safety function(s).

5. INSTRUCTIONS, PROCEDURES AND DRAWINGS

5.1 Measures are established to assure that quality activities are prescribed by and performed in accordance with documented instructions, procedures, or drawings. These instructions, procedures, and drawings include, as appropriate, quantitative or qualitative acceptance criteria for determining that activities have been satisfactorily accomplished. Controls are established to ensure that instructions, procedures, and drawings are current and accurately reflect the facility design and regulatory requirements.

5.2 Changes or deviations from established instructions, procedures or drawings for SSCs and other quality activities that have current important to safety functions, require the same review and approval as the original document. Instructions, procedures and drawings, including changes and deviations subject to the FCS DQAP, shall be maintained as required by administrative procedures.

5.3 Administrative controls may be established that provide the methods by which temporary changes can be made to procedures which are approved, including the designation of persons authorized to approve such changes.

6. DOCUMENT CONTROL

6.1 The program will control the development, review, approval, issue, use, and revision of documents.

6.2 The scope of the document control program includes, but is not limited to:

a. Safety Analysis Report(s);
b. NRC License Documents, including Technical Specifications;
c. Design Documents and Drawings;
d. Procurement Documents;
e. Procedures, Manuals, Plans, Directives, Policies, Instructions, etc.;
f. Corrective Action Documents; and
g. Other documents as defined in procedures.

6.3 Revisions of controlled documents are reviewed for adequacy and approved for release by the same organization that originally reviewed and approved the documents or by a designated organization that is qualified and knowledgeable.

6.4 Copies of controlled documents are distributed to and used by the person performing the activity.

6.5 The distribution of new and revised controlled documents is in accordance with procedures. Superseded documents are controlled to prevent inadvertent use.

7. CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

7.1 The program will verify the quality of purchased items and services at intervals and to a depth consistent with the item's or service's importance to safety, complexity, and quality of the item or service. Control of items and services for important to safety applications are clearly and adequately specified in procurement documents.

7.2 The program is executed in all phases of procurement. As necessary, this may require verification of activities of suppliers below the primary supplier of the item or service.

7.3 Procedures shall describe each organization's responsibilities for the control of purchased material, equipment, and services including the interfaces between all affected organizations.

7.4 Controls for the audits or surveys of suppliers providing important to safety items and services are provided for in Section 18.

7.5 Controls for the inspection (source verification/surveillance/inspection) of suppliers providing important to safety items and services are provided for in Section 10.

8. IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

8.1 The program will identify and control important to safety items to prevent the use of incorrect or defective items.

8.2 Identification of each item is maintained throughout fabrication, erection, installation, and use so that the item can be traced to its documentation. Traceability is

maintained to an extent consistent with the item's importance to safety.

9. CONTROL OF SPECIAL PROCESSES

9.1 This program will ensure that special processes identified as important to safety are properly controlled.

9.2 The criteria that establish which processes are special are described in procedures. The following are examples of special processes:

a. Welding;
b. Heat treating;
c. NDE (Non-Destructive Examination);
d. Chemical cleaning; and
e. Unique fabricating or test processes which require in-process controls.

9.3 Special processes are accomplished by qualified personnel, using appropriate equipment, and procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

10. INSPECTION

10.1 The program will ensure inspections of important to safety activities are planned, executed, and documented in order to verify conformance with instructions, procedures, and drawings for accomplishing the activity.

10.2 Provisions to ensure inspection planning is properly accomplished are to be established. Planning activities shall identify the characteristics and activities to be inspected, the inspection techniques, the acceptance criteria, and the organization responsible for performing the inspections.

10.3 Provisions to identify inspection hold points, beyond which work is not to proceed without the consent of the inspection organizations are to be defined.

10.4 Inspection results are to be documented by the inspector and reviewed by qualified personnel.

10.5 Unacceptable inspection results shall be evaluated and resolved in accordance with approved procedures.

10.6 Inspections are performed by qualified personnel other than those who performed or directly supervised the work being inspected. While performing the inspection activity, inspectors functionally report to the manager responsible for Nuclear Oversight.

11. TEST CONTROL

11.1 The program will demonstrate that items will perform satisfactorily in service using approved test procedures.

11.2 The test control program includes, as appropriate, proof tests before installation, pre-operational tests, post maintenance tests, post-modification tests, and operational tests.

11.3 Test procedures shall be developed which include:

a. Instructions and prerequisites to perform the test;
b. Use of proper test equipment;
c. Acceptance criteria; and
d. Mandatory inspections, as required.

11.4 Test results are evaluated and documented to assure that test objectives and inspection requirements have been satisfied.

11.5 Unacceptable test results shall be evaluated and documented for impact on safety and reportability.

12. CONTROL OF MEASURING AND TEST EQUIPMENT

12.1 The program will control the calibration, maintenance, and use of measuring and test equipment consistent with activities important to safety to ensure accuracy.

12.2 Calibration reference standards shall be based on traceability to nationally recognized standards. Where national standards do not exist, M&TE is calibrated against standards that have an accuracy of at least four (4) times the required accuracy of the equipment being calibrated, or when this is not possible have an accuracy that ensures the equipment being calibrated will be within the required tolerance. Special calibration and control measures are not required when normal commercial practices provide adequate accuracy (e.g., rulers, tape measures, levels, and other such devices).

12.3 The types of equipment covered by the program (e.g., instruments, tools, gages, and reference and transfer standards) are defined in procedures.

12.4 Measuring and test equipment is calibrated at specified intervals or immediately before use on the basis of the item's required accuracy, intended use, frequency of use, stability characteristics and other conditions affecting its performance.

12.5 Measuring and test equipment is labeled, tagged, or otherwise controlled to indicate its traceability to calibration test data.

12.6 M&TE found damaged or out-of-calibration is tagged or segregated. The acceptability shall be determined of items measured, inspected, or tested with a damaged or out-of-calibration device.

13. HANDLING, STORAGE, AND SHIPPING

13.1 The program will control the handling, storage, shipping, cleaning, and preserving of items to ensure the items maintain acceptable quality.

13.2 Special protective measures (e.g., containers, shock absorbers, accelerometers, inert gas atmospheres, specific moisture content levels and temperature levels, etc.) are specified and provided when required to maintain acceptable quality.

13.3 Specific procedures shall be developed and used for cleaning, handling, storage, packaging, shipping and preserving items when required to maintain acceptable quality.

13.4 Items are marked and labeled during packaging, shipping, handling, and storage to identify, maintain, and preserve the item's integrity and identify the need for any special controls.

14. INSPECTION, TEST, AND OPERATING STATUS

14.1 The program will ensure that required inspections and tests and the operating status of items important to safety is verified before release, fabrication, receipt, installation, test, and use, as applicable. This verification is to preclude inadvertent bypassing of inspections and tests and to prevent inadvertent operation of controlled equipment. Operating status is identified by the use of tags, markings, stamps, or other suitable means.

14.2 Items whose required inspections and tests are incomplete or inconclusive may be released for further processing. Controls are provided in procedures for establishing limitations on the release, applying status indications and documenting the basis for the conditional release of the item and any limitations.

14.3 The application and removal of inspection, test, and operating status indicators are controlled in accordance with procedures.

15. NONCONFORMING MATERIAL, PARTS, OR COMPONENTS

15.1 FCS establishes measures to control important to safety materials, parts and components which do not conform to requirements. The measures used to control nonconforming materials, parts, and components are described by approved procedures.

15.2 Management at all levels and each individual working at the facility is responsible for promptly identifying and reporting the identification of nonconforming materials, parts, and components.

15.3 The corrective action program will be used to ensure the prompt identification, documentation, and correction of nonconforming materials, parts, and components as described in Section 16.0.

15.4 Nonconforming items are properly controlled by approved procedures describing the identification, documentation, segregation requirements disposition and notification to the affected organizations to prevent their inadvertent installation or use. Nonconforming items are reviewed and either accepted, rejected, repaired, or reworked in accordance with approved procedures.

16. CORRECTIVE ACTION

16.1 Each individual working at the facility is responsible for promptly identifying and reporting conditions adverse to quality. Management at all levels encourages the identification of conditions that are adverse to quality.

16.2 Significant conditions adverse to quality shall require cause determination, a corrective action that should prevent recurrence, and be documented and reported to appropriate levels of management. Follow-up action shall be taken to verify effective implementation of the required corrective actions to prevent recurrence and to verify that they are effectively implemented.

16.3 Specific responsibilities within the corrective action program may be delegated, but FCS maintains responsibility for the program's effectiveness.

16.4 Reports of conditions that are adverse to quality are analyzed to identify negative performance trends. Significant conditions adverse to quality and significant trends are reported to the appropriate levels of management.

17. QUALITY ASSURANCE RECORDS

17.1 The program will ensure that sufficient records of important to safety items and activities affecting quality (e.g., design, engineering, procurement, manufacturing, construction, inspection and test, installation, preoperation, startup, operations, maintenance, modification, decommissioning, and audits) are generated and maintained to reflect the completed work.

17.2 Controls for the administration, identification, receipt, storage, preservation, safekeeping, retrieval, and disposition of records are provided in procedures.

17.3 Records may be stored in electronic media provided that the process for managing and storing data is documented in procedures that comply with applicable regulations, including NRC guidance in RIS 2000-18.

17.4 Records generated for SSCs that were once classified as safety-related or quality-related but no longer have a safety function do not need to be retained for purposes of the DQAP (but may need to be retained for other purposes, such as compliance with 10 CFR 50. 75(g), other regulations, or for business reasons).

17.5 The Fort Calhoun Station Quality Assurance File Room (Energy Plaza Quality Assurance Records Vault) meets the criteria of NUREG-0800 (1981 Ed.), *Standard Review Plan*, Part 17.1, Acceptance Criteria 17.4, Alternative (3); a 2-hour rated fire resistant file room meeting NFPA No. 232, as defined by LIC-83-0238, and will withstand a maximum wind velocity of 110 miles per hour. Also, fire rated file cabinets used for interim record storage meet a one hour or greater fire rating.

18. AUDITS

18.1 FCS establishes measures for a system of planned and documented audits in order to verify compliance with all aspects of the DQAP, and determines the effective

implementation of programs covered by the DQAP. QA internal and supplier audits are planned and performed by qualified auditors utilizing approved written procedures and/or checklists. External audits by licensees / utilities, Contractors, or Consultants acting for FCS to satisfy FCS audit requirements shall have the results evaluated by FCS to ensure acceptability.

18.2 Lead Auditors shall have experience, training, or qualifications commensurate with the scope and complexity of their audit responsibility. Individuals performing audits shall not have direct responsibilities in the areas being audited.

18.3 Scheduling, preparation, personnel selection, performance, reporting, response, follow-up, and records management for audits are performed in accordance with written procedures. Audit scopes and schedules are based upon the status of work progress, important to safety activities being performed, and regulatory requirements. Internal audits for the FCS DQAP shall continue on a 24-month cycle with a 25% grace period unless restricted by regulation. Grace periods are not intended to be used repetitively, merely as an administrative convenience to extend audit intervals. Therefore, the next performance due date is based on the originally scheduled date.

18.4 When specific audits are identified as requiring a more frequent periodicity, the shortest periodicity will be adhered to for activities covered by those specific regulatory requirements. The frequency of internal audits will be prescribed by the site implementing procedures which govern the conduct of QA audits.

18.5 External audits of suppliers providing important to safety materials, parts, equipment, or services are scheduled and performed based on the importance of the activity and to confirm implementation of the supplier's Quality Assurance Program at a frequency of not more than three (3) years with a 25% grace period. A total combined interval for any three (3) consecutive inspection or audit intervals does not exceed 3.25 times the specified inspection or audit interval. The supplier audit requirement shall not apply to standard off-the-shelf items and bulk commodities where required quality can adequately be determined by receipt inspection or post-installation test.

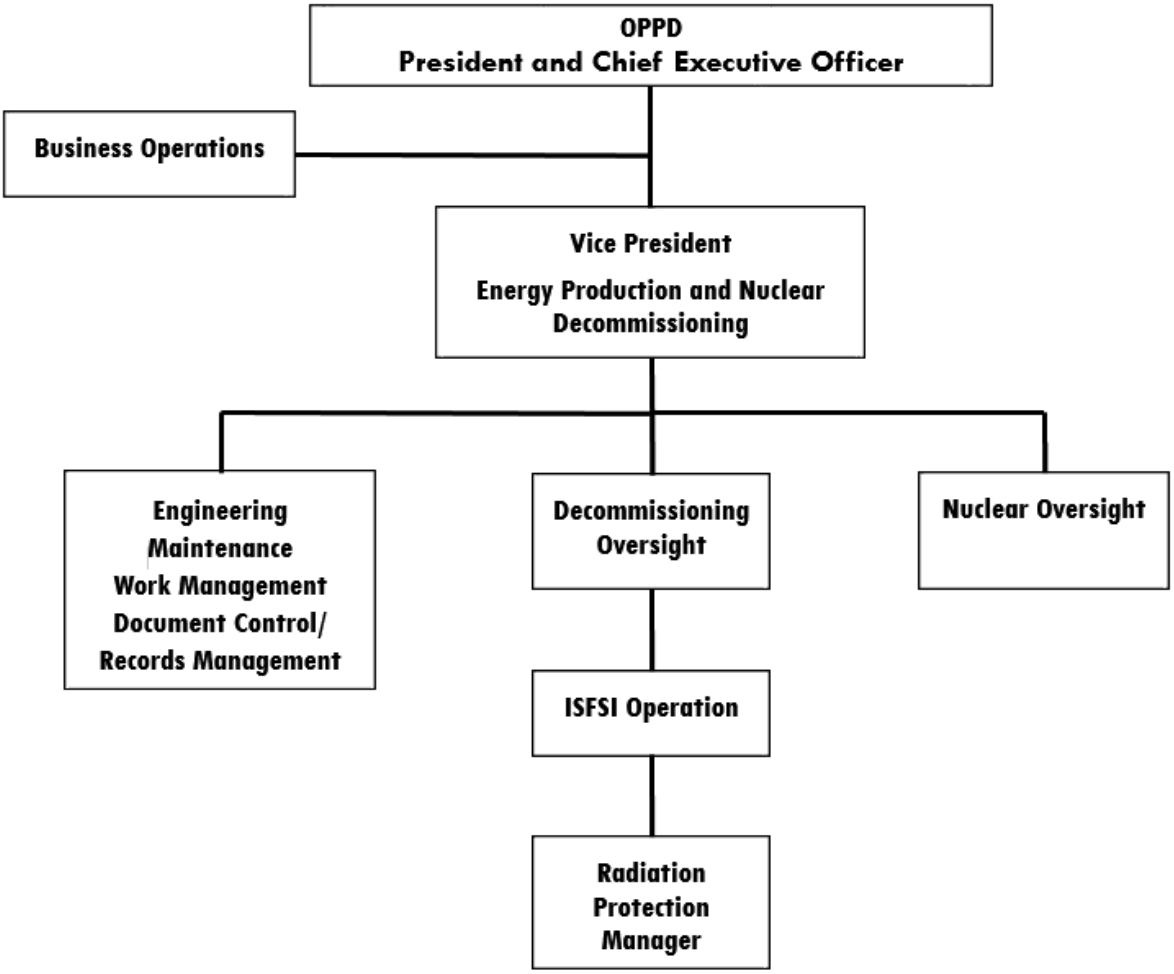
18.6 Audit reports shall be prepared, reviewed, approved, and distributed in accordance with approved procedures.

18.7 Results of audits are reviewed with the management of the organization audited. Responsible management in the areas audited shall implement the necessary corrective actions required to address deficiencies. These actions are documented and reviewed periodically and, if needed, re-examined during re-audits of the subject area to verify deficient areas have completed corrective actions.

18.8 Audit records shall be retained in accordance with approved implementing procedures.

APPENDIX A

Organizational Chart



Functional Organization Chart

All positions are not defined and ultimate reporting is to the OPPD President and Chief Executive Officer

APPENDIX B

Important to Safety (ITS) Structures, Systems, and Components

The pertinent quality assurance requirements of 10 CFR 50 Appendix B (Note 1), 10 CFR 71 Subpart H, and 10 CFR 72 Subpart G, will be applied, as a minimum, to all quality activities affecting important to safety (ITS) SSCs associated with spent fuel storage and transportation packages. (Note 3)

NOTE

The safety classification of SSCs at FCS may be revised based on engineering evaluations and a revision to the FCS engineering classification documentation. These modifications are controlled in accordance with the design control process and are not considered a reduction in the commitments to the DQAP. Such changes are subject to regulatory review processes in accordance with 10 CFR 50.59 and 72.48.

ITS SSCs associated with spent fuel storage and radioactive material transportation packages are detailed in the noted engineering classification and include:

B.1 Dry Spent Fuel Storage (10 CFR 72)

SSC
Dry Shielded Canisters (DSC)
Horizontal Storage Module (HSM)

B.2 Transport of Spent Fuel and GTCC Waste (10 CFR 71)

Fuel SSC
Dry Shielded Canister
Transport Cask

GTCC Waste SSC
GTCC Waste Canister (Note 2)

B.3 Radioactive Material Transport Packages (10 CFR 71)

Radioactive Material Transport Packages other that the GTCC canisters noted above are also subject to the provisions of 10 CFR 71, Subpart C, General Licenses, are "Important-to-Safety" and subject to the applicable requirements of the DQAP.

NOTES:

1. Administrative Controls are used to define the quality category, which is currently the DSAR Appendix N.
2. The storage of GTCC Waste Container does not have to be addressed under 10 CFR 72 per NRC Interim Staff Guidance (ISG-17).
3. For the definition of Quality Categories A, B, and C refer to TN USFAR and NUREG/CR-6407.

Appendix C

Regulatory Requirements and Commitments

Regulatory Requirements:

1. 10 CFR 50 Appendix B, *Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants*

2. 10 CFR 71 Subpart H, *Quality Assurance*

3. 10 CFR 72, Subpart G, *Quality Assurance*

Regulatory Commitments:

2. NUREG/CR-6407, *Classification of Transportation Packaging and Dry Fuel Storage System Components According to Important to Safety* (2/1996)

Regulatory Guidance:

1. Regulatory Guide 7.10, *Establishing Quality Assurance Programs for Packaging Used in the Transportation of Radioactive Material* (Revision 2 - March 2005), with exception to the annual audit frequency. FCS is on a 24-month audit frequency in accordance with implementing plant procedures.

Alternatives:

1. Suppliers providing commercial grade calibration and testing services, who are accredited by a nationally recognized accrediting body, as described in Nuclear Energy Institute (NEI) 14-05 guidelines, may be used without additional qualification, provided the conditions of the associated NRC Safety Evaluation are met. Controls shall be established in applicable procedures to ensure the requirements of the NRC Safety Evaluation are satisfied prior to acceptance.

Appendix D

Administrative Controls

A. INDEPENDENT REVIEWS

1.0 Independent Management Assessment (IMA)

The VP, EPND shall periodically have an IMA performed to evaluate the effectiveness of the FCS QA Program. These IMAs are performed by individual(s) designated by the VP, EPND who are independent of FCS oversight activities and who have the appropriate level of expertise in the activities assessed. These periodic IMAs shall be performed on a 24 month frequency with a 90 day grace period, which is not to impact the established 24 month cycle for the assessment. The IMA results are communicated via a written report in a timely manner to a level of management having the authority to execute effective corrective action. In addition, these results are reported to the OPPD President and Chief Executive Officer through the VP, EPND.

2.0 Independent Safety Review (ISR)

Independent Safety Reviewers perform ISRs of proposed changes, tests, and experiments to important to safety SSCs, activities, program documents and procedures that are subject to the FCS DQAP requirements. Independent Safety Reviewers shall be individuals without direct responsibility for the performance of activities under review, and shall be competent and knowledgeable in the subject area being reviewed. Independent Safety Reviewers shall have at least 5 years of professional experience and either a Bachelor's Degree in Engineering or the Physical Sciences or shall have equivalent qualifications in accordance with ANSI N18.1-1971. Independent Safety Reviews must be completed prior to implementation of proposed activities. The manager responsible for the overall operational activities (or designee) shall document the appointment of Independent Safety Reviewers as defined in procedures.

B. INTEGRATED REQUIREMENTS RELOCATED FROM TECHNICAL SPECIFICIATIONS

1.0 Responsibility

1.1 The VP, EPND shall be responsible for overall management of the FCS and all site support functions. The individual shall delegate in writing the succession to this responsibility during their absence.

2.0 Organization

2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for facility activities and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safe storage of the nuclear fuel.

a. Lines of authority, responsibility, and communication shall be established and defined for the highest management levels through intermediate levels to and including all organizational positions responsible for the safe storage of nuclear fuel. These relationships shall be documented and updated as appropriate, in the form of organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. The organizational charts are maintained up to date on the OPPD corporate website.

b. The VP, EPND shall be responsible for the overall safe storage of the nuclear fuel and shall have control over those onsite activities necessary to ensure the ongoing safe storage of the nuclear fuel.

c. The VP, EPND shall have corporate responsibility for overall facility nuclear safety and shall take any measures needed to ensure acceptable performance of the staff to ensure the safe management of nuclear fuel.

d. The individuals who carry out radiation protection and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their ability to perform their assigned functions.

3.0 Facility Staff Qualifications

3.1 Each member of the facility staff responsible for the safe storage of nuclear fuel and radiation protection personnel, including those performing final status survey activities shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions as defined in approved procedures except for: a) the radiation protection manager shall meet the requirements set forth in Regulatory Guide 1.8, Revision 3, dated May 2000, entitled "Qualification and Training of Personnel for Nuclear Power Plants."

3.2 Indoctrination, training, and qualification programs are established such that a retraining and replacement training program for the plant staff shall be maintained under the direction of the Decommissioning Plant Manager/ISFSI Manager or designee and shall meet or exceed the requirements of Section 6 of ANSI/ANS 3.1-1993, as modified by Regulatory Guide 1.8, Revision 3, dated May 2000.

4.0 Procedures, Programs and Manuals

4.1 Procedures

4.1.1 Scope

Written procedures shall be established, implemented, and maintained

covering the following activities:

a. Quality assurance for effluent and environmental monitoring using the guidance in Regulatory Guide 4.15, Revision 1, 1979;

b. Fire Protection Program Implementation; and

c. The following other Programs:

1) Offsite Dose Calculation Manual (ODCM)

2) Radioactive Effluent Monitoring Program (REMP)

3) Process Control Program (PCP)

C. LEGACY ITEMS FROM PREVIOUS QATR

1.0 Transport of Radioactive Waste

When OPPD contracts with vendors to transport radioactive waste in NRC approved shipping packages, it meets the requirements of 10 CFR 71 Subpart H. OPPD assures that this service is procured from an organization with a QA program and if applicable, includes a NRC licensed transport system. Loading, surveying, closure, placarding, and inspections are conducted in accordance with written procedures and instructions. Transport casks and trailers are inspected before release in accordance with Department of Transportation (DOT) 49 CFR. Shipping manifests, including final radiation surveys, are completed and retained. Radioactive waste shipments not meeting the requirements for NRC approved packaging, shall meet the requirements of DOT 49 CFR.

2.0 Services

OPPD procures services from qualified suppliers. It is not necessary that these suppliers have a quality assurance program approved by the licensee, however, suppliers should provide a quality assurance program that includes the quality assurance program elements presented in Regulatory Guide 4.15, *Quality Assurance for Radiological Monitoring Programs (Normal Operations) – Effluent Streams and the Environment*, and routinely provide program data summaries sufficiently detailed to permit evaluation of the program for the following areas:

- Meteorology.
- Offsite Dose Calculation Manual.
- Radiological environmental monitoring.

Appendix D

Administrative Controls (cont.)

3.0 Records Retention

3.1 The following records shall be retained for at least five years:

- Records and logs of activities related to the safe storage of irradiated fuel.
- Records and logs of principle maintenance activities, inspections, repair and replacement of principal items of equipment related to safe storage of irradiated fuel.
- All Licensee Event Reports.
- Records of changes made to the procedures required by technical specification.
- Records of sealed source leak tests and results.
- Records of annual physical inventory of all source material of record.

3.2 The following records shall be retained for the duration of the Facility Operating License:

- Records and drawing changes reflecting facility design modification made to systems and equipment needed for the safe storage of irradiated fuel as described in the DSAR.
- Records of irradiated fuel inventory, fuel transfers, and assembly burnup histories.
- Records of facility radiation and contamination surveys.
- Records of doses received by all individuals for whom monitoring was required.
- Records of gaseous and liquid radioactive material released to the environs.
- Records of training and qualification for current members of the facility staff.
- Records to reviews performed for changes made to procedure or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.

Appendix D

Administrative Controls (cont.)

- Records of results of analyses required by the Radiological Environmental Monitoring Program.

- Records of reviews performed for changes made to the Offsite Dose Calculation Manual and Process Control Plan.

- Records of radioactive shipments.

Appendix E

OFFSITE DOSE CALCULATION MANUAL

E.1 Offsite Dose Calculation Manual (ODCM)

E.1.1 Requirements:

a. The document(s) that contain the methodology and parameters used in the calculations of offsite doses resulting from radioactive gaseous and liquid effluents and in the conduct of the Environmental Radiological Monitoring Program. The ODCM shall also contain

1) The Radiological Effluent Controls and the Radiological Environmental Monitoring Program

2) Descriptions of the information that should be included in the Annual Radiological Environmental Operating Reports and Annual Radioactive Effluent Release Reports.

E.1.2 Changes to the ODCM:

a. Shall be documented and records of reviews performed shall be retained as required by the Quality Assurance Program. This documentation shall contain:

1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and

2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36(a), and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.

b. Shall become effective after review and acceptance by the Independent Safety Reviewer and the approval of the Decommissioning Plant Manager/ISFSI Manager.

c. Shall be submitted to the Nuclear Regulatory Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed and shall indicate the date (e.g., month/year) the change was implemented.

Appendix E

OFFSITE DOSE CALCULATION MANUAL (cont.)

E.2 Radioactive Effluent Control Program

E.2.1 A program shall be provided conforming to 10 CFR 50.36(a) for control of radioactive effluents and for maintaining the doses to individuals in Unrestricted Areas from radioactive effluents as low as reasonably achievable. The program:

1) shall be contained in the ODCM,

2) shall be implemented by procedures, and

3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functionality of radioactive liquid and gaseous radiation monitoring instrumentation including functionality tests and setpoint determination in accordance with the methodology in the ODCM.

b. Limitations on the concentration of radioactive material released in liquid effluents to unrestricted areas conforming to ten times 10 CFR 20.1001-20.2401, Appendix B, Table 2, Column 2.

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM.

d. Limitations on the annual and quarterly doses or dose commitment to individuals in unrestricted areas from radioactive materials in liquid effluents released to unrestricted areas conforming to Appendix I to 10 CFR Part 50.

e. Determination of cumulative doses from radioactive effluents for the current calendar quarter and current calendar year in accordance with the ODCM on a quarterly basis.

f. Limitations on the functionality and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity in plant effluents.

g. Limitations on the concentration resulting from radioactive material released in gaseous effluents to unrestricted areas conforming to ten times 10 CFR 20.1001-20.2401, Appendix B, Table 2, Column 1.

h. Limitations on the annual and quarterly doses to an individual beyond the site boundary from tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released to unrestricted areas conforming to Appendix I to 10 CFR Part 50.

i. Limitations on the annual dose or dose commitment to an individual beyond the site boundary due to releases or radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

E.3 Radiological Environmental Monitoring Program

E.3.1 A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall:

1) be contained in the ODCM,

2) conform to the guidance of Appendix I to 10 CFR Part 50, and

3) include the following:

a. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM.

b. A Land Use Census to ensure that changes in the use of areas at and beyond the site boundary are identified and that modifications to the monitoring program are made if required by the results of this census.

c. Participation in an Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

Appendix E

OFFSITE DOSE CALCULATION MANUAL (cont.)

E.4 Reporting Requirements

E.4.1 Annual Radioactive Effluent Release Report

The Annual Radioactive Effluent Release Report covering the station during the previous calendar year shall be submitted before May 1 of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be:

1) Consistent with the objectives outlined in the ODCM and PCP, and

2) in conformance with 10 CFR 50.36(a) and Section IV.B.1 of Appendix I to 10 CFR 50.

E.4.2 Annual Radiological Environmental Operating Report

The Annual Radiological Environmental Operating Report covering the station during the previous calendar year shall be submitted before May 1 of each year. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in:

1) The ODCM, and

2) Section IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR 50.