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CHAPTER 17.0

QUALITY ASSURANCE

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CHAPTER 17 - LIST OF FIGURES

*Refer to Section 1.6 and Table 1.6-3. Controlled drawings were removed from the USAR at Revision 17 and are considered incorporated by reference.

Figure #	Sheet	Title	Drawing #*
17.2-1	0	Hierarchy of Controlled Documents	

CHAPTER 17.0

QUALITY ASSURANCE

17.1 QUALITY ASSURANCE DURING DESIGN AND CONSTRUCTION

This section is not applicable to a USAR.

17.2 QUALITY ASSURANCE DURING THE OPERATION PHASE

17.2.0 INTRODUCTION

17.2.0.1 Scope

This chapter of the USAR sets forth the requirements for establishing and maintaining an Operating Quality Program for the Wolf Creek Generating Station (WCGS) during the operations phase. The program provides control over activities affecting quality as required by 10 CFR 50, Appendix B, and is structured to comply with NRC Regulatory Guide 1.33.

17.2.0.2 Corporate Policy

When used in the context of this section (17.2), the term "Operating Agent" is defined to be Kansas Gas & Electric Company for activities performed during the period up to December 31, 1986 and is defined to be the Wolf Creek Nuclear Operating Corporation for activities performed after December 31, 1986.

The policy of the Operating Agent (as defined in Section 1.4) is to develop, implement, and maintain the Operating Quality Program for the WCGS as regulated by provisions of the Nuclear Regulatory Commission (NRC) operating license and amendments thereto. The program is applied to those activities regarding structures, systems, and components necessary to assure:

1. The integrity of the reactor coolant pressure boundary

2. The capability to shut down and maintain the reactor in a safe shutdown condition

3. The capability to prevent or mitigate the consequences of accidents which could result in offsite exposures comparable to the guideline exposures of 10 CFR 100

17.2.0.3 Program Applicability

The activities presently controlled by the Operating Quality Program include operations, maintenance, refueling and modifications. Also controlled by the Operating Quality Program were preoperational and startup testing and certain construction

completion activities such as component tests, flushing, and hydrostatic tests performed by the Operating Agent's startup organization. The extent of control over these activities as they affect quality is consistent with their importance to nuclear safety.

Early implementation of the Operating Quality Program was not intended to require activities to be performed earlier than would be the case if they were performed under the Design and Construction QA Program. When structures, systems, or components were released by the construction forces to the Operating Agent's startup organization, the startup forces, and subsequently the operating forces, started out to conduct their activities under the systems of control which comprise the Operating Quality Program.

Construction organizations committed to the requirements of the Design and Construction QA Program may have provided quality related activities to organization(s) committed to the requirements of the Operating Quality Program (e.g. procurement and receipt inspection). A description of the QA Program elements controlling these activities was located in the appropriate section(s) of the SNUPPS QA Programs for Design and Construction Manual. The construction organization which provided safety-related activity for the operations/startup applications assured that all personnel were qualified in accordance with the Design and Construction QA Program qualification requirements. Both the Operating Agent's Construction and Operations organizations were responsible for establishing procedures to control the interface between the construction organization(s) providing the activity and the using organization(s).

Included within the Operating Quality Program are the development, control and use of computer programs. Engineering, Information Services, and the Plant Staff are responsible for the computer programs used internally. Internal activities associated with verification, documentation, and use of computer programs utilized in safety-related analyses, are accomplished in accordance with controlled procedures. Verification that the procedures are being followed and are effective in controlling computer programs and their use is provided by internal audits by Quality & Performance Improvement. Assurance that external organizations are controlling activities associated with computer programs used for safety-related analysis is provided through the supplier qualification process, through imposition of requirements in purchase orders and contracts and/or through audits.

17.2.0.4 Special Scope Programs

In controlling activities to the extent consistent with their effect on safety, the Operating Agent formally designates selected quality requirements to special scope program areas. Although not strictly safety-related, the applicable special scope programs and related quality criteria are described in WCNOC Administrative procedures.

17.2.1 ORGANIZATION

17.2.1.1 Scope

The Operating Agent has established an organizational structure for quality activities. Section 13.1 identifies the organizational structure; management positions and responsibilities; and delegation of authority for the development, implementation, and maintenance of the Operating Quality Program. The Operating Agent retains responsibility for the establishment and execution of the Operating Quality Program, although certain program activities may be delegated to others. The organizational structure of the Operating Agent's top management is shown in Figure 13.1-1. The organizational structure responsible for implementing the Operating Quality Program is shown in Figure 13.1-3. The organizations of the WCGS staff and the Quality & Performance Improvement organization are shown in Figures 13.1-1 and 13.1-3, respectively.

17.2.1.2 Responsibility for Quality Program

See Section 13.1 for a description of persons and organizations performing quality-related functions.

17.2.1.3 Quality Branch Personnel Independence

The authorities and duties of Quality & Performance Improvement personnel and other organizations performing quality verification functions are clearly established in written procedures. Such persons have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify corrective action. Assurance of quality by auditing, inspecting, checking, or otherwise verifying program activities is by personnel independent of the individual or group performing the specific activity.

17.2.1.4 Safety Review Committees

Safety review committees were established at the WCGS to provide independent reviews of activities. The Plant Safety Review Committee (PSRC) provides advice to the Vice President Operations and Plant Manager on all matters which are Nuclear Safety Related.

PLANT SAFETY REVIEW COMMITTEE (PSRC)

The Vice President Operations and Plant Manager shall designate in writing the Chairman and Alternate Chairman of the PSRC. PSRC membership shall include between six and eight additional members appointed by the Chairman and an additional member appointed by the Vice President Engineering. Selected members shall include, at a minimum, management responsible for the following areas of expertise: operations, maintenance, instrumentation and controls, chemistry, health physics, and engineering. A single individual may cover multiple disciplines.

All alternate members shall be appointed in writing by the PSRC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in PSRC activities at any one time. Except for the alternate for Engineering who is appointed by the Vice President Engineering.

The PSRC shall meet at least once per calendar month and as convened by the PSRC Chairman or his designated alternate.

The quorum of the PSRC necessary for the performance of the PSRC responsibility and authority provisions shall consist of the Chairman or his designated alternate and four members including alternates. In discharging its independent review responsibilities, PSRC shall keep safety considerations paramount when opposed to cost or schedule considerations. Should a voting member at a particular meeting have direct responsibility for an item under review where a conflict of such consideration is likely, that member shall be replaced (to fill the quorum) by another voting member not having such potential conflict.

The PSRC shall be responsible for:

a. Review of: (1) Administrative Control Procedures and changes thereto, and (2) procedures and changes thereto required by Technical Specification 5.4.1 and requiring an Evaluation per 10 CFR 50.59;

b. Review of all proposed changes, tests and experiments which may require a license amendment as required by 10 CFR 50.59 and 10 CFR 50.90;

c. Review of all proposed changes to Technical Specifications or the Operating License;

d. Review of all 50.59 Evaluations performed under the provision of Section 50.59(c), 10 CFR, for changes, tests and experiments;

e. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Vice President Operations and Plant Manager;

f. Review of violations of applicable codes, regulations, orders, Technical Specifications, license requirements or internal procedures or instructions having safety significance;

g. Review of reports of operating abnormalities, deviations from expected performance of plant equipment and of unanticipated deficiencies in the design or operation of structures, systems or components that affect nuclear safety;

h. Review of all events submitted pursuant to 10 CFR 50.73;

i. Performance of special reviews, investigations or analyses and reports thereon as requested by the President and Chief Executive Officer, Vice President Operations and Plant Manager, any PSRC member, or by other WCNOC organizations;

j. Review of changes to the Process Control Program, the Offsite Dose Calculation Manual, and the Radwaste Treatment Systems;

k. Review of any accidental, unplanned, or uncontrolled radioactive release including the preparation of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the Vice President Operations and Plant Manager; and

l. Review of the Fire Protection Program.

The PSRC shall:

a. Recommend in writing to the Vice President Operations and Plant Manager approval or disapproval of items considered under Section 17.2.1.4, a. through d. and l. above,

b. Render determinations in writing with regard to whether or not each item considered under Section 17.2.1.4, b., d., and e. above require a license amendment per 10 CFR 50.59 and 10 CFR 50.90, and

c. Provide written notification within 24 hours to the President and Chief Executive Officer of disagreement between the PSRC and the Vice President Operations and Plant Manager; however, the plant manager shall have responsibility for resolution of such disagreements pursuant to Technical Specification 5.1.1.

The PSRC shall maintain written minutes of each PSRC meeting that, at a minimum, document the results of all PSRC activities performed under the responsibility provisions of this section. Copies shall be provided to the Vice President Operations and Plant Manager and Manager Quality.

Deleted

17.2.1.5 INDEPENDENT SAFETY ENGINEERING GROUP (ISEG) FUNCTION

The ISEG functions include examining plant operating characteristics, NRC issuances, industry advisories, reportable events, and other sources of plant design and operating experience information, including plants of similar design, which may indicate areas for improving plant safety. Through the corrective action program, maintenance rule program and the self assessment program, detailed recommendations are made to the Vice President Engineering for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving plant safety.

The ISEG function includes maintaining surveillance of plant activities to provide independent verification (not responsible for signoff function) that these activities are performed correctly and that human errors are reduced as much as practical.

17.2.2 QUALITY ASSURANCE PROGRAM

17.2.2.1 Scope

The Operating Agent has established an Operating Quality Program which controls activities affecting quality. The program encompasses those quality activities necessary to support the operating phase of the WCGS. The total Operating Quality Program complies with 10 CFR 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants" and generally follows the guidance of Regulatory Guide 1.33. Several alternate methods of meeting Regulatory Guide 1.33 are described in this chapter and in Appendix 3A.

17.2.2.2 Identification of Safety-Related Items

The scope and activity applicability of the Operating Quality Program are described in Section 17.2.0. Safety-related structures, systems, and components are identified in Table 3.2-1. This list includes structures, systems, and components identified as safety-related and may be modified as required, consistent with their importance to nuclear safety. Table 3.2-1 is maintained current through the USAR update process.

The Operating Quality Program is the governing quality assurance program for safety-related structures, systems, components and consumables. The programs identified under the "Quality Assurance" heading of Table 3.2-1 were those utilized during the design and construction phase. Should safety-related equipment or services be procured from Bechtel, Westinghouse, or others during the operating phase, quality assurance requirements will be determined and imposed in accordance with Sections 17.2.4 and 17.2.7.

17.2.2.3 Operating Quality Program Implementation

The Operating Quality Program was implemented at least 90 days prior to fuel loading. The Operating Quality Program is implemented throughout the operating life of the WCGS. Special equipment, environmental conditions, skills, or processes are provided as necessary to demonstrate effective implementation of the Operating Quality Program.

Implementation of the Operating Quality Program by the Operating Agent is directed towards assurance that operating and maintenance activities are conducted under controlled conditions and in compliance with applicable regulatory requirements, including 10 CFR 50, Appendix B. Management responsible for conducting safety-related activities are also responsible for providing approved procedures prior to initiating the activities.

Commencing with the issuance of an operating license, changes to the quality program description in this chapter of the USAR are submitted to the NRC at least annually. If any such change reduces the commitments previously made, NRC approval must be obtained prior to implementation.

17.2.2.4 Operating Quality Program Documentation

Consistent with the schedule for accomplishing operations phase activities, the Operating Quality Program has been established and documented. The Operating Quality Program is documented as follows to meet program objectives:

1. Quality policy

   The governing policy statement of the Operating Quality Program is authorized by the President and Chief Executive Officer and is contained in the Wolf Creek Nuclear Operating Corporation Corporate Policy Manual.

Table 17.2-1 shows a listing of controlled procedure manuals. These manuals contain mandatory requirements which must be implemented by responsible organizations and individuals.

Table 17.2-2 lists areas of Operating Quality Program implementing procedural coverage and indicates the related criteria of 10 CFR 50, Appendix B, covered by each area. This listing represents general areas of procedural coverage. Provisions for procedure consolidation, separation, deletions, additions, or minor program changes do not permit including an absolute listing of Implementing Procedures.

Table 17.2-3 lists quality program commitments to Regulatory Guides and endorsed codes and standards.

Figure 17.2-1 shows the hierarchy of documents. Program requirements delineated in the various Federal Regulations are identified in the site specific Operating License with the Technical Specifications and Environmental Protection Plan, and the Corporate Policy Manual. These establish the QA Program for Wolf Creek. The established QA Program is then implemented through the various Administrative Procedures, and Implementing Procedures. Requirements implemented by Administrative Procedures and Implementing Procedures shall apply to all organizations involved in the activity.

Department procedures directing activities controlled by an Administrative Procedure shall be subservient to the Administrative Procedure. Likewise, Division Procedures shall be subservient to Department Procedures when the division procedure is implementing requirements controlled by the department procedure.

It is not necessary to have an Administrative Procedure implement all program requirements. Lower tier procedures, such as department or division procedures, may directly implement program requirements without an upper tier Administrative procedure. When this occurs, the "effective hierarchy chart" would not have the upper tier procedure between the implementing procedure and those documents establishing program requirements.

17.2.2.5 Control of The Operating Agent Contractors

The Operating Agent may employ the services of architect-engineers, NSSS suppliers, fuel fabricators, constructors, and others which provide or augment its efforts. These organizations are required to work under a quality assurance program to provide control of quality activities consistent with the scope of their assigned work. The quality assurance programs of such contractors or consultants are subject to review, evaluation, and acceptance as described in 17.2.4 and 17.2.7 prior to initiation of activities affected by the program.

17.2.2.6 Operating Quality Program Verification of Implementation

Achievement of the requirements of the Operating Quality Program is verified through independent and integral control activities. Quality & Performance Improvement personnel perform audits, surveillances and inspections and examinations of quality activities performed by the operating organization, consultants, suppliers and other Operating Agent personnel at WCGS. These audits and surveillances assure overall implementation verification of the Operating Quality Program. Quality Control personnel perform surveillances, inspections and examinations of quality activities by the operating organization, consultants, supplers and other Operating Agent personnel at WCGS. Quality & Performance Improvement provides a report to the Vice President Oversight and Presidential Chief Executive Officer semi-annually to assure audits are being accomplished in accordance with the requirements described herein. In addition, a periodic assessment of the effectiveness of the Quality & Performance Improvement audit Program is made under the direction of the President and Chief Executive Officer.

17.2.2.7 Personnel Training and Qualification

The requirements for training of WCNOC personnel are described in Section 13.2. Where required by codes and standards, personnel are trained or qualified according to written procedures in the principles and techniques of performing specific activities described in sections 17.2.7, 17.2.9, 17.2.10, 17.2.11 and 17.2.18 of this chapter.

17.2.3 DESIGN CONTROL

17.2.3.1 Scope

The design, modification, addition, and replacement of safety-related structures, systems, and components at the WCGS are controlled to assure that appropriate measures are implemented and to assure that "as-built" quality is not degraded. The plant design is defined in selected supplier design drawings and specifications which illustrate the general arrangement and details of safety-related structures, systems, and components and define the requirements for assuring their continuing capability to perform their intended operational or safety design function.

Design activities include the correct translation of regulatory requirements and design bases into specifications, drawings, written procedures, and instructions (design output) that define the design. Design analyses regarding reactor physics, stress, seismic, thermal, hydraulic, radiation, and accident analyses, used to produce design output documents, are performed when appropriate. Design verification is performed, and reviews of design are done by the Operating Agent's personnel.

Design activities also include 1) reviewing the applicability of standards; 2) reviewing commercial or previously approved materials, parts, or equipment for suitability of application; 3) reviewing the compatibility of materials used in the design; 4) reviewing the accessibility of equipment and components for inservice inspection, maintenance, and repair; 5) specifying criteria for inspection and test; and 6) reviewing and approving procedures for special processes, and verification of computer codes used in the design process.

Procedures establish requirements, assign responsibilities and provide control of design activities to assure performance in a planned, controlled and orderly manner.

17.2.3.2 Design Responsibilities

Design, including related procurement efforts, may be carried out by the WCGS staff, Engineering or outside organizations. Generally, design changes are performed or contracted by Engineering.

17.2.3.3 Design Criteria

Design requirements and changes thereto are identified, documented, reviewed and approved to assure incorporation of appropriate quality standards in design documents. Design requirements and quality standards are described to an appropriate level of detail in design criteria. Any exception to quality standards is listed. Criteria for modifications to structures, systems and components consider, as a minimum, the design bases described in the USAR. Design criteria undergo design verification, which is subject to audit by Quality & Performance Improvement. Design verification includes, but is not limited to, verification of seismic and quality group classification, selection of quality standards, and deviations from quality standards for acceptability. Design criteria are satisfied in the design.

17.2.3.4 Design Process Controls

The organization performing design has responsibility for design control unless specified otherwise. Control of design is specified in procedures. These procedures include instructions for defining typical design requirements; communicating needed design information across internal and external interfaces; preparing, reviewing, approving, revising, and performing design reviews and reviews of design; and controlling field changes. Document Control prepares design control related procedures for release, distribution and maintenance by the established WCNOC Document Control Program.

Design control involves measures which include a definition of design requirements; a design process which includes design analysis and delineation of requirements through the issuing of drawings, specifications, and other design documents (design outputs); and design verification.

The design process establishes controls for releasing technically adequate and accurate design documents in a controlled manner with a timely distribution to responsible individuals and groups. Documents and revisions are controlled through the use of written procedures which apply to the issuer, distributor, and user to prevent inadvertent use of superseded documents. Document control procedures govern the collection, storage, and maintenance of design documents, results of design document reviews, and changes thereto.

Design documents subject to procedural control include, but are not limited to: specifications, calculations, computer programs, and drawings, including flow diagrams, piping and instrument diagrams, control logic diagrams, electrical single-line diagrams, structural systems for major facilities, site arrangements, and equipment locations.

17.2.3.5 Design Interface Control

The design interfaces between organizations are identified and controlled by policy and procedures which address the division of design responsibility between the WCGS staff, Engineering and contractors. Procedures and distribution lists specify the lines of communication and distribution of information. Procedures specify the organization responsible for design reviews and approval for each design organization. Review, approval, release and distribution of these policies and procedures, and revisions thereto, are controlled.

17.2.3.6 Design Review and Verification

The design process includes design verification by qualified persons to assure that the design is adequate and meets specified design input. Design control procedures specify requirements for the selection and accomplishment of a design verification program. The depth of the program is commensurate with the importance of the system or component to the safety, complexity of the design, and similarity to previous designs.

Design verification is either by testing, design review, alternate calculation, qualification testing, or by a combination of these. If the verification method is only by test, the following requirements are met:

1. Procedures provide criteria that specify when verification should be by test.

2. Prototype, component or feature testing is performed as early as possible prior to installation of plant equipment, or prior to the point when the installation would become irreversible.

3. Verification by test is performed under conditions that simulate the most adverse design conditions as determined by analysis.

Design verification is performed by qualified verifiers who are not directly responsible for the design or the design change. In unusual cases, the designer's supervisor may perform the verification if: he is the only technically qualified individual, the need for him to perform the review is approved and documented in advance by the supervisor's management, and Quality & Performance Improvement audits monitor the frequency of the supervisor's review to guard against abuse.

Design verification is normally performed prior to release for procurement, manufacture, installation, or use by another organization in design activities. Exceptions are justified and documented. Procedures control the justification of exceptions and the completion of the verification of all affected design output documents prior to relying on the component, system or structure to perform its function.

Procedures identify the responsibilities of the verifier, the features to be verified, the pertinent considerations to be verified, and the documentation required.

Special reviews are performed when uniqueness or special design considerations warrant.

Design analyses are sufficiently detailed as to purpose, method, assumptions, design requirements, references and units to permit an independent review by a technically qualified person. Computer codes are verified to be certified for use, and it is verified that their intended purpose is specified.

Additionally, the Operating Agent performs reviews of selected design documents for sub-contracted design to become familiar with design features.

Actions are initiated to resolve errors found in the design process and to assure that changes are controlled. Such actions are documented.

17.2.3.7 Design/Configuration Changes

Changes to plant design may be necessary to correct operational deficiencies, incorporate improvements, or to comply with new regulatory requirements. Design changes are defined as changes to the technical requirements which are needed to perform an item's design basis. NOTE: The substitution of non-safety related parts or components (hardware) into safety related components or systems except those parts or components that have been downgraded by parts classification program, shall be considered a design change. Configuration changes are defined as: 1) changes to design documentation that correct discrepancies in order to conform to approved plant design. 2) changes that result in the installation of an item, not identical to the original item, but which meet the technical requirements of the item's design basis and applicable interface(s). An engineering evaluation assures that these changes are consistent with design basis and interface requirements specified in existing design documents. The configuration change "process" satisfies ANSI N45.2.11 requirements. Design changes and configuration changes are reviewed by cognizant organizations through the design/configuration change process.

Procedures specify requirements for the review and approval of design/configuration changes by the organizations that performed the original design, if appropriate. Design activities may be delegated to others provided they have access to background and technical information. Design/configuration changes are communicated to appropriate plant personnel when such changes may affect the performance of their duties.

Temporary Modifications, interim and short-term changes to the approved station design, are controlled in accordance with approved procedures.

17.2.3.8 Design Review Committees

Independent of the responsibilities of the design organization, the requirements of the Plant Safety Review Committee (PSRC) are satisfied. Proposed design/configuration changes are reviewed to determine if a license amendment is required through the 10 CFR 50.59 review process. Design/configuration changes which could involve a license amendment or include a 50.59 evaluation, require review and concurrence by the Plant Safety Review Committee (PSRC) prior to implementation. The PSRC reviews design documents as necessary to identify the need for a license amendment. When design is performed by an outside organization, Engineering performs or coordinates a review for operability, maintainability, inspectability, SAR commitment compatibility, and design requirements imposed by plant equipment. In addition, Engineering identifies and controls design interfaces and coordinates the design process between internal divisions and the outside organization(s).

When required, safety analyses which consider the effect of the design as described in the design documents may be performed by the Operating Agent. These analyses provide the basis for the PSRC reviews which are performed to determine that design/configuration changes do not involve a license amendment as required by 10 CFR 50.59 and 50.90. Approved safety analyses or names of outside organizations performing the analyses are submitted to the PSRC. The safety analyses for design changes involving the substitution of hardware that has not been evaluated per the parts classification program, assure that the changes are consistent with and do not alter the design basis requirements specified in existing design documents. The engineering approval of design documents and safety analyses prepared by outside organizations is performed by the outside organization unless otherwise specified.

The PSRC reviews design/configuration changes that propose a change in Technical Specifications.

Design/configuration changes (with an Evaluation per 10 CFR 50.59 or a proposed Technical Specification change) and test procedures are reviewed by the PSRC prior to implementation. Records are maintained which reflect current design, including safety analyses, Evaluations per 10 CFR 50.59, design change installation procedures, material identification documents, procurement documents, special process documents, equipment and installation specifications, and as-built drawings.

17.2.4 PROCUREMENT DOCUMENT CONTROL

17.2.4.1 Scope

Procurement document control applies to documents employed to procure safety-related materials, parts, components, and services required to modify, maintain, repair, test, inspect, or operate the WCGS. The Operating Agent controls procurement documents by written procedures which establish requirements and assign responsibility for measures to assure that applicable regulatory requirements, design bases, and other requirements necessary to assure quality are included in documents employed for the procurement of safety-related materials, parts, components, and services.

17.2.4.2 Procurement Responsibility

Responsibility for procurement does not reside in a single group, but is a joint effort of the Operating Agent's plant staff, the Supply Chain Services, Engineering and Procurement Quality organizations. These and other applicable organizations have responsibility for technical content, quality requirements, and commercial provisions.

17.2.4.3 Procedural Control

Written procedures shall include controls, as applicable, for the preparation, content, review, approval, and processing of the following types of procurement documents:

1. Purchase Requisitions
2. Letters of Intent
3. Purchase Orders and Contracts

17.2.4.4 Quality Classification

Each item to be procured is evaluated to determine whether or not it performs a safety-related function and to appraise the importance of this function to plant or public safety. For those cases where it is unclear if an individual piece (i.e., part of a safety-related structure, system, or component) is safety-related, an engineering evaluation is conducted. The evaluation classifies the safety relationship of the questionable component parts or items of safety-related structures, systems, or components. The evaluation is documented for future reference and receives an independent review. Each service to be procured is evaluated to determine whether or not it involves activities which affect the function of safety-related materials, parts or components and to appraise the importance of this function to plant or public safety. Procurements for safety-related items and services are reviewed by Procurement Quality to assure that quality requirements have been satisfied.

17.2.4.5 Quality Requirements in Procurement Documents

Procurement document control measures assure that appropriate regulatory requirements, design bases, and other requirements are included in the procurement process. Originating and reviewing organization procedures require that the following be included or invoked by reference in procurement documents, as appropriate:

1. Requirements that the supplier provide a description of his quality assurance program which implements the applicable criteria of 10 CFR 50, Appendix B, or any other nationally recognized standard which meets the intent of 10 CFR 50 Appendix B and which is appropriate for the particular type of item or service which is to be supplied. The description of the Suppliers QA program is reviewed by Quality Procurement and resulting comments, if any, are resolved with the supplier prior to releasing the supplier to begin work in any area impacted by the comments. Comments resulting from the review that may require additional supplier control are identified. Certain items or services require extensive controls throughout all stages of manufacture or performance, while others may require only a limited control effort in selected phases. These requirements are not applicable to off-the-shelf or commercial-grade items which utilize a supplier's standard or proven design, or his procedures to meet given technical and quality requirements and whose fulfillment of the technical and quality requirements are accepted by receiving inspection.

2. Basic administrative and technical requirements, including drawings, specifications, regulations, special instructions, applicable codes and industrial standards, and procedural requirements identified by titles and revision levels; special process instructions; test and examination requirements with corresponding acceptance criteria; and special requirements for activities such as designing, identifying, fabricating, cleaning, erecting, packaging, handling, shipping, and storing.

3. Requirements for supplier surveillance, audit, and inspection, including provisions for providing the Operating Agent or its agent access to facilities and records and for identification of witness and hold points.

4. Requirements for extending applicable requirements of the Operating Agent's procurement documents to lower-tier suppliers and subcontractors. These requirements shall include right-of-access to subsupplier facilities and records by the Operating Agent.

5. Requirements for supplier reporting to the Operating Agent certain nonconformances to procurement document requirements and conditions of their disposition. Procedures prescribe measures for the reporting, control and disposition of purchased items which are identified by suppliers as nonconforming. Nonconformances dispositioned as “Use-As-Is” or “Repair” are reviewed per the design/configuration change process and, therefore, approved by the responsible design authority.

6. Documentation requirements, including records to be prepared, maintained, submitted, or made available for review, such as drawings, specifications, procedures, procurement documents, inspection and test records, personnel and procedural qualifications, chemical and physical test results, and instructions for the retention and disposition of records.

7. Requirements for supplier-furnished records, including:

   a. Documentation that identifies the purchased item and the specific procurement requirements (e.g., codes, standards, and specifications) met by the item.

   b. Documentation identifying any procurement requirements that have not been met.

   c. A description of those nonconformances from the procurement requirements dispositioned "Use as is" or "Repair".

8. Requirements for the reporting of defects and noncompliances including 10 CFR 21.

Procurement document control preparation measures further provide that purchased safety-related parent components, piece parts, materials, and services are purchased to specifications and codes equivalent to those specified originally or those specified by a properly reviewed and approved revision; are packaged and transported in a manner to assure nondegradation of quality during transit; and are properly documented to show compliance with applicable specifications, codes, and standards.

Reviews of procurement documents by Procurement Quality personnel verify that quality requirements are correctly stated, verifiable, and controllable; that acceptance/rejection criteria has been provided to the vendor; and that the documents have been prepared, reviewed, and approved in accordance with the Operating Agent's Quality Program requirements.

17.2.4.6 Purchase Requisitions

Material Service Requisition forms are used to initiate the procurement of safety-related materials, parts, components and services. Procurements are initiated by Wolf Creek staff or Supply Chain Services personnel.

Purchase or Material/Service Requisitions shall contain, as applicable, all technical and quality requirements required for purchase and include or invoke specifications, bills of material, drawings, catalog number, full description, or item identification as applicable. In lieu of supplier controls commercial items may rely on proven design, appropriate industry controls, supplier product history, or any combination of these and may utilize verification methods by the purchaser.

17.2.4.7 Letters of Intent

Letters of Intent may be utilized with suppliers of materials, parts, components, and services for the purpose of reserving schedule space prior to the resolution of the requirements to be included in a purchase order or contract. However, no activities begin until an approved purchase order or contract is executed. Letters of Intent are issued by Supply Chain Services.

17.2.4.8 Purchase Orders and Contracts

Purchase Orders and Contracts are prepared and issued by Supply Chain Services utilizing the technical and quality requirements provided in the Purchase Requisition, and establish for the vendors the technical and quality requirements which must be met. All Safety-Related purchase orders are reviewed by Procurement Quality personnel as detailed in the applicable procedures. These documents also establish the commercial conditions (cost, schedule, warranty, insurance, etc.) for the procurement action.

If during negotiations with the vendor it becomes necessary or commercially desirable to change technical or quality requirements, such changes must be presented to the organizations who have approved the original requirements. If the changes cannot be approved, a different vendor shall be selected.

17.2.4.9 Purchase Order Award

During the WCGS operating life, procurement may be made with the following:

1. Suppliers judged capable (prior to award) of providing items or services in accordance with procurement document requirements and a quality assurance program compatible with the item or service procured;

2. Suppliers and others in possession of hardware manufactured prior to award and whose acceptability can be determined by receiving inspection, an examination of quality verification documentation, or other suitable means;

3. Suppliers of off-the-shelf or commercial-grade items able to be ordered solely on the basis of published specifications; and

4. Outside organizations working under the Operating Quality Program.

The process by which suppliers (requiring a preaward evaluation) are judged a capable procurement source is described in Section 17.2.7.2. A purchase order or contract may be issued prior to an assessment of supplier capability, provided a prohibition on safety-related work is imposed and if the purchase order is made contingent upon becoming qualified. Such suppliers are released to begin safety-related work when evaluated to be an acceptable procurement source.

17.2.4.10 Document Distribution

To support the control of purchased materials (see 17.2.7) copies of purchase orders and other appropriate procurement documents are forwarded to the applicable receiving and acceptance point. Departments receiving or utilizing procured items or services establish measures to maintain and control procurement documents until the items or services are received and accepted. These documents include purchase orders, drawings and specifications, approved changes, and other related documents.

17.2.4.11 Change Controls

Additions, modifications, exceptions, and other changes to procurement document quality and technical requirements require a review equivalent to that of the original document and approval by the originating division. Commercial consideration changes shall not require review and concurrence by the originator.

Procurement documents regarding safety-related materials, parent components, and piece parts specify, as a minimum, the original technical requirements or those specified by a properly reviewed and approved revision. Quality standards imposed comply with applicable administrative quality requirements consistent with the extent of the original control.

Procurement documents covering safety-related spare parts impose standards consistent with those specified for the original equipment or those specified by a properly reviewed and approved revision. A spare parts inventory was established using spare parts data report forms or equivalent, which describe the technical and quality requirements to be imposed. These data report forms address documentation, inspection, storage levels, preventive maintenance, and applicable quality assurance manuals and may be used to establish the requirements for reordering of identical spare parts. The procurement of spare or replacement parts is subject to the quality program controls in effect at the time of the procurement.

17.2.4.12 Records

Procurement records for materials, parts, and components are maintained.

17.2.5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

17.2.5.1 Scope

The quality activities associated with the operating phase are accomplished in accordance with documented instructions, procedures, drawings, or checklists. The degrees of control imposed are consistent with the relative importance of the activity to nuclear safety. The instruction shall specify the methods for complying with 10 CFR 50, Appendix B.

Instructions, procedures, activities and controls are described in various sections of this document. However, the sections are normally descriptive of the applicable procedure, activity or control and the procedure number is not normally included.

17.2.5.2 Preparation Requirements

The Operating Agent's Operating Quality Program controls activities affecting quality by providing measures for:

1. The preparation of procedures, instructions, specifications, drawings, or checklists of a type appropriate to the activity and its importance to safety;

2. The inclusion in these documents of quantitative and qualitative acceptance criteria for verifying that an activity has been satisfactorily accomplished;

3. The approval of these documents by responsible personnel prior to accomplishing an activity; and

4. The use of approved drawings, procedures, instructions, or checklists to accomplish an activity.

17.2.5.3 Contractor Controls

Procurement documents require outside organizations to have appropriate instructions, procedures, specifications, and drawings to meet the requirements of the Operating Quality Program.

17.2.5.4 Operations Documents

The WCGS staff and other responsible departments provide written procedures and drawings as required for the operating phase. These procedures prescribe the Operating Agent's activities which affect the function of safety-related structures, systems, and components.

17.2.5.5 Review and Approval

The approval, issue, and control of the various implementing procedures, manuals, and policies are as described in Sections 17.2.2 and 17.2.6.

Table 17.2-2 lists those types of activities under the control of the plant and other Operating Agent procedures. Procedures prepared for the procedures manual and administrative procedures are processed through the qualified review process, as dictated in plant procedures, ensuring compliance with Operating Quality Program requirements. Additionally, Inspection procedures are reviewed by quality Control personnel for compliance with Operating Quality Program requirements.

Each procedure of Technical Specification 5.4.1, and changes thereto, and any other procedure or procedure change that the Vice President Operations and Plant Manager determines to affect nuclear safety, shall be reviewed and approved as described below, prior to implementation.

a. Each procedure, or change thereto, shall be reviewed by a Qualified Reviewer who is knowledgeable in the functional area affected, but is not the individual who prepared the procedure or procedure change. All required cross-disciplinary reviews of new procedures, procedure revisions, or change thereto, shall be completed prior to approval.

b. Procedures other than Administrative Control Procedures shall be approved by the responsible Manager, or by a direct report of the responsible Manager who is directly responsible in the area of expertise for the procedure, as specified in Administrative Control Procedures. The Vice President Operations and Plant Manager shall approve Administrative Control Procedures. The Manager responsible for the Security Plan shall approve the Security Plan and implementing procedures. The Manager responsible for Emergency Planning shall approve the Radiological Emergency Response Plan and implementing procedures.

c. The responsible Manager, or his designee, shall ensure each review includes a determination of whether a procedure, or change thereto, requires an Evaluation per 10 CFR 50.59. If a procedure, or change thereto, requires an Evaluation per 10 CFR 50.59, the responsible Manager, or his designee, shall forward the procedure, or change thereto, with the associated evaluation per 10 CFR 50.59 to the PSRC for review in accordance with Section 17.2.1.4. Pursuant to Section 50.59, 10 CFR, NRC approval of items requiring a license amendment shall be obtained prior to approval for implementation.

d. Qualified Reviewers shall meet the applicable qualifications of ANSI/ANS 3.1-1978. Personnel recommended to be Qualified Reviewers shall be reviewed by the PSRC and approved and documented by the PSRC Chairman. The responsible Manager shall ensure that a sufficient complement of Qualified Reviewers for their functional area is maintained in accordance with Administrative Control Procedures.

e. Records documenting the activities performed per a. through d. above shall be maintained in accordance with Section 17.2.17.9.

Temporary changes to procedures specified by Technical Specification 5.4.1 may be made and implemented prior to obtaining the review and approval as specified above provided:

a. The intent of the original procedure is not altered.

b. Temporary changes shall, as a minimum, be approved by two cognizant members of the WCNOC staff knowledgeable in the areas affected by the procedure. At least one of these shall be a member of WCNOC supervision. Changes to operations procedures shall be approved by two cognizant members of WCNOC staff knowledgeable in the areas affected by the procedure. One will hold a senior reactor operator license on the unit.

c. The change is documented, reviewed, and approved as specified above, within 14 days of implementation.

17.2.6 DOCUMENT CONTROL

17.2.6.1 Scope

Documents and their revisions which control activities affecting safety-related structures, systems, and components are prepared, reviewed by knowledgeable individuals, and approved by authorized personnel prior to release or issuing in accordance with written approved procedures.

Departments and organizations responsible for program implementing documents are required to provide and assure the necessary review and approval for instructions, procedures, specification, and drawings. Reviews and approvals assure that issued documents include proper quality and technical requirements, and are correct for intended use. Individuals or groups responsible for preparing, reviewing, and approving documents and revisions thereto are identified in written procedures.

Document Services has responsibility for performing controlled document distribution. Document Services is responsible for the overall corporate document control program.

17.2.6.2 Preparation Controls

Documents describing the Operating Agent's Operating Quality Program are controlled to an extent which considers the document type, its importance to safety, and the intended use of the document. Requirements of the Operating Quality Program are adhered to for the preparation, review, approval, and revision of procedures, instructions, or drawings.

The controls over the issuing of documents provide for the availability of documents at the point of use prior to commencing an activity and the prompt transmittal of approved changes for incorporation into subsequent revisions. Measures are established to prevent the inadvertent use of superseded documents.

Types of documents which are controlled include:

a. Technical Specifications;

b. Design documents such as drawings, specifications, calculations and analyses, and documents related to computer codes;

c. Procurement documents;

d. Nonconformance reports;

e. Instructions and procedures for activities such as fabrication, construction, modification, installation, testing, inspection and operation;

f. As-built drawings;

g. WCNOC Corporate Policy Manual;

h. Implementing Procedures Manual (which includes administrative procedures);

i. Program Descriptions;

j. USAR;

k. WCNOC Administrative Procedures Manual;

l. Topical reports prepared by the Operating Agent or prepared by others exclusively for the Operating Agent's use.

Control of documents is defined by a method consistent with the importance of the document. Documents are identified and distribution lists identify document holders. Acknowledgment of receipt of selected documents, incorporation of revisions, and control of obsolete documents are required of the document receiver or provided by the distributor. In addition, the distributors of these documents maintain a master list of the documents showing the effective revision date of each.

17.2.6.3 Change Control

Changes to documents are reviewed and approved where practical by the same department, group, or organization that performed the original review and approval; however, the Operating Agent may assume or delegate this responsibility. Organizations which review and approve documents have access to pertinent information and knowledge of the intent of the original document.

17.2.6.4 Distribution Control

Document Services is responsible for the WCNOC distribution system for controlled documents. Document Services is responsible for assuring the distribution and control of the USAR, WCNOC Corporate Policy Manual, Administrative Procedures and all other department and division procedures including the Plant Operating Procedures and Manuals.

17.2.6.5 Processing and Retention Controls

Administrative procedures specify the requirements for the processing and maintenance of records. Procedures also are established to control the distribution of instructions, procedures, and drawings governed by the Operating Quality Program.

WCGS staff and other organizations of the Operating Agent assure that current documents are distributed to and used at the location where the prescribed activity is performed. Clearly identified controlled copies of documents are used to perform an activity.

17.2.6.6 Procedure Review

The review by Quality Control of procedures, which apply to maintenance, modifications and inspections, verify that needed inspections, the responsibility for performing the inspections, and documentation of the inspection results, are provided for. The review by Quality Control also verifies that written procedures/instructions establish the inspection requirements, methods of inspection and acceptance criteria. Safety-related administrative procedures are processed through the qualified review process ensuring compliance with Operating Quality Program requirements. Additionally, Quality Assurance will ensure that procedure effectiveness, the procedure review program and the Qualified Reviewer process is effectively implemented during the performance of evaluation activities (audit, surveillance, plant evaluation) as outlined in the USAR Chapter 3, Appendix 3A, compliance to Regulatory Guide 1.33, Revision 2.

17.2.7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

17.2.7.1 Scope

Materials, equipment, and services procured for the WCGS are required to conform to procurement documents as prescribed in Section 17.2.4. Provisions, including written procedures, are established to control quality activities associated with the procurement of material, equipment, and services including:

1. The preparation, review, and change control of procurement documents as described in Section 17.2.4;

2. Procurement source evaluation and selection;

3. Bid evaluation and award;

4. Verification activities (surveillance, inspection, and audit) required by the purchaser;

5. Control of nonconformances as described in Section 17.2.15;

6. Corrective action regarding procurement as described in Section 17.2.16;

7. Material, equipment, and service acceptance;

8. Control of quality assurance records;

9. Audits of the procurement program as described in Section 17.2.18.

WCNOC will utilize ASME Code Case N-517-1, “Quality Assurance Requirements for Owners”, as approved by the NRC through Regulatory Guide 1.147, Revision 13, dated June 2003 including conditions noted in Table 2. Specifically, this Code Case will be used to perform the following:

- Qualification of Material Organizations in accordance with the 1995 Edition, 1997 Addenda of ASME Section III, NCA-3800. Additionally, those material manufacturers and suppliers qualified by WCNOC will be evaluated to assure effective implementation of their quality assurance program. Evaluation of a material manufacturer or material supplier qualified by WCNOC will be performed annually. Evaluation of material manufacturer or material supplier that is qualified by ASME will be performed on a triennial basis.
- Use of unqualified source material shall be in accordance with ASME Section III, NCA-3855.5(b) of the edition/addenda allowed by the applicable design specification.

- Acceptance of small products shall be in accordance with ASME Section III, NB/NC/ND/NE/NF-2610 (b) of the edition/addenda allowed by the applicable design specification. Procedures will contain measures to provide assurance that small products are furnished in accordance with the material specification and with the applicable special requirements of the applicable ASME Section III Subsection. Certified Material Test Reports or Certificates of Compliance will indicate what products have been processed in accordance with NB/NC/ND/NE/NF-2610 (b).

WCNOC will utilize ASME Code Case N-528-1, "Purchase, Exchange, or Transfer of Material Between Nuclear Plant Sites", as approved by the NRC through Regulatory Guide 1.147. Revision 13, dated June 2003 including conditions noted in Table 2. Specifically, this Code Case will be used to perform the following:

Material meeting the definition in IWA-9000 may be purchased, exchanged, or transferred between nuclear plant sites, provided the following requirements are met:

- Materials shall have been furnished to the supplying plant in accordance with NA-3700/NCA-3800
- Since receipt by the supplying plant, the material was not placed in service, welded, brazed, nor subjected to any operation that might affect the mechanical properties of the material (e.g., heat treatment or forming).
- Documentation required by NA-3700/NCA-3800 shall be provided to WCNOC with the material.
- When the material is fabricated in accordance with specific dimensional requirements in addition to those provided in a national standard (e.g., nonwelded valve bonnet or nonwelded pump casing), the evaluation of suitability required by IWA-4160 (IWA-7220 in Editions and Addenda) shall include an evaluation of the material for its intended application, including any differences that might affect form, fit, or function.
- WCNOC shall obtain certification for the following:
    1) The supplying plant purchased the material in accordance with NA-3700/NCA-3800 and maintained it in accordance with their Quality Assurance Program.
    2) Since receipt by the supplying plant, the material was not placed in service, welded, brazed, nor subjected to any operation that might affect the mechanical properties of the material (e.g., heat treatment or forming)
- Use of this Code Case shall be documented on the NIS-2 for repair or replacement using material obtained in accordance with the provisions of this Code Case.

Activities defined above shall be performed in accordance with written procedures, instructions, or drawings and in accordance with the requirements of this Quality Assurance program. Quality Assurance will review the activities associated with the ASME Code Case N-517 during the biennial Supply Chain Services audit. Additionally, the Authorized Nuclear Inspector (ANI) will continue to be involved with the processing of Code material as necessary and WCNOC will make the Quality Assurance Program and documents generated through its implementation available to the ANI for his review.

17.2.7.2 Source Evaluation and Selection

Provisions shall be made, as appropriate, for supplier evaluations which assess their capabilities prior to award by 1) source evaluation; 2) review for objective evidence of quality; or 3) a review of supplier history. When evaluations are performed, the assessment of a supplier's capability is specific regarding the procured item, commodity, or service and the supplier's ability to provide the items or services in accordance with procurement document requirements. The evaluation which provides the bases for supplier selection is documented and filed. Suppliers of hardware and services which are manufactured prior to award, considered an off-the-shelf item, or implemented under the Operating Agent's Operating Quality program or surveillance program may not require preaward source evaluation or audits to assure quality.

Procurement source evaluation and selection involves Supply Chain Services, Procurement Quality, Engineering and the requesting WCNOC organization. These organizations participate in the qualification evaluations of suppliers in accordance with written procedures.

Measures for the evaluation and selection of procurement sources are specified in procedures and vary depending on the complexity and relative importance to safety of the item or service. When procurement source evaluations are appropriate, the information to be considered includes one or more of the following:

1. Experience of users of identical or similar products of the prospective supplier. NRC Licensee Contractor and Vendor Inspection reports, ASME Certificates of Authorization, ASME Quality Systems Certificates, Nuclear Procurement Issues Committee(NUPIC) Correspondence, the Operating Agent's records accumulated in previous procurement actions, including SNUPPS design and industry product operating experience, may be used in this evaluation. Supplier history will reflect recent capability. Previous favorable quality experience with suppliers may be an adequate basis for judgments attesting to their capability.

2. An evaluation of the supplier's current quality records supported by documented qualitative and quantitative information which can be objectively evaluated. This may include review and evaluation of the supplier's QA Program, Manual, and Procedures.

3. A source evaluation of the supplier's technical and quality capability as determined by a direct evaluation of facilities and personnel (audit, surveillance, trip report) and quality assurance program implementation.

Procurement source evaluations involve a review of technical and quality considerations to an extent considered appropriate by each participant. Technical considerations include the design or manufacturing capability and technical ability of suppliers to produce or provide the design, service, item, or component.

Quality considerations include one of the previously designated methods of supplier evaluation and a consideration of a supplier's current quality assurance program or capabilities.

17.2.7.3 Bid Evaluations and Award

Supply Chain Services, Engineering and the requesting WCNOC organization, as appropriate, perform bid evaluations in accordance with applicable approved procedures for conformance to procurement document requirements. These organizations initiate and coordinate bid evaluation activities for those proposals received in response to procurement documents initiated by them.

17.2.7.4 Bidder Exceptions to Purchase Requirements

Exceptions to procurement document requirements requested by bidders are evaluated by the responsible organization(s). Unacceptable conditions identified in bid evaluations are resolved, or if the bidder cannot or will not resolve the unacceptable condition, the bidder is rejected and another bidder selected.

17.2.7.5 Preaward Meetings

Supply Chain Services and the originating organization take steps to establish an understanding of the procurement document requirements with the supplier. Meetings or other forms of communication may be held to establish the intent of the Operating Agent in monitoring and evaluating supplier performance. The depth and necessity of these activities is a function of the uniqueness, complexity, frequency of transactions with the same supplier, and past supplier performance. The Operating Agent's hold and witness points are documented at this time if not already specified in procurement documents.

17.2.7.6 Verification Planning

Planning of verification activities to be employed for item or service acceptance begins during the purchase requisition or contract preparation and review stage. The extent of the acceptance methods and associated verification activities will vary and be a function of the relative safety significance and complexity of the purchased item or service and the supplier's past performance. Planning includes a review of the established acceptance criteria and identified documentation. Verification methods which may be employed include certifications (Certificates of Conformance and material certificates or test reports), supplier surveillance, receiving inspection, postreceipt testing and postinstallation tests established by The Operating Agent.

17.2.7.7 Monitoring of Suppliers

Acceptance by supplier surveillance may be considered when the item or service is vital to plant safety; or the quality characteristics are difficult to verify after receipt; or the item or service is complex in design, manufacture, inspection, or test. Surveillance in this sense involves a physical presence to monitor, by observation, designated activities for the purpose of evaluating supplier performance and product acceptance.

Organizations participating in the procurement process have prepared procedures. These documented procedures assure conformance to the procurement document requirements. Procedures also identify organizational responsibilities; provide guidance on the characteristics or processes to be witnessed, inspected or verified, and accepted; the method of surveillance; and the documentation required. These procedures are reviewed and approved through the qualified reviewer process. These procedures include provisions for the following, as applicable:

1. Identifying supplier planning techniques;

2. Controlling documents generated or processed during activities fulfilling procurement requirements;

3. Identifying and processing change information;

4. Establishing a method of control and documentation of information exchange with the supplier; and

5. Auditing or surveillance of supplier activities.

The originating organization establishes measures for monitoring supplier-generated document submittals against procurement document requirements. Similarly, measures are established for reviewing and approving selected documents generated by the supplier. Changes to procurement documents are in accordance with the controls described in Section 17.2.4.

Supplier facility verification activities are the responsibility of Procurement Quality; however, other Operating Agent personnel or consultants may perform or assist Procurement Quality in carrying out this function, provided appropriately qualified personnel are assigned. Supplier monitoring activities may include:

1. Auditing supplier quality assurance program implementation

2. Monitoring, witnessing, or observing inspections; examinations; and performance tests

3. Surveillance of critical manufacturing processes

4. Auditing supplier records to verify certification validity and the proper resolution of nonconformances.

17.2.7.8 Receiving Inspection

Acceptance by receiving inspection is utilized as a prime method of verification and is utilized as the sole means of item acceptance when items are relatively simple and standard in design and manufacture. When other methods are utilized, receiving inspection is employed to verify that items have not sustained damage due to handling, shipping, or storing.

Receiving inspection is performed by Procurement Quality personnel in accordance with written procedures. On complex or special items other plant personnel may assist in performing receipt inspection. These personnel are qualified in accordance with the controls described in Sections 17.2.10 and 17.2.11, as applicable. In the event of a major modification, receiving inspection may be delegated to an outside organization(s).

Receiving inspection activities include:

1. Identifying materials, parts, and components and their status upon receipt by tagging or other acceptable means of identification or segregation and controlling items in receiving inspection hold. Identification of items corresponds to the identification noted in related purchase documents and receiving documentation.

2. Verification of items for their acceptance, including examination for shipping damage, correctness of identification, and specified quality documentation.

3. Inspecting or, where appropriate, testing using approved procedures and calibrated tools, gauges, and measuring equipment for verification acceptance of items, including those from off-the-shelf suppliers.

4. Items determined to be acceptable for use are tagged with an accept tag or other acceptable means of identification or segregation and released for storage or use. Conditionally accepting items by receiving inspection is procedurally controlled.

5. Verifying that received items which do not conform to procurement documents are controlled and segregated (if practicable) and processed in accordance with Section 17.2.15.

17.2.7.9 Post-installation Testing

Acceptance by post-installation test may be utilized following one of the preceding verification methods. Post-installation testing is used as the prime means of acceptance verification when it is difficult to verify item quality characteristics, the item requires an integrated system checkout or test, or the item cannot demonstrate its ability to perform when not in use. Post-installation test requirements and acceptance documentation is established by the Operating Agent. Post-installation testing is performed by plant personnel and, if required, is specified on procurement or receipt inspection documents.

17.2.7.10 Acceptance of Procured Items and Services

Acceptance of items and services is based on one or more of the following:

1. Written certifications

2. Supplier audit or surveillance

3. Source inspection

4. Receiving inspection and testing

5. Post-installation test

Where required by code, regulation or purchasing agreement, documented evidence that an item conforms to technical and quality requirements or procurement documents will be available during receiving inspection or prior to use. Where not precluded by other requirements, documentary evidence may take the form of written Certificates of Conformance. Supplier's Certificates of Conformance are periodically evaluated by audits, independent inspections, or tests to assure they are valid. When acceptance is based on supplier audit or surveillance, documented evidence is furnished to the plant receiving organization by the responsible Operating Agent organization or their designated agent.

The acceptance of services is very much a function of the service performed and may or may not involve Supply Chain Services personnel. For example, if the service is for NDE, Quality Control personnel witness/inspect a portion of the work as it is being performed, and review the inspection reports prepared and turned over to the Operating Agent as the basis for acceptance. If the service is for engineering work, the acceptance is performed by Operating Agent engineering organizations based on their review of the design output documents produced. If the service is in support of Quality & Performance Improvement, such as audit work, the acceptance is based on a review of the audit report(s) produced. The review is made by the Operating Agent's Quality & Performance Improvement personnel.

17.2.7.11 Final Acceptance

Final acceptance of items is by personnel within the Procurement Quality organization. The final acceptance of services is the responsibility of the originating organization. Acceptance is documented.

17.2.7.12 Record Retention

Regarding the control of purchased material, equipment, and services, record retention is the responsibility of the Document Services organization. Specified inspection, test, and other records are available at the plant prior to installation or use.

17.2.8 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

17.2.8.1 Scope

The identification and control of materials, parts, and components is accomplished in accordance with documented procedures and applied to safety-related materials, parts, or components during fabrication, storage, installation, or use. Materials, parts, and components identified as nonconforming are controlled as described in Section 17.2.15. These controls are applied to preclude the use of incorrect or defective items.

17.2.8.2 Procedural Control

Documented procedures assure that specifications and other procurement documents include or reference appropriate requirements for the identification and control of materials, parts, and components, including partially fabricated assemblies. Procedures also specify measures for material control, including storing and controlling accepted items; controlling the issuing of accepted items from storage while maintaining item identity; controlling the return to storage of issued materials, parts, or components received, stored, installed, modified, and used at the plant site. These procedures also assure that correct identifications are verified and documented prior to release.

The identification and control requirements address traceability to associated documents, as appropriate; specify the degree of identification and control necessary; specify location and method of identification to preclude a degradation of the item's functional capability or quality; and properly identify materials, parts, and components prior to release for manufacturing, shipping, construction, and installation. Materials, parts, and components manufactured or modified by the Operating Agent are similarly controlled, identified, and documented.

17.2.8.3 Maintenance of Identification

Physical identification may be employed for relating an item at any point in time to applicable design or other pertinent specifying documents, including drawings, specifications, purchase orders, manufacturing and inspection documents, nonconformance reports, and physical and chemical mill test reports. Where physical identification is not employed, physical separation, procedural control, tags, or other appropriate means are utilized. Identification is maintained on items, or records traceable to items, as required, through fabrication, erection, and installation. When unique traceability is impractical, bulk traceability may be employed, consistent with the relative importance of the item to safety.

17.2.8.4 Verification of Controls

Verification of correct identification and control is performed by the various involved organizations following item acceptance during surveillance of storage, assembly, and installation activities. The verification of identification during assembly and installation is by independent inspection within the involved organization. Verification of correct identification following receiving inspection is performed during the act of retrieval and release from storage. Physical identification or marking will not affect the function or quality of the item being identified.

17.2.8.5 Nonconformance Control

In the event the identification or traceability of an item is lost, it is handled as nonconforming in accordance with Section 17.2.15.

17.2.9 CONTROL OF SPECIAL PROCESSES

17.2.9.1 Scope

Special processes are those fabrications, tests, and final preparation processes which require the qualification of procedure, technique, and personnel and which are performed in accordance with applicable codes and standards. Special processes normally require interim in-process controls in addition to final inspection to assure quality.

Special processes include such activities as welding, heat treating, nondestructive examination, application of coatings, and chemical cleaning and are accomplished under controlled conditions by qualified personnel in accordance with the technical requirements of applicable codes, standards, specifications, or other special requirements. Procedures detailing special processes are qualified in accordance with applicable codes and standards or, where no appropriate standards exist, to the Operating Agent's requirements. The qualification of processes and personnel is documented and maintained.

17.2.9.2 Procedural Control

Plant procedures prescribe the requirements for the qualification of the Operating Agent's procedures, personnel, and equipment. The involvement of Quality Control in the control of special processes includes the review of plant procedures for the adequate inclusion of quality requirements. Quality Control directly performs NDE, or performs surveillances on the work of others who provide NDE services. They also inspect other special process activities conducted by the plant maintenance staff and contractors. Special process equipment that may require periodic adjustment and whose performance cannot be verified through direct monitoring of appropriate parameters is subject to the controls described in Section 17.2.12. Qualification records are maintained current. The President and Chief Executive Officer is responsible for assuring that personnel performing special processes, excluding NDE, are qualified and are employing qualified procedures. Procedures are also established for recording evidence of acceptable accomplishments of special processes using qualified procedures, equipment, and personnel.

Plant and other responsible Operating Agent organization procedures are also established, as appropriate, to prescribe measures for the preparation, review, and approval of procedures for the control of special processes. Plant procedures address nondestructive examination (NDE) personnel, special process procedures, and inspection personnel qualification requirements. Procedures detailing special processes prepared by the Operating Agent's engineering organizations receive an independent review to assure that quality requirements and acceptance criteria have been incorporated and recorded.

17.2.9.3 Control of Outside Contractors

Qualified outside organizations may be employed to perform special processes and are required to conform to the requirements described herein. Special process procedures submitted by an outside organization(s) in accordance with procurement document requirements receive a technical review by the responsible engineering organization and a quality review by Quality Control.

17.2.9.4 Records Control

Qualification records of plant procedures detailing special processes and plant equipment, as appropriate, and qualification records of plant personnel performing special processes are maintained by the applicable plant organization.

17.2.9.5 Qualification of NDE Personnel

Nondestructive examination personnel are qualified in accordance with procedures established per the requirements of the American Society for Nondestructive Testing Standard (ASNT) SNT-TC-lA or ANSI/ASNT CP-189 as applicable.

17.2.10 INSPECTION

17.2.10.1 Scope

A program for the inspection of safety-related activities at the WCGS has been established and executed to verify conformance with applicable documented instructions, procedures, drawings, and specifications. Inspections and process monitoring which serve an inspection function are performed by personnel qualified to perform assigned inspection tasks and who are other than the individuals who performed the activity.

17.2.10.2 Procedural Control

The inspection program is conducted in accordance with written approved procedures which specify inspection scope; personnel qualification requirements; inspection method description, including any mandatory holdpoints; acceptance criteria; data collection requirements; and documentation approval requirements. Inspection requirements may be obtained from drawings, instructions, specifications, codes, standards, or regulatory requirements.

Inspecting and the monitoring processes are performed by qualified personnel in accordance with instructions or procedures. Inspection procedures are employed to direct detailed inspection activities. Procedures which specify inspection activities are reviewed by Quality Control to verify the inclusion of independent inspection or process monitoring when required and to assure the identification of inspection personnel and the documentation of inspection results. The Operating Agent's inspection procedures are reviewed through the qualified review process.

Instructions, procedures, and supporting documents are provided to inspection personnel as applicable for use prior to performing inspection activities. Inspection results are documented. Procedures prescribe the review and approval authority for inspection results.

Inspection procedures, instructions, or checklists provide, as required, for the following:

1. Identifying characteristics and activities to be inspected

2. Describing the method of inspection

3. Identifying the individuals or groups responsible for performing the inspection operation

4. Acceptance and rejection criteria

5. Identifying required procedures, drawings and specifications, and revisions

6. Recording inspector or data recorder and the results of the inspection operation

7. Specifying necessary measuring and test equipment, including accuracy requirements.

8. Evaluation of the inspection results and the person performing the evaluation.

17.2.10.3 Process Monitoring

Process monitoring of work activities, equipment, and personnel are utilized as a control if inspection of processed items is impossible or disadvantageous. Both inspection and process monitoring is provided when control is inadequate without both. A suitable level of confidence in structures, systems, or components on which maintenance or modifications have been performed may be attained by inspection. As appropriate, an augmented inspection program is implemented until such time as a suitable level of performance has been demonstrated.

Process monitoring of ongoing activities at the WCGS is at intervals based on the status and safety importance of the activities. Guidelines are established to indicate the minimum frequency of process monitoring for each ongoing activity and to provide a basis for subsequent monitoring planning.

The monitoring of processes is performed to verify that quality-affecting activities are being performed in accordance with documented instructions, procedures, drawings, and specification.

17.2.10.4 Inservice Inspection

Required inservice inspection or process monitoring of structures, systems, or components are planned and executed. Inspection methods are established and executed to verify that the characteristics of an item continue to remain within specified limits.

The Vice President Engineering is responsible for assuring the development of a preservice and inservice (PSI/ISI) inspection program, procedures and reference preservice and inservice examination plans; the updating of the reference plans to reflect as-built conditions, the technical requirements of the applicable code edition and addenda and the securing of inspection and consulting services. The Vice President Engineering also directs the performance of preservice/inservice inspection of pressure retaining components and their supports.

The services of an outside organization may be secured for the conduct of PSI/ISI inspections. The Vice President Engineering is also responsible for the development and performance of the PSI/ISI testing of pumps and valves as described in Section 17.2.11.

17.2.10.5 Acceptance

The acceptance of an item is documented by authorized personnel. Modification, repair, or replacement of items performed subsequent to final inspection requires reinspection or retest, as appropriate, to verify acceptability.

17.2.10.6 Qualification of Inspection Personnel

The Operating Agent's personnel or personnel from outside organizations perform acceptance inspection activities and are qualified within their respective areas of responsibility. The assignment of plant acceptance inspection personnel is under the direction and control of the Manager Quality & Performance Improvement. The assignment of receipt inspection personnel is under the direction of the Supervisor Procurement Quality. Qualification of the Operating Agent inspection personnel (Exclusive of NDE) is not limited by company position and is defined in levels of capability. The number of levels established for each type of inspector is at least one but no more than three. Inspection assignments are consistent with the certification of an individual. Inspections associated with normal operations of the plant (such as routine maintenance, surveillance, and tests) are performed by individuals other than those who performed or directly supervised the work and may be within the same group, if the following controls are met:

1. The quality of the work is demonstrated through a functional test when the activity involves breaching a pressure retaining item.

2. Inspection procedures, and qualifications of inspection personnel are reviewed and found acceptable by Quality Control prior to initiating the inspection.

17.2.10.7 Qualification of NDE Personnel

Nondestructive examination functions are accomplished by plant personnel or outside organizations. Personnel involved in the performance, evaluation, or supervision of nondestructive examinations meet the qualification requirements specified ASNT SNT-TC-1A or ANSI/ASNT CP-189 as applicable.

The certification of nondestructive testing personnel is to one of three basic levels of qualification.

17.2.10.8 Qualification Program Responsibilities

Plant procedures and procurement documents prescribe the qualification requirements of inspection personnel. The Manager Quality & Performance Improvement is responsible for assuring that inspection personnel have received appropriate technical and quality training prior to their certification. Quality maintains documented evidence of qualifications of the Operating Agent's personnel performing plant acceptance inspection functions. Quality audits the personnel qualifications and verifies the independence of all personnel performing inspections of safety-related or special scope equipment or services at or in support of the WCGS.

17.2.11 TEST CONTROL

17.2.11.1 Scope

Testing is performed at the WCGS to demonstrate that safety-related, selected special scope, American Society of Mechanical Engineers code equipment, structures, systems, and components perform satisfactorily in service. Test programs include preoperational tests, initial startup tests, surveillance tests, pump and valve tests, inservice tests, other tests including those associated with plant maintenance, modifications, procedure changes, failure analysis, and the acceptance of purchased material, and approved special tests and experiments as defined in 10 CFR 50.59.

17.2.11.2 Procedural Control

Inservice Testing programs are established by the Engineering Department through the Vice President Engineering. Other test programs are established by the Operations Department through the Vice President Operations and Plant Manager to assure that testing demonstrates item or system performance. Testing is performed in accordance with written procedures which incorporate or reference the requirements and acceptance limits contained in applicable Technical Specifications, drawings, instructions, procurement documents, specifications, codes, standards, and regulatory requirements. Test program procedures control when a test is required and how it is to be performed.

Test procedures are reviewed by a Qualified Reviewer and approved by the Responsible Manager for the Test Procedure.

Test administrative procedures, test procedures and checklists employed during tests include, as applicable, prerequisite conditions; material and test equipment requirements; mandatory hold points; testing method instructions; limiting conditions and acceptance/rejection criteria; data collection method and test result approval requirements. Where outside organizations are utilized for plant or plant-related tests, procurement document requirements impose test requirements consistent with those described herein.

17.2.11.3 Personnel Qualifications

Personnel within the various Operating Agent organizations or outside organizations will perform testing activities, including implementing test procedures and the evaluation and reporting of test results. The assignment of plant staff testing personnel is under the direction of the Vice President Operations and Plant Manager, with the exception of Inservice Pump and Valve Testing which is under the direction of the Vice President Engineering. Qualified personnel outside the plant organization may be employed to perform testing activities. Qualifications of Operating Agent personnel are defined within plant procedures. Testing assignments are consistent with the qualification of an individual.

Procedures are established to assure that test program activities are performed by qualified personnel which meet applicable license commitments, codes, and standards governing testing. Plant procedures and procurement documents prescribe the qualification requirements of testing personnel. The Vice President Operations and Plant Manager and Vice President Engineering are responsible for assuring that test personnel are qualified to the test programs for which they have responsibility. Documented evidence is available of qualifications of personnel performing plant test functions.

17.2.11.4 Test Results

Test results are documented, reviewed, and approved by qualified individuals or groups. Equipment found to be deficient is identified in accordance with Section 17.2.14. Surveillance test results which fail to meet the requirements and acceptance criteria are documented and reviewed in accordance with Technical Specifications. Deficiencies identified as nonconforming are reviewed in accordance with Section 17.2.15.

17.2.11.5 Test Evaluations

Upon completion of system preoperational testing, the test results were submitted to the Joint Test Group (JTG) for its review and subsequent recommendation for approval. The JTG was dissolved upon completion of the Startup Test Program.

Surveillance Test results are reviewed by designated plant supervisory personnel.

The results of special tests and experiments as defined by 10CFR50.59 are reviewed by the PSRC. Proposed tests or experiments which involve a license amendment or change in the Technical Specifications are reviewed by the PSRC and approved by the NRC prior to performance of the test.

17.2.11.6 Preoperational and Startup Tests

The Startup Manager was responsible for the administration and conduct of the preoperational testing program. The Plant Manager was responsible for the administration and conduct of the initial startup testing program and all post-plant-acceptance testing. Test procedures employed during the preoperational and the initial startup test programs were prepared and approved under the requirements of the Wolf Creek administrative procedures. Preoperational test procedures were reviewed by qualified personnel and the JTG, and approved by the Startup Manager. Initial startup test procedures and post-plant-acceptance test procedures were reviewed by qualified personnel and the PSRC, and approved by the Plant Manager.

17.2.11.7 Systems Control

At turnover of systems or portions of systems to the plant staff, the Plant Manager was responsible for their operation. During the period prior to the initiation of startup testing, to the extent practicable, the plant technical and operating staff familiarized themselves with the facility operation and verified by trial use that operating and emergency procedures were adequate.

17.2.11.8 Measuring and Test Equipment

Equipment and instrumentation used in test acceptance is controlled in accordance with Section 17.2.12.

17.2.11.9 Surveillance Testing

Provisions are established for the performance of surveillance testing to assure that the necessary quality of systems and components is maintained, that facility operations are within the safety limits, and that limiting conditions of operation can be met. The testing frequency is at least as frequent as prescribed in the Technical Specifications. The provisions for surveillance testing include the preparation of schedules which reflect the status of planned surveillance tests. Qualified plant staff perform surveillance tests.

17.2.11.10 Acceptance Testing

When required by procurement documents, testing is employed as a means of purchased material and equipment acceptance. Acceptance testing of this nature is performed during receiving inspection or subsequent to installation, in accordance with the Section 17.2.7.

17.2.11.11 Test Records

Test procedures, test data, and test data evaluations are retained as part of the plant record.

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

17.2.12.1 Scope

The calibration and control program established at the WCGS assures that tools, gauges, and instruments maintain their required accuracy. The Vice President Operations and Plant Manager is responsible for assuring the program's establishment and implementation. Test instrumentation is utilized by various organizations as required to perform tests or other special operations. Each organization is responsible for assuring that the measuring and test equipment (M&TE) it employs has been properly calibrated. Organizations employing M&TE in quality activities at WCGS are required to implement a calibration and control program consistent with the requirements described herein.

17.2.12.2 Procedural Control

M&TE utilized in activities related to the operation of the WCGS are controlled in accordance with written procedures or instructions. The procedures for the calibration and control of M&TE address identification of the item to be calibrated, test equipment, calibration techniques including acceptance tolerances, calibration frequencies, maintenance control, storage requirements and any special instructions. The equipment subject to these controls includes measuring instruments, test instruments, tools, gauges, reference standards, transfer standards, and nondestructive test equipment employed in measuring, inspecting, and monitoring safety-related structures, systems, and components. Permanently installed process instrumentation is not included in this listing.

Inspection, test, maintenance, repair, and other procedures include provisions to assure that M&TE employed in activities affecting quality are of the proper range, type, and accuracy to verify conformance to requirements and test parameters.

17.2.12.3 Program Requirements

The calibration and control program shall provide for:

1. The assignment of specific calibration intervals for M&TE and calibration procedures which specify calibration methods and instrument accuracy requirements. Interval selection is a function of the equipment type, inherent stability and reliability, intended use, required accuracy, and other conditions which may affect calibration. Records are maintained to permit a determination of calibration intervals. M&TE requiring periodic calibration has a calibration label to indicate the due date of the next calibration. This label is attached to the instrument, or to its case where this is not practical. A special calibration is performed when the accuracy of any M&TE is suspect.

2. The unique identification of M&TE.

3. The traceability to calibration test data.

4. The traceability of reference standards to nationally recognized standards and the periodic revalidation of reference standards.

5. The maintenance of records which indicate the status of each item of M&TE, maintenance history, calibration results, anomalies, and most recent and next scheduled calibration dates. A recall system is established to assure that equipment which is outside its calibration interval is not used.

6. The maintenance and control of M&TE not in use.

7. Provisions to control purchase requirements and acceptance tests for M&TE sent out for calibration and for new or replacement M&TE, including the requirements for accuracy, stability, and repeatability.

8. The calibration of M&TE should be against a working standard having an accuracy of at least four times the specified tolerance of the M&TE. When this is not practical, standards have an accuracy which assures that the equipment being calibrated is within its required tolerance. Management review and approval of calibration procedures provides authorization where any specific calibration ratio cannot be met or where calibrating standards do not have greater accuracy than the M&TE being calibrated.

The controls stated above are also generally applicable to permanently installed process instrumentation. The most significant differences in the quality controls for the two different categories of instruments are:

1. All M&TE used for acceptance measurements or calibration of safety-related plant instrumentation must be controlled under this section. Only safety-related permanently installed process instrumentation must be so controlled.

2. Separate administrative procedures are used for M&TE and permanently installed process instrumentation.

3. Calibration and replacement of M&TE is documented on calibration laboratory records. Repair, maintenance, and replacement of permanently installed safety-related process instrumentation is controlled by the work controls process including calibration.

4. M&TE, where practical, is calibrated against standards four times as accurate as the M&TE being calibrated. Permanently installed safety-related process instruments are calibrated against M&TE which are at least as accurate as the accuracy required of the process instrumentation being calibrated in accordance with written and approved procedures.

5. M&TE is tagged or labeled to show the due date for next calibration. Permanently installed safety-related instruments are uniquely identified and records are maintained which indicate calibration dates and the due dates for the next inspection/calibration.

17.2.12.4 Calibration Controls

Calibration is performed against certified equipment or reference or working standards having known relationships to nationally recognized standards. Where no national standard exists, provisions are established to document the basis for calibration. Special calibration and control measures shall not apply to rulers, tape measures, levels, and other devices if normal commercial practice affords adequate accuracy.

17.2.12.5 Nonconformance Controls

M&TE found to be out of calibration requires an investigation to evaluate the validity of previous measuring, test, inspection, and calibration results and the acceptability of impacted items. Investigations are documented and evaluate the necessity of repeating original measurements, inspections, tests, or calibrations to establish the acceptability of such items. When the calibration history of an item shows it to be consistently out of calibration, the item is repaired, replaced, or the calibration interval modified.

17.2.12.6 Records

Records of the Operating Agent's performed plant calibration activities are maintained by the plant staff.

17.2.13 HANDLING, STORAGE, AND SHIPPING

17.2.13.1 Scope

Safety-related items including parts of structures, systems, and components are handled, sorted, shipped, cleaned, and preserved to assure that the quality of items is preserved from fabrication until incorporation into the WCGS.

17.2.13.2 Procedural Control

Generic procedures are prepared for application to these activities; however, as appropriate, detailed procedures are prepared for the handling, cleaning, storing, maintaining while stored, packaging, or shipping of specific items or types of equipment or material. Consumables utilized in safety-related structures, systems and components are under the control of the Operating Quality Program. Where specific properties or shelf life of lubricants, reagents, chemicals and other comsumable material is important, procedures concerning the use of the material in a safety-related activity contain appropriate controls. Otherwise these materials are controlled in accordance with good practice and labeling methods.

Procedures provide instructions for the storage of materials and equipment to minimize the possibility of damage or lowering of quality from the time an item is stored upon receipt, until the time the item is removed from storage and placed in its final location. The manufacturers' recommendations are considered and generally are incorporated into storage instructions, however, relaxation of manufacturers' storage requirements may be implemented if an engineering evaluation determines that relaxation is justified because of unrealistic storage recommendations which are not reasonably necessary to preclude equipment degredation. Material and equipment are stored at locations which have a designated storage level. The various storage levels are procedurally defined and have prescribed environmental conditions. The storage conditions are in accordance with design and procurement requirements to preclude damage, loss, or deterioration due to harsh environmental conditions. Items having limited calendar or operating life are identified and controlled to preclude the use of items whose shelf life or operating life has expired.

17.2.13.3 Special Procedures

Procedures are prepared for all items that require special handling and are available prior to the time items are to be moved. Items not specifically addressed by procedures are handled in accordance with sound material handling practice. The movement of fuel assemblies to and in the reactor core is handled in accordance with the Technical Specifications and the Technical Requirements Manual (TRM). Other material handling activities may involve personnel from various plant organizations. Operators of special handling and lifting equipment are experienced or trained in the use of equipment.

17.2.13.4 Inspection

The Vice President Operations and Plant Manager has an established program which identifies special handling tools and equipment and provides for routine maintenance and inspection in accordance with documented procedures which specify appropriate acceptance criteria. Routine inspections performed by the plant organization indicate the acceptability or nonconformance of equipment and rigging. Periodic inspections are performed by Quality & Performance Improvement and are supplemented by non-destructive examinations and proof tests as delineated in procedures for items requiring special handling. Personnel performing nondestructive examination and proof testing are qualified in accordance with the requirements of Sections 17.2.9 and 17.2.11, respectively.

17.2.13.5 Procurement Controls

Procurement documents and procedures address packaging requirements which afford protection from the possible degradation of quality during shipping, handling, or storing. The packaging protection specified varies in degree consistent with the item's appropriate protection classification. Similarly, the mode of transportation employed is consistent with the protection classification of items.

17.2.13.6 Radioactive Materials

Measures are also established to control the shipping of licensed radioactive materials in accordance with 10 CFR 71. A special Quality Program, which meets the requirements of 10 CFR 71 - Subpart H - Quality Assurance, has been established for the packaging and transporting of Type B quantities of radioactive materials. The Quality Program for packaging and transporting of Type B quantities of radioactive materials is located in WCNOC Administrative Procedures.

17.2.13.7 Records

Records are maintained to document activities regarding handling, shipping, and storing which affect quality.

17.2.14 INSPECTION, TEST, AND OPERATING STATUS

17.2.14.1 Scope

Safety-related and special scope items that are received, stored, or installed at the WCGS are identified and controlled in accordance with documented procedures.

17.2.14.2 Item Status Identification

Items received at or installed in the plant are identified in accordance with procedures as to their inspection, test, and operating status. Procedures control the application and removal of inspection and welding stamps and status indicators such as segregation, tags, markings, labels, and stamps. In the event traceability is not available or lost, the item(s) is/are considered nonconforming and handled in accordance with Section 17.2.15.

Placement and removal of safety tags on installed equipment which has been turned over to Startup or Operations are the responsibility of the Operations Shift Managers. These tags are used to prevent operation of equipment, protect workers and to protect plant equipment from damage.

Placement and removal of tags to identify and control uninstalled, nonconforming items or materials subsequent to turnover from construction are the responsibility of Procurement Quality. Items segregated and placed in quarantine are the responsibility of the plant organization.

Certified welders are assigned welder identification numbers in accordance with approved procedures. The identification number of welders making welds in compliance with the ASME code or on safety-related items is documented.

17.2.14.3 Operating Status

Plant procedures provide instructions relating to the operational status of safety-related structures, systems, and components, including temporary modifications. Those procedures address: authorization for requesting that equipment be removed from service; checks which must be made before approving the request; approval of the action to remove the equipment from service; the actions necessary to isolate the equipment and responsibility for performing these actions; the actions necessary to return the equipment to its operating status and responsibility for these actions. Equipment and systems in a controlled status are identified. Plant procedures establish controls to identify the status of inspection and test activities associated with maintenance, repair, modification, refueling, inservice inspection, and instrumentation and control system calibration and testing. The status of nonconforming, inoperative, or malfunctioning structures, systems, and components is documented and identified to prevent inadvertent use.

The Technical Specifications establish the status required for safe plant operation, including provisions for periodic and nonperiodic tests, and inspections, of various structures, systems, and components. Periodic tests may be operational tests or tests following maintenance while nonperiodic tests may be made following repairs or modifications.

17.2.14.4 Sequence Change Control

Procedures include the control of the sequence of required tests, inspections, and other operations when important to safety. To change these controls the individual procedure must be changed which requires the same review and approval cycle as that which authorized the original procedure.

17.2.15 NONCONFORMING MATERIAL, PARTS, OR COMPONENTS

17.2.15.1 Scope

Nonconformances are any deficiency in characteristics, documentation, or procedure which renders the quality of an item unacceptable or indeterminate. Nonconformances, therefore, include material deficiencies, malfunctioning or inoperative structures, systems and components, and departures from specified

procedural requirements which impact the quality of an item. Nonconforming activities which have not resulted in hardware nonconformances (i.e., programmatic or procedural deficiencies which do not impact the quality of an item), are corrected in accordance with Chapter 17.2.16, Corrective Action.

17.2.15.2 Nonconformance Controls

Nonconformances are identified, documented, controlled, dispositioned and corrected in accordance with approved procedures. These measures provide for the notification of affected parties and controls to prevent the inadvertent use of nonconforming items.

Nonconformances are controlled by report documentation, tagging, marking, logging, or physical segregation. Nonconformances are documented on records which identify the nonconforming condition, record the disposition, and record the approval of an appropriate approval authority. Nonconformances are reworked, rejected, repaired, or accepted. Repaired and reworked items are reinspected/tested in accordance with applicable procedures to ensure that critical attributes possibly affected by the nonconforming condition remain acceptable. These procedures are based on original inspection and test requirements or approved alternatives. Reinspection results and operational data, gathered subsequent to repair or rework, are documented or referenced on nonconformance, test or inspection documentation.

The design/configuraton change process is used in the Nonconformance Program to carry out dispositions of "use-as-is" or "repair." This process ensures that all aspects of plant operation are considered in light of the fact that the dispositioned item is now not exactly per original design. These considerations include revision of applicable drawings, possible revisions to operation, test, maintenance and inspection procedures; training of affected personnel, changes to spare parts inventory; reviews per CFR 50.59; and review of licensing documents.

Measures have been established to control the conditional release of nonconforming items from the warehouse, for which correction is pending and a technical evaluation by Engineering indicates that installation and/or testing will not adversely affect nor preclude identification and correction of the nonconformance. A conditional release to proceed with installation and/or with testing of a system or subsystem with outstanding nonconformances considers the nature of the nonconformance, its effect on installation and/or testing and the need for supplemental tests or inspections after correction of the nonconformance. Conditional release evaluations are documented and the conditional release is closed by Procurement Quality when the nonconforming condition is resolved. Safety-related and special scope conditional releases are reviewed and approved by Engineering prior to implementation.

Nonconforming items required for Technical Specification Operability are only released for use through the design/configuration change process and, thus, cannot be conditionally released for operations.

17.2.15.3 Disposition

Procedures prescribe the individuals or groups assigned the responsibility and authority to approve the disposition of nonconformances. Nonconformance disposition categories are:

1. "Reject" - the process by which a nonconforming item is rejected for use and either scrapped, returned to vendor, or downgraded to allow for use in a Non-Q System.

2. "Rework" - the process by which a nonconforming item is made to conform to a prior specified requirement by completion, remachining, reassembling or other corrective means.

3. "Repair" - the process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired, even though that item still may not conform to the original requirement.

4. "Use-as-is" (i.e., Accept) - A disposition which may be imposed for a nonconformance when it can be established that the discrepancy will result in no adverse conditions and that the item under consideration will continue to meet all engineering functional requirements including performance, maintainability, fit and safety.

"Repair" and "Use-as-is" dispositions are approved by the responsible design authority as prescribed in procedures. This authority is an organization which has demonstrated competence in the specific area, has an adequate understanding of the requirements and has access to pertinent background information.

“Rework” disposition is the process by which a nonconforming item is made to conform to prior specified design requirements. These design requirements were previously established by the design authority and are contained in design documents. The WCNOC work control program addresses the implementation process for resolving nonconformances. Items which are required to be reworked are inspected, as required, for acceptance prior to the component being returned to service.

17.2.15.4 Reportable Nonconformances

Nonconformances are evaluated for reportability to the NRC under 10 CFR 21. All nonconformances identified as reportable are reviewed by the PSRC.

17.2.15.5 Trend Analysis

Hardware nonconformances are reviewed by Engineering to identify potential unsatisfactory trends (examples may include repetitive, significant, or functional failures). Unsatisfactory trends are documented and evaluated using the Performance Improvement Request (PIR) in accordance with section 17.2.16. This program determines and evaluates the causes of the unsatisfactory trends when they are classified as a significant PIR. This includes a review and evaluation by Engineering of previous experiences (trending) for the equipment or component to determine whether the item is functionally reliable. Nonconformances that address supplier performance are trended during the supplier evaluation process.

17.2.16 CORRECTIVE ACTION

17.2.16.1 Scope

Corrective action control measures have been established to assure that conditions adverse to quality are promptly identified, reported, and corrected. When necessary, corrective action includes actions to preclude recurrence and follow-up verification. Corrective actions associated with the resolution of hardware related nonconformance reports and audits/surveillances are processed in accordance with Sections 17.2.15 and 17.2.18, respectively. Significant conditions adverse to quality that impede the implementation or reduce the effectiveness of the QA program are identified and documented in accordance with approved procedures. Procedures provide instructions for identifying, reporting, documenting, and initiating corrective action to preclude recurrence of significant adverse conditions. These conditions are reported to appropriate management, evaluated, documented, and corrected. The PSRC reviews all significant conditions adverse to quality identified at the plant and recommends corrective action on significant conditions adverse to safety regarding operating procedures. Significant adverse conditions are documented by measures described herein. These conditions may include a gross noncompliance to procedural requirements, a recurring condition where past corrective action have been ineffective, significant adverse nonconformance or noncompliance trends, or significant Operating Quality Program deficiencies. PIR Condition Reports (CRs) are used to identify significant conditions adverse to quality. Corrective Action for significant conditions adverse to quality includes action for the elimination of the cause of the conditions and includes provisions for ensuring that corrective actions are not inadvertently nullified by subsequent actions.

17.2.16.2 Condition Reports (CRs)

Condition Reports are used as the entry point for identification of conditions needing attention. CRs are screened to determine which CRs represent PIR Conditions. PIR Conditions include conditions adverse to quality, noncompliances (programmatic, procedural, or personnel), and radiological occurrences. These conditions are evaluated for significance, potential reportability, potential applicability to other organizations, recurring trends and the potential impact to plant operability. A plan of action is developed to track and implement any required remedial actions that remain incomplete following the evaluation of PIR Conditions. The Responsible Manager ensures that corrective actions addressing significant conditions include root cause determination; a plan of action based on root cause, which includes action to preclude recurrence, and a scheduled completion date; an independent review of the action plan to ensure that the corrective action will be adequate; and an independent follow-up to determine if the corrective action was effective. Independent reviews and follow-up are performed by individuals assigned by the Responsible Manager but who were not responsible for the corrective action plan or corrective action implementation, respectively. Prior to closing an Action Plan resulting from a PIR Condition that required corrective action, the Responsible Organization ensures that corrective action was completed and accepted. PIR Conditions are processed to Performance Improvement. Trending will be performed by Performance Improvement Personnel. These trends and a summary of significant PIRs are reported to appropriate levels of management.

17.2.16.3 10 CFR 21 Reports

Significant adverse conditions involving a defect or noncompliance in a delivered component or service which could create a substantial safety hazard are reported to the Nuclear Regulatory Commission pursuant to the requirements of 10 CFR 21. The PSRC reviews reportable defects or noncompliance evaluations performed by the plant staff that result in reports to the NRC.

17.2.16.4 Trend Analysis

Information from PIR Conditions are reviewed by Performance Improvement personnel to identify trends.

17.2.17 QUALITY ASSURANCE RECORDS

17.2.17.1 Scope

A records system governing the collection, storage, and maintenance of records was established by the Operating Agent and is in compliance with the standards and Regulatory Guides identified in Table 17.2-3. At a minimum, the records system applies to operating phase records associated with Operating Quality Program governed activities when records are required to either demonstrate compliance with licensing commitments or furnish documentary evidence of the quality of items and activities affecting quality. All such records are considered QA records and are legible, complete, adequately identifiable to the item or activity involved and readily retrievable.

Quality Assurance records include but are not limited to operating logs; maintenance and modification procedures and inspection results; reportable occurrences; results of monitoring and reviews; inspections, tests, audits, and material analyses; qualification of personnel, procedures, and equipment; records required by Technical Specifications; and other documentation including drawings, specifications, procurement documents, nonconformance documentation, corrective action requests, procedures, and calibration procedures and reports required to demonstrate compliance with license commitments.

17.2.17.2 Responsibilities

A records system was established by the plant and Operating Agent organizations and is controlled in accordance with written procedures. Implementing procedures address records administration; receipt of records; storage, preservation, and safekeeping of records; record retrieval; and the disposition of records in accordance with requirements identified in Table 17.2-3. Document Services is responsible for assuring the handling, retrieval, and maintenance of Quality Assurance records generated, received, and stored at WCNOC. Quality & Performance Improvement audits the WCGS Quality Assurance record storage systems to verify their effectiveness.

17.2.17.3 Records Index

The requirements for records administration specifies that Quality Assurance records be listed in an index. The index was established prior to the receipt of records and indicates the location of records. Distributing and handling records, correcting or supplementing Quality Assurance records, and specifying the retention period of record types are also delineated in written procedures. The retention period of records generated prior to commercial operation began on the date of commercial operation.

17.2.17.4 Records Receipt

The requirements for receipt of records define the methods for the receipt of documentation generated by others during the operation of the WCGS. These requirements assure that a specific submittal plan be established between the Operating Agent and outside organizations, and that designated authorities be responsible for organizing and implementing a system of records receipt control. The records receipt control also permits an assessment of the status of records during the receiving process.

17.2.17.5 Inspection and Test Records

Inspection and test records contain the following where applicable:

1. A description of the type of observation
2. The date and results of the inspection or test
3. Information related to conditions adverse to quality
4. Inspector or data recorder identification
5. Evidence as to the acceptability of the results
6. Action taken to resolve any discrepancies noted

17.2.17.6 Records Maintenance and Storage

The requirements for storing, preserving, and safekeeping of records establish storage requirements for the maintenance, preservation, and protection of quality assurance record files in compliance with ANSI N45.2.9. These requirements include methods for maintaining control of, access to, and accountability for records; storing records in a manner to preclude deterioration; security; and providing record storage facilities which protect contents from possible destruction by causes such as fire. A satisfactory alternative to the establishment of a single record storage facility is the maintenance of a duplicate copy of records in a remote location. Where duplicate storage is employed, the storage environment is not unique to each storage area but is the prevailing building temperature and humidity.

17.2.17.7 Records Retrieval

The requirements for record retrieval specify that the storage system afford an accurate retrieval of information without undue delay. Those records maintained by an outside organization are required to be accessible to the buyer or the Operating Agent, in the case of lifetime records, for the life of the items involved or for designated retention times for nonpermanent records.

17.2.17.8 Records Disposition

The requirements for record disposition establish methods for the transfer of records from others to the Operating Agent. Upon final transfer, records are inventoried against any transmittal forms and processed in accordance with written procedures. Nonpermanent records are retained for the minimum retention period and, subsequently, may be disposed of by or with the concurrence of the Operating Agent.

17.2.17.9 RECORD RETENTION

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

The following records shall be retained for at least 5 years:

a. Records and logs of unit operation covering time interval at each power level;

b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety;

c. All events submitted pursuant to 10 CFR 50.73;

d. Records of surveillance activities, inspections, and calibrations required by the Technical Specifications;

e. Records of changes made to the procedures required by Technical Specification 5.4.1;

f. Records of radioactive shipments;

g. Records of sealed source and fission detector leak tests and results; and

h. Records of annual physical inventory of all sealed source material of record.

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

a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Updated Safety Analysis Report;

b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories. Records of the analysis of the burnup history of each spent fuel assembly stored in Region 2 or 3 shall be kept for the time period that the spent fuel assembly remains in Region 2 or 3 of the spent fuel pool or cask loading pit;

c. Records of radiation exposure for all individuals entering radiation control areas;

d. Records of gaseous and liquid radioactive material released to the environs;

e. Records of transient or operational cycles for those Unit components identified in Technical Specification 5.5.5;

f. Records of reactor tests and experiments;

g. Records of training and qualification for current members of the Unit Staff;

h. Records of in-service inspections performed pursuant to the In-service Inspection Program;

i. Records of Quality Assurance activities required by USAR Section 17.2;

j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59;

k. Records of meetings of the PSRC and the NSRC;

l. Records of the service lives of all hydraulic and mechanical snubbers required by TR 3.7.20 including the date at which the service life commences and associated installation and maintenance records;

m. Records of secondary water sampling and water quality;

n. Records of analysis required by the Radiological Environmental Monitoring Program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed; and

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

17.2.18 AUDITS

17.2.18.1 Scope

A comprehensive audit program has been established and implemented by the Operating Agent to verify internal and external quality activity compliance with the Operating Quality Program. The audit program assures that applicable elements of the Operating Quality Program have been developed, documented, and are being effectively implemented and provide for the reporting and reviewing of results by appropriate levels of management. The audit program is described in manuals and procedures. QA Findings are identified and documented and corrective action is verified as required by ANSI N45.2.12-1977.

The audit system of the Operating Agent includes the performance of audits and surveillances, and plant evaluations. Audits determine, through a pre-planned and structured evaluation process, the adequacy of and adherence to established procedures, instructions, specifications, codes, and other applicable contractual and licensing requirements and the effectiveness of implementation. Audits are conducted in accordance with ANSI N45.2.12-1977. Surveillances are narrow scope evaluations which include direct observation of activities affecting quality.

Surveillances are documented in PILOT Reports and are conducted by technically competent Quality & Performance Improvement personnel who may not be Lead Auditors. Surveillances may or may not include entrance meetings or pre-planned checklists. Surveillance activities are planned, conducted, documented, reviewed, reported, followed-up, and closed out in accordance with written procedures.

An independent review of matters involving safe operation of the plant shall be conducted at least once per twelve months as directed by Quality & Performance Improvement. The review addresses matters that management determines warrant special attention, such as plant programs, performance trends, employee concerns, or other matters related to safe plant operations. The review is performed by a team consisting of personnel with experience and competence in the activities being reviewed, but independent (from cost and schedule considerations) from the organizations responsible for those activities. The review is supplemented by outside consultants or organizations as necessary to ensure the team has the requisite expertise and competence. Results are documented and reported to responsible management.

17.2.18.2 Responsibilities

Quality & Performance Improvement has established a program which provides for the qualification and training of internal and external audit and surveillance personnel.

The Manager Quality & Performance Improvement is responsible for assuring the implementation of a comprehensive system of planned internal and external audits and surveillances to verify compliance with the Operating Quality Program and to verify supplier conformance to procurement documents.

Audit Personnel have sufficient authority and organizational freedom to schedule and perform both internal and external audits and surveillances. Audit personnel have the organizational responsibility to measure and assure the overall effectiveness of the Operating Quality Program. Audit personnel are independent of the economic pressures of production. The Manager Quality & Performance Improvement has direct access to the WCNOC President and Chief Executive Officer for resolution of any areas in question.

The Manager Quality & Performance Improvement is responsible for assuring that the Operating Quality Program is being effectively implemented for safety-related, special scope, and important to safety activities which occur internal to the WCNOC. The Manager Quality & Performance Improvement is responsible for establishing and implementing a comprehensive internal audit program that includes external activities of the Operating Agent's suppliers, consultants and agents. The Manager Quality & Performance Improvement coordinates verification activities with external QA organizations. The Manager Quality & Performance Improvement reports on the internal programs effectiveness directly to the Operating Agent's Executive Management. Communication channels exist between the Manager Quality & Performance Improvement and the WCNOC Management Staff in order to provide a direct path to discuss and resolve conditions adversely affecting quality.

17.2.18.3 Auditor Qualifications

Audits are performed by qualified personnel. Lead Auditors are trained individuals certified to meet internally designated personnel qualifications which assure his capability to direct an audit, perform an audit, report audit findings, and to evaluate corrective action. Other personnel may assist lead auditors in the conduct of audits, namely, other auditors, technical specialists, management representatives, or auditors in training. Such personnel selected for auditing assignments have training or experience commensurate with the scope, complexity, or special nature of the activities to be audited. Personnel performing audits have no direct responsibility for the area audited and do not report to a management position with immediate responsibility for the activity being audited. The auditor training program provides appropriate general orientation and specific training which develop competence for performing audits. Training records provide a history of auditor training, evaluations, recommendations, qualification certifications, and retraining.

Personnel are qualified as auditors in accordance with the requirements prescribed in the Operating Quality Program. Auditor qualification requirements include education or professional status, previous work experience and training, training received through the Operating Agents on-the-job performance and participation in audits as a trainee, and other performance factors applicable to auditing not defined by procedure. The qualification and certification of lead auditors is based on an evaluation of these factors. The maintenance of proficiency by auditors is accomplished by one or more of the following: 1) regular and active participation in the audit process; 2) participation in training programs; 3) review of program, codes, standards, procedures, and other document revisions related to the Operating Quality Program and program auditing. The certification period is not infinite. An auditor's qualification may be rescinded. The failure to maintain proficiency in the audit process is basis for revoking the qualification or certification. In such cases, requalification is required.

17.2.18.4 Audit Planning

The audit program includes internal and external audits. The program is planned, documented, and conducted to assure coverage of the applicable elements of the Operating Quality Program, and overall coordination and scheduling of audit activities.

Audits are conducted using written plans in accordance with approved procedures. The procedures require evaluation of work areas, activities, processes, goods, services, and the review of documents and records for quality-related practices, procedures, and instructions to determine the effectiveness of the implementation of the Operating Quality Program and compliance to 10 CFR 50, Appendix B. The audit plan identifies the audit scope, the requirements, the applicable documents, the schedule, and the written procedures or checklists as appropriate. The audit plan and any necessary reference documents are available to the audit team members.

17.2.18.5 Audit Frequency

Internal audits are conducted by Quality & Performance Improvement and are performed with a frequency commensurate with their safety significance. An evaluation of safety-related functions is completed in accordance with formal schedules within a period of two (2) years. Each element of the Operating Quality Program, such as design control and document control, and each area of plant operations is evaluated.

Supplementary to the biennial requirement to evaluate all safety-related functions, the following program elements are evaluated at the indicated frequencies:

1. The results of actions taken to correct deficiencies that affect nuclear safety and occur in facility equipment, structures, systems, or method of operation - at least once per 24 months;

2. The conformance of facility operation to provisions contained within the Technical Specifications and applicable license conditions - at least once per 24 months;

3. The performance, training, and qualifications of the facility staff - at least once per 24 months;

4 The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months;

5. The fire protection programmatic controls, implementing procedures, program implementation, and fire protection equipment at least once per 24 months by qualified licensee QA personnel and qualified offsite fire protection engineers.;

6. The fire protection equipment and program implementation at least once per 36 months utilizing an outside independent fire protection consultant; shall be used at least every third year;

7. The Radiological Environmental Monitoring Program and the results thereof at least once per 24 months;

8. The ODCM and implementing procedures at least once per 24 months;

9. The Process Control Program and implementing procedures for processing and packaging of radioactive wastes at least once per 24 months;

10. The performance of activities required by the Quality Assurance Program for effluent and environmental monitoring at least once per 24 months;

11. The Emergency Plan and implementing procedures at least once per 12 months;

12. The Security Plan and implementing procedures at least once per 24 months; OR as soon as reasonably practicable, but in no case longer than 12 months, after a change occurs in personnel, procedures, equipment, or facilities that could adversely affect security; and

13. Any other area of Unit operation considered appropriate by the President and Chief Executive Officer.

Evaluations are also conducted when (1) significant changes are made in functional areas of the Operating Quality Program, such as significant reorganization or procedure revisions; or (2) when it is suspected that the quality of the item is in jeopardy due to deficiencies in the quality assurance program; or (3) when a systematic, independent assessment of program effectiveness is considered necessary; or (4) when necessary to verify implementation of required corrective action. The PSRC reviews audit reports of onsite audits. Periodic review of the onsite audit program as developed by Quality & Performance Improvement to assure that audits are being performed in accordance with the requirements of the Operating Quality Program is described in Section 17.2.2.6. Audit reports shall be forwarded for review to the President and Chief Executive Officer and to the management positions responsible for the areas audited within 30 days after completion of the audit by the auditing organization.

17.2.18.6 Supplier Audits

External audits are generally conducted by Procurement Quality personnel as a measure for the evaluation of procurement sources and as a post-award source verification of conformance to procurement documents. Audits conducted by other organizations, including other utilities or A/Es, may be employed as a means of post-award source verification in lieu of audits performed by the Operating Agent.

Applicable elements of suppliers' quality assurance programs are audited (post-award) on a frequency that is based upon the status and importance to safety of the activities being performed. Audits are generally initiated when sufficient work is in progress to determine whether the organization is complying with the established quality provisions. Subsequent contracts or contract modifications which significantly enlarge the scope of activities by the same supplier are considered in establishing audit requirements.

Supplementary to or in lieu of audits, documented evaluations of suppliers may be performed which take into account, as applicable, (1) the review of supplier furnished documents such as certificates of conformance, nonconformance notices, and corrective actions; (2) results of previous source verifications, audits, and receiving inspections; (3) operating experience of identical or similar products furnished by the same supplier; and (4) results of audits from other sources. All suppliers will be evaluated at least once annually.

17.2.18.7 Audit Team Composition

An audit team consists of one or more qualified persons. A qualified lead auditor is appointed audit team leader. The audit team leader is responsible for the written plans, checklists, team orientation, audit notification, pre-audit conference, audit performance, post-audit conference, reporting, records, and follow-up activity to assure corrective action. Audit procedures require that conditions requiring immediate corrective action be reported promptly to the appropriate supervisor. Other findings are reported in a post-audit conference with team members and the audited organization, to discuss items. Formal audit reports are prepared and submitted to the audited organization within thirty days after the post-audit conference.

17.2.18.8 Audit Records

Records are retained by the Operating Agent for activities associated with the requirements described herein. Records are collected, stored, and maintained in accordance with the requirements described in Section 17.2.17.

17.2.18.9 Audit Program Reviews

Audit results are periodically reviewed by Quality & Performance Improvement for quality trends and overall program effectiveness. The audit program is reviewed periodically in accordance with Section 17.2.2.6 to assure that audits are being conducted and are effective in identifying problems, and to verify that appropriate actions are taken. Results of these reviews are reported to appropriate management in periodic summary reports of audit activities.

TABLE 17.2-1

CONTROLLED PROCEDURE MANUALS

Identification	Description	Approval
Wolf Creek Nuclear Operating Corporation(WCNOC) Corporate Policy Manual	A manual consisting of policies, which have applicability to all department personnel.	All sections of this manual are reviewed and commented upon by the Department/Division Heads as assigned by the President and CEO. Authorization and issuance of this manual and changes thereto is by the WCNOC President and Chief Executive Officer (P/CEO).
WCNOC Administrative Procedures Manual	Administrative controls that are established and imposed when management expects uniform compliance with a process by all organizations, or where management establishes programmatic oversight in assigning responsibilities and defining organizational interfaces	Impacted division managers for review and comment and Department Heads approve content. Authorization and issuance is by the WCNOC President and Chief Executive Officer. The procedure review process is as described in 17.2.5.

TABLE 17.2-1 (Sheet 2)

CONTROLLED PROCEDURE MANUALS

Identification	Description	Approval
Wolf Creek Generating Station Procedure Manuals (implementing procedures)	A multi-volume set of procedures prepared by the plant staff. The Station Manuals are controlled, issued and approved in accordance with the applicable procedural controls under the direction of the Vice President Operations and Plant Manager. These procedures implement the applicable commitments established by the higher tier documents for WCGS operating activities.	All safety-related procedures and procedures implementing code required QA programs and Special Scope programs and all revisions thereto are reviewed by Qualified Reviewers and the Responsible Manager for the affected procedure as described in 17.2.5.5. Final approval of all procedures and revisions to the procedures are made at the appropriate management level as outlined in the administrative procedures. Approval, issuance, and revision of this Manual is by the plant manager.
WCNOC Procedures Manuals (implementing procedures)	A manual consisting of a set of procedures prepared by various responsible Operating Agent divisions and departments. These procedures are approved by the various division/department heads and serve to implement the requirements specified in upper tier requirements and commitments regarding off-site and on-site activities of the divisions/departments which support the operation of the WCGS.	All safety-related procedures and procedures implementing Code required QA programs and special scope quality programs within this manual and all revisions thereto are prepared by the responsible division/department or function and are processed as described in 17.2.5.5.

TABLE 17.2-2

OPERATING QUALITY PROGRAM IMPLEMENTING PROCEDURAL COVERAGE

ACTIVITY	10 CFR 50, APPENDIX B
Station Operations (including nuclear fuel management and station operations, maintenance and modification control)	I, II, V, VI
Preparation, Review, Approval, and Revision of Operating Quality Program Manuals	I, II & VI
Preparation, Review, Approval, and Revision of Implementing Procedures	II, V & VI
Personnel Indoctrinations, Training and Qualification	II
Design Control (including control of design criteria, performance of design review and verification, and control of design interfaces)	III
Preparation, Review, Approval, and Revision of Specifications	III, IV & V
Preparation, Review, Approval, and Revision of Drawings	III & V
Preparation, Review, Approval, and Revision of Requisitions	III & IV
Preparation, Review, Approval, and Revision of Engineering Service Agreements	III
Design Change Control	III
Preparation, Review, Approval, and Revision of Contracts	IV
Document Control	VI
Bid Requests and Evaluation	VII

TABLE 17.2-2 (Sheet 2)

OPERATING QUALITY PROGRAM IMPLEMENTING PROCEDURAL COVERAGE

ACTIVITY	10 CFR 50, APPENDIX B
Supplier Evaluation, Selection, and Control (including procurement change controls)	VII
Material Control (including receipt, identification, handling, storage, and shipping)	VIII & XIII
Special Process Controls	IX
Inspection Controls	X & XII
Test Control	XI & XII
Inspection, Test, and Operating Status	XIV
Nonconformance and Corrective Action Controls	XV & XVI
Receipt, Storage and Transfer of Records	XVII
Quality Program Audits and Evaluations	II & XVIII
Auditor Training and Qualifications	XVIII

TABLE 17.2-3

QUALITY PROGRAM COMMITMENTS TO REGULATORY GUIDES AND ENDORSED CODES AND STANDARDS

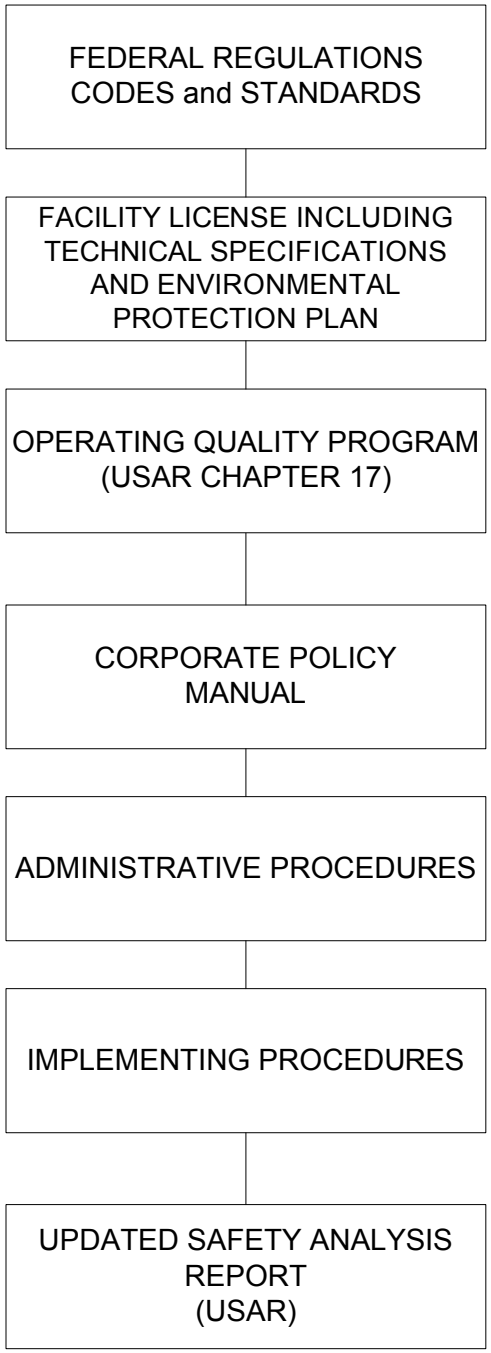
	REGULATORY GUIDE	ENDORSED STANDARD/CODE
1.8,*	"Personnel Selection and Training" (Rev. 2, 2/79)	ANS 3.1 - 1978
1.26,*	"Quality Group Classifications and Standards for Water-, Steam- and Radioactive-Waste-Containing Components Of Nuclear Power Plants" (Rev. 3, 2/76)	None
1.29,*	"Seismic Design Classification" (Rev. 3, 9/78)	None
1.30,*	"Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electrical Equipment" (Rev. 0, 8/72)	ANSI N45.2.4 - 1972
1.33,*	"Quality Assurance Program Requirements (Operation)" (Rev. 2, 2/78)	ANSI N18.7 - 1976/ ANS – 3.2
1.37,	"Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants" (Rev. 0, 3/73)	ANSI N45.2.1 - 1973
1.38,*	"Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants" (Rev. 2, 5/77)	ANSI N45.2.2 - 1972
1.39,*	"Housekeeping Requirements for Water-Cooled Nuclear Power Plants" (Rev. 2, 9/77)	ANSI N45.2.3 - 1973
1.58,*	"Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel" (Rev. 1, 9/80)	ANSI N45.2.6 - 1978
1.64,*	"Quality Assurance Requirements for the Design of Nuclear Power Plants" (Rev. 2, 6/76)	ANSI N45.2.11 - 1974

TABLE 17.2-3 (Sheet 2)

QUALITY PROGRAM COMMITMENTS TO REGULATORY GUIDES AND ENDORSED CODES AND STANDARDS

	REGULATORY GUIDE	ENDORSED STANDARD/CODE
1.74,*	"Quality Assurance Terms and Definitions" (Rev. 0, 2/74)	ANSI N45.2.10 - 1973
1.88,*	"Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records" (Rev. 2, 10/76)	ANSI N45.2.9 - 1974
1.94,*	"Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants" (Rev. 1, 4/76)	ANSI N45.2.5 - 1974
1.116,*	"Quality Assurance Requirements for Installation, Inspection and Testing of Mechanical Equipment and Systems" (Rev. 0-R, 6/76 revised 5/77)	ANSI N45.2.8 - 1975
1.123,	"Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants" (Rev. 1, 7/77)	ANSI N45.2.13 - 1976
1.144,*	Auditing of Quality Assurance Programs for Nuclear Power Plants (Rev. 1, 9/80)	ANSI N45.2.12 - 1977
1.146,*	"Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants" (8/80)	ANSI N45.2.23 - 1978

* For clarifications and alternate methods for complying with these Regulatory Guides, see Appendix 3A.



*The USAR, by definition, reflects the plant and implementation of processes and programs.

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WOLF CREEK
UPDATED SAFETY ANALYSIS REPORT

FIGURE 17.2-1

HIERARCHY OF

DOCUMENTS