APPENDIX A
QUALITY ASSURANCE PROGRAM

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A.1 INTRODUCTION

This Appendix describes the Omaha Public Power District's (OPPD) Quality Assurance Program for the operation of Fort Calhoun Station Unit No. 1. The program is based on the criteria of Appendix B to 10CFR Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants"; General Design Criterion 3, Appendix A to 10CFR Part 50, "Fire Protection"; Appendix E to 10CFR Part 71, "Quality Assurance Criteria for Shipping Packages for Radioactive material;" and the guidance provided in: American National Standard, ANSI N45.2, "Quality Assurance Program Requirements for Nuclear Power Plants," and its associated daughter standards; officially promulgated Regulatory Guides and Standards associated with WASH 1283, WASH 1309, and WASH 1284; and Appendix A to Branch Technical Position 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants." The program will be applied to: Critical Quality Elements (CQE) defined as those structures, systems, components, or items whose satisfactory performance is required to prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public; those fire protection systems and equipment used or installed in all areas housing safety-related equipment, and other areas where an unsuppressed fire could potentially damage safety-related structures, systems or components; those activities affecting the components of radioactive material packaging for transport which are significant to safety; and Limited Critical Quality Elements (Limited CQE) defined as those structures, systems, components or items whose satisfactory performance is required to prevent or mitigate the failure of those structures, systems, components or items identified as CQE.

A.2 ORGANIZATION

OPPD's organization for carrying out an effective operations phase Quality Assurance Program is shown in Figure A-1. The Division Manager - Quality Assurance and Regulatory Affairs is the upper level off-site management position which has direct management responsibility for formulation, implementation, and assessment of the effectiveness of the Quality Assurance Program. The Division Manager - Production Operations is the upper level off-site management position which has direct management responsibility for plant operations and for formulation, implementation, and assessment of the effectiveness of the Fire Protection Program and the Packaging of Radioactive Material for Transport. Those positions in Figure A-1 that have responsibility for Fire Protection Program implementation are indicated by an asterisk (*) and those positions that have responsibility for Radioactive Material Packaging implementation are indicated by a (#). The Division Manager - Engineering is the upper level off-site management position which has direct responsibility for designation of those structures, systems, components or items classified as Critical Quality Elements (CQE's) or Limited Critical Quality Elements (Limited CQE's), and covered by the Quality Assurance Program, and for designation of the fire protection systems, equipment, and zones covered by the Fire Protection Program. The Division Manager - Material Management is the upper level off-site management position which has direct management responsibility for formulation and implementation of procurement policy.

A.2.1 Manager - Fort Calhoun Station

The Manager - Fort Calhoun Station shall have direct responsibility for the safe operation of the nuclear power facility. In all matters pertaining to the nuclear facility, the Manager - Fort Calhoun Station shall report to and be directly responsible to the Section Manager - Operations.

A.2.2 Plant Review Committee (PRC)

A committee composed of plant staff members designated as the Plant Review Committee (PRC) shall act in an advisory capacity to the Manager - Fort Calhoun Station. The responsibilities and authority of the Plant Review Committee are delineated in Section 5.5.1 of Fort Calhoun Station Unit No. 1 Technical Specifications, Appendix A to Operating License No. DPR-40.

A.2.3 Safety Audit and Review Committee (SARC)

Another committee composed primarily of off-site, highly qualified and experienced District management personnel and consultants, designated as the Safety Audit and Review Committee (SARC), shall function to provide the independent review and audit of activities as designated in Sections 5.5.2 and 5.5.3 of Fort Calhoun Station Unit No. 1 Technical Specifications, Appendix A to Operating License No. DPR-40. The SARC reports to and advises the Assistant General Manager on reviews and audits of the designated activities.

A.2.4. Manager - Quality Assurance

The Manager - Quality Assurance is responsible for the development and implementation of the Quality Assurance Program for design, construction, and operation. This responsibility extends into all project and operations activities including engineering, design, procurement and construction. He reports on all technical and administrative matters to the Division Manager - Quality Assurance and Regulatory Affairs. This reporting arrangement provides isolation of construction and operational costs and scheduling influences from activities performed by the Manager - Quality Assurance. He has the duty and authority to identify quality-related problems; to initiate, recommend, or provide solutions; and to verify the implementation and effectiveness of corrective action taken. He has authority to "Stop Work" on design, procurement, fabrication, installation, or packaging of safety related structures, systems, or components, fire protection systems and equipment, and shipping packages for radioactive material. His principle duties and responsibilities include the following:

(1) Manages the OPPD Quality Assurance Program.

(2) Supervises and coordinates an independent audit, QA surveillance review, and update of OPPD quality activities to assure compliance with, and effectiveness of, the Quality Assurance Program.

(3) Training and indoctrination of OPPD personnel in Quality Assurance Activities.

(4) Prepares Quality Assurance procedures, instructions, and reports, including the description, preparation and maintenance of OPPD's QA Manual and the QA program.

(5) Reviews draft standards submitted by various standards agencies for review. Coordinates response by District for QA-related draft standards.

(6) Acts as an internal consultant on Quality Assurance related matters.

(7) Maintains liaison with vendors on quality matters.

(8) Maintains a file of quality-related codes and standards for the operation, maintenance and modification of nuclear power plants.

(9) Reviews design data and changes, operating procedures, and test reports for quality requirements.

(10) Serves as a member of various committees including the Safety Audit and Review Committee.

(11) Qualifies OPPD's vendors and suppliers.

The qualification requirements of the Manager - Quality Assurance are:

(1) A college degree or equivalent in engineering. Registration as a professional engineer in the state of Nebraska is desirable. Advanced degree in management or work in quality related discipline is desirable.

(2) Eight (8) or more years in a supervisory or management position related to the operation, maintenance, testing, and construction of nuclear power plants, including quality assurance.

(3) Working knowledge and understanding of regulations, standards, and guides relating to nuclear power plant quality assurance.

(4) Thorough management, administrative and supervisory skills.

(5) A very high degree of emotional stability, maturity, and personal integrity. Must have a high degree of initiative, and the ability to make sound decisions and defend them to top management.

(6) The ability to work closely and in harmony with others. The ability to coordinate several complex operations simultaneously.

The Manager - Quality Assurance has assisting him in the execution of his duties and responsibilities, a Staff which includes:

(1) The Supervisor-Corporate QA - has primary responsibility for Quality Assurance program document maintenance activities and Internal Auditing.

(2) The Supervisor - Procurement QA - has primary responsibility for Quality Assurance activities associated with design, procurement and external auditing.

(3) The Supervisor-Operations QA - has primary responsibility for Quality Assurance activities associated with nuclear plant operations (stationed at Fort Calhoun Station).

A.2.5 QC Staff

The QC Staff is responsible for quality control actions as specified in Plant Standing Orders. The QC Staff reports to the Supervisor - Maintenance, Fort Calhoun Station.

A.2.6 Division Manager Material Management

The prime QA responsibility of the Division Manager - Material Management is to provide uniform policies to be used by other District personnel when procuring Critical Quality Elements for Fort Calhoun Station Unit No. 1. Other specific duties as prescribed by the Nuclear Purchasing Procedures include:

(1) maintenance of procurement records; and

(2) direction of corrective action by suppliers for deficiencies in his documentary evidence of quality, shipping damage, or count discrepancies.

A.2.7 Section Manager - Generating Station Engineering

The Section Manager - Generating Station Engineering, under the Division Manager - Engineering, has primary responsibility for maintenance of as-built data; performance and review of detailed design for the nuclear power plant; development and review of procurement specifications; classification of safety-related structures, systems and components; and the modifications associated with the Fire Protection Plan.

A.2.8 Section Manager - Technical Services

The Section Manager - Technical Services, under the Division Manager - Production Operations, has primary responsibility for technical support for the nuclear power plant staff, including the areas of nuclear material management, radiological and chemical control, plant modifications, environmental sciences, and packaging of low specific activity radioactive material for transport.

A.3 QA PROGRAM

A.3.1 Corporate Policy

OPPD's corporate policy is to operate and maintain nuclear power plants with due regard for public and plant safety as prescribed by various regulatory requirements. Since there is a close correlation between safety and plant quality, OPPD has as its goal the establishment of a program for quality achievement and assurance in nuclear power station modification, maintainance and operation which assures that the above policy is met. The OPPD QA Manual is the document which states OPPD's corporate quality policies, goals, and objectives, and defines responsibilities.

OPPD assures transmittal of these quality policies to all concerned by controlled distribution of the QA Manual and changes thereto to all levels of management associated with the OPPD QA Program. In addition, specific QA Procedures are authorized and promulgated, further defining detailed objectives for attaining and maintaining high quality in the modification, maintenance and operation of its nuclear power plant.

OPPD's Quality Assurance Program has the full support of upper management. The General Manager authorizes issuance of the QA Manual. The Assistant General Manager approves the QA Manual and all revisions thereto, which defines the general requirements and specifies the responsibilities for implementing OPPD's Quality Assurance Program. Implementation of the general requirements documented in the QA Manual is facilitated by specific requirements and procedures documented in the Purchasing Manual, Quality Assurance Procedures, Generating Station Engineering Procedures Manual, and the Fort Calhoun Station Operating Manual, Quality Assurance Department Manual.

The Critical Quality Element and Limited Critical Quality Element structures, systems, and components controlled by the QA Program are classified to an extent consistent with their importance to safety and are identified in the Generating Station Engineering CQE Evaluation of Fort Calhoun Nuclear Station. Limited Critical Quality Elements include consumables such as gaskets, packing, lubricants, and diesel generator fuel oil among many other off-the-shelf items. With regard to fire protection, the QA Program is applicable to the fire pumps, main loop firemain piping, fire walls, penetration fire seals, automatic initiated detector systems, automatic initiated independent fire suppression systems, and all piping, valves, sprinklers, and nozzles associated with automatically initiated water fire protection systems. The actual fire areas, room numbers, and protected systems are as described in the Fire Protection Program Review for Fort Calhoun Unit 1 dated December 31, 1976. The pertinent sections of the QA Program shall be applied to the Fire Protection Program to an extent consistent with their importance to safety. Therefore, Sections A.7, A.9, A.10, A.13 and A.14 are not applicable.

The QA Program shall apply to the procurement and use of packaging for the transport of radioactive material. This shall include receptacles, wrappers, and their contents excluding fissile material and other radioactive material, but including absorbent material, spacing structures, thermal insulation, radiation shielding, devices for cooling and for absorbing mechanical shock,

external fittings, neutron moderators, nonfissile neutron absorbers, and other supplementary equipment which have safety significance. The Quality Assurance program assures that the package design, fabrication, assembly, testing, maintenance, modification, and repair conform to the approved design of each individual package and that the handling, storing, cleaning, inspecting, assembling and shipping meet the requirements of 10CFR Part 71 and Department of Transportation Regulations.

Any disputes which cannot be resolved to the satisfaction of the Manager - Quality Assurance shall be brought before the Assistant General Manager via the Division Manager Quality Assurance and Regulatory Affairs. The Assistant General Manager would then be responsible for resolving the dispute after considering all aspects of the issue.

In addition, periodic training sessions are held to promulgate and explain policies, goals, and objectives including changes thereto. Needed changes to the OPPD QA Program have been identified by means of:

a. planning, performing and reporting audits

b. continuing review of NRC Regulatory Guides and ANSI N45.2 standards

c. response to NRC questions and identified deficiencies

Changes to the Fort Calhoun Station Unit No. 1 QA Program description are included in the annual update of the USAR.

A.3.2 QA Manual

The Preface of the OPPD QA Manual states:

> "This QA Manual delineates the established policy and shall be implemented and applied to those activities as specified herein. It establishes the OPPD Quality Assurance Program, sets forth the quality policies, defines the requirements, and specifies responsibilities within the District for implementing the program. Compliance with this QA Manual, as well as the Standing Orders, Operating Instructions, and Procedures developed from it, are mandatory. Management shall give full support to maintaining an effective quality program. Compliance with applicable requirements of the QA Manual shall be made a condition of contracts for supporting companies."

The OPPD QA Manual requires that OPPD organizations and Companies under contract to supply technical services or products for the plant comply with the following requirements:

a. The authority and duties of individuals and groups performing quality assurance functions are clearly established and delineated in writing. They have sufficient authority and organizational freedom to:

1) identify quality problems

2) initiate, recommend, or provide solutions for conditions adverse to quality

3) verify implementation

b. An individual or group assigned responsibility for QA functions, such as auditing or otherwise verifying that an activity has been correctly performed, is independent of the individual or group directly responsible for performing the specific activity.

Copies of the QA Manual are issued in a controlled manner. A mailing list is maintained by QA showing recipients of the QA Manual. Personnel signify the receipt of their copy of the QA Manual by signing and returning a receipt acknowledgement to the Manager - Quality Assurance. Recommended changes to this manual are solicited and all such recommendations are given due consideration by the Manager - Quality Assurance. Necessary revisions are prepared, reviewed for adequacy, approved and issued in a controlled manner. These revisions are also controlled by means of a receipt acknowledgement.

Revisions are dated and identified with formal revision numbers as they are issued.

A.3.3 QA Procedures

OPPD assures that the various QA program procedures are derived from QA policies, goals, and objectives by means of a review of these procedures, both prior to issuance and during audits of the activity prescribed by the procedures. Procedure review is accomplished in accordance with established procedures. Audits are conducted in accordance with the Quality Assurance Department Manual.

A.3.4 Training and Indoctrination

Personnel responsible for performing quality affecting activities are instructed as to the purpose, scope, and implementation of the quality-related manuals, instructions, and procedures by participation in each Division's training program, and the on-the-job training provided by each activity.

The QA Manual specifies that personnel performing quality affecting activities are required to possess documented evidence that they are trained and qualified in the principles and techniques of the activity being performed. Procedures provide for training and qualification in the principles and techniques of the activity being performed , including:

(1) Nondestructive evaluation (NDE) personnel administration

(2) Auditor training and qualification

(3) Indoctrination and training of quality assurance personnel

Fort Calhoun Station standing orders specify the training and qualification requirements for operators, maintenance personnel and chemistry and radiation protection personnel. The QA auditing and surveillance programs provide assurance that the personnel are trained in the activity concerned prior to the event. The Fort Calhoun Station Training Manual specifies the training and qualification requirements for Security and Fire Brigade personnel. Standing Orders specify the qualification and certification of maintenance Quality Control personnel.

The scope, the objective, and the method of implementing the various indoctrination and training programs are prescribed in writing and records are maintained to verify the progress and success of the programs. This documentation is audited and the programs receive periodic reviews within the applicable divisions to verify their adequacy.

The indoctrination and training programs described above assure that the proficiency of personnel performing quality-affecting activities is maintained by specifying retraining, re-examining, and/or recertifying in accordance with the specified requirements.

The indoctrination and training programs provide for documenting the training sessions, describing the content, the date held, the attendees, and the results of any examinations conducted.

A.4 DESIGN CONTROL

The OPPD Quality Assurance Program provides for several levels of design control for modification of or additions to an operating nuclear power plant. OPPD design activities meet applicable NRC Regulatory Guide requirements for all safety-related activities including Regulatory Guide 1.64, "Quality Assurance Requirements for the Design of Nuclear Power Plants." QA audits assure that OPPD's design control measures provide a clear definition of design interfaces, review and approval of initial design, including changes or revisions, and that those performing design review activities are independent of those originating the design. The verification of engineering and design adequacy of the contractor's design documents will be performed in accordance with the contractor's approved Quality Assurance Program and Procedures and by OPPD through review by either Generating Station Engineering (GSE) or Technical Services, and the Plant Review Committee.

Procedures for OPPD design development and review are contained within the QA Manual, Station Operating Manual, GSE Procedures Manual, and Production Operations - Technical Services Manual. The GSE and Technical Services design activities are controlled through GSE's Procedures Manual and Technical Service's Administrative Procedures. Administrative instructions for initiating, controlling and documenting modification of station equipment and facilities is provided through Plant Standing Orders. GSE Procedures describe the various relationships of the design development and verification organizations within the design process.

The Manager - Fort Calhoun Station is responsible for reviewing and approving design prior to implementation at Fort Calhoun Station Unit No. 1. Utilization of the Plant Review Committee is governed by the Station Operating Manual and Plant Standing Orders for their review function.

If an unreviewed safety question is involved, the design is further reviewed by the Safety Audit and Review Committee as specified in the SARC Charter prior to submittal to the NRC for approval.

GSE Procedures require an independent review of design documents for CQE designs. GSE Procedures assure that design characteristics can be controlled, inspected, and tested. Independent design review and verification activities are required by the QA Manual to be performed under the authority of the designer organization's QA Program by appropriately qualified engineers for engineering calculations, specifications, and design drawings for safety-related items.

Established procedures require selected documents be reviewed to determine that they contain, as appropriate:

a. Applicable design bases, technical requirements, regulatory requirements, component and material identification, drawings specifications, codes and industry standards, tests and inspection requirements, and special process instructions for such activities as fabrication, cleaning, erection, packaging, handling, shipping, storage, and inspection;

b. Requirements that identify the documentation to be prepared, maintained, submitted, and made available to the purchaser for review and comment, such as drawings, specifications, procedures, inspection and test records, personnel and procedure qualifications, and chemical and physical test results on materials;

c. Requirements for the retention, control, and maintenance of documents and quality assurance activities records.

GSE Procedures describe how reviews and verifications are conducted through the use of a design verification checklist. This procedure complies with Section 6 (Design Verification) of ANSI N45.2.11, "Quality Assurance Requirements for the Design of Nuclear Power Plants.

Established procedures require design adequacy be verified by systematic evaluation of the elements of the design with respect to requirements for design, safety, function, and quality. Verification may be accomplished by performing design reviews, by the use of alternate or simplified calculational methods, or by conducting a suitable test program. The verifying process shall be performed by individuals or groups other than those who performed the original design, but who may be from the same organization.

Detailed design or design changes involving Critical Quality Elements (CQE's) that are performed by Generating Station Engineering (GSE) are performed in accordance with the GSE Procedures Manual. GSE Procedures require technical calculations and safety analyses be provided by the design engineer and describe how safety analyses and technical calculations are processed. GSE Procedures provide design controls for compatibility of materials and accessibility for inservice inspection, maintenance, and repair.

Materials, parts, equipment and processes essential to Critical Quality Elements, the Fire Protection Program, and packaging for shipment of radioactive material are required to be selected and reviewed for suitability of application. The methods of assurance of suitability are required to include independent design verification by individuals or groups competent in the applicable field of design and related nuclear power plant requirements.

The methods of selection and review are required to provide for (as applicable): reactor physics, stress, thermal, hydraulic and accident analyses; compatibility of materials; as low as practicable radiation levels; accessibility for inservice inspection, maintenance and repair; test requirements and delineation of acceptance criteria for inspections and tests.

Measures shall be established by the Section Manager - Generating Station Engineering, Section Manager - Technical Services, and Manager - Fort Calhoun Station to assure that the applicable guidelines of Regulatory Guide 1.120 or approved alternatives are included in design and procurement documents prepared by their personnel and that deviations therefrom are controlled. Field changes and design deviations will be subject to the same level of controls, reviews, and approvals that were applicable to the original document. Quality standards will be specified in the design documents such as appropriate fire protection codes and standards. Deviations or changes from these standards will be individually approved. New designs and plant modifications, including fire protection systems, shall be reviewed by qualified personnel to assure inclusion of appropriate fire protection requirements. These reviews will include items such as:

a. Reviews to verify adequacy of wiring isolation

b. Reviews to verify appropriate requirements for room isolation

c. Reviews to verify appropriate material is used

Design control measures for packaging for transport of radioactive material shall be applied to items such as: criticality physics, radiation shielding, stress, thermal, hydraulic, and accident analyses; compatibility of materials; features to facilitate decontamination; and delineation of acceptance criteria for inspections and tests. Design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design. Changes in the conditions specified in the package approval require Commission approval.

All materials, parts, and equipment for CQE structures, systems, and components are procured in accordance with established procedures regardless of commercial or previous approval status. Procedures require an engineering and quality review of all procurement documents for CQE and limited CQE items.

Procedures require that all CQE design changes be processed through the design engineer and that an independent reviewer reviews the changes. All aspects of the process are documented and retained in the master file.

The OPPD QA Program requires that OPPD's manufacturers' and contractors' design activities meet applicable NRC Regulatory Guide requirements for all safety-related activities including Regulatory Guide 1.64, "Quality Assurance Requirements for the Design of Nuclear Power Plants." The OPPD QA Program requires verification that all applicable NRC Regulatory Guide requirements have been incorporated in all activities affecting quality design review, audit, and surveillance of manufacturers and contractors. This will assure that design input (applicable regulatory requirements and design bases as specified in the license application for safety related structures, systems, and components) for Fort Calhoun Station Unit No. 1 are correctly translated into Design Output Documents (specifications, drawings, procedures, and instructions). QA audits will assure that OPPD's manufacturers' or contractors' design control measures provide a clear definition of design interfaces, review and approval of initial design, including changes or revisions, and that those performing design review activities are independent of those originating the design.

The design activities of contractors for safety related structures, systems, or components are required to comply with the design development and control requirements of ANSI N45.2.11. The design activities of manufacturers of packaging for transport of radioactive material are required to comply with the applicable regulatory requirements and the approved package design, as specified in the license.

A.5 PROCUREMENT DOCUMENT CONTROL

Appropriate requirements have been established by the OPPD Quality Assurance Program to assure that procurement documentation is controlled and accurately reflects applicable regulatory requirements, design bases, and other appropriate requirements, such as industry codes and standards. Procurement documents and specifications require that bidders or suppliers submit for review by OPPD written quality assurance programs consistent with the importance and complexity of the materials, equipment, or service procured. Such quality assurance programs shall be consistent with pertinent provisions of Appendix B to 10CFR, Part 50, or Appendix E to 10CFR Part 71, as appropriate. OPPD satisfies these requirements as follows:

(1) Review of procurement documentation for CQE and limited CQE listed materials, equipment, and services will be performed in accordance with established procedures, which require OPPD engineering and QA personnel to review all CQE and limited CQE procurement documents and document their review.

(2) Procurement documents for fire protection and radioactive material packaging materials, equipment, and services will receive the proper review, concurrence, documentation by qualified personnel for adequacy of fire protection and quality requirements. This review will determine that fire protection requirements and quality requirements are correctly stated, inspectable and controllable; that there are adequate acceptance and rejection criteria; and that the procurement document has been properly prepared, reviewed, and approved.

(3) Procurement documents shall be reviewed to assure that the item is materially compatible with the environment in which it will be used and that applicable documentation is specified.

(4) Planned, periodic, and documented audits will be performed by responsible OPPD personnel to provide assurance that the procurement activities of OPPD are being carried out in accordance with approved procedures. These audits will be conducted as described in Section A.19.

Established procedures require that quality data be included in or appended to the Procurement Documents or engineering data attachments, as appropriate. The quality data prescribes as necessary:

(1) Quality requirements including use of procedures or instructions

(2) Requirements for a Supplier Quality Program and documentation

(3) Requirements for documentary evidence of quality to be furnished by the Supplier (e.g., test results, certification that specific requirements have been met, or traceability to the source)

(4) Access requirements for QA surveillance, inspection, and audits at the Supplier's work site

All sealed bid contracts for CQE items specify QA and QC requirements.

The OPPD QA Manual requires that modifications to a Purchase Order or any document forming a part of the order shall be prepared, reviewed, and approved as for new Procurement Documents.

Purchasing procedures assure that procurement documents for spares or replacement parts are subject to controls meeting all requirements of WASH 1283, Revision 1. The procurement process for spares and replacement parts for Fort Calhoun Station Unit No. 1 (FCI), as required by the OPPD QA Manual and further delineated in the purchasing procedures, is more controlled than the original procurement process. The procurement process for FCI occurred from 1967 to 1970; the 10CFR, Part 50, Appendix B, QA requirements were not invoked until 1971.

A.6 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

Appropriate requirements have been established in the OPPD Quality Assurance Program to assure that quality related activities for plant operations are prescribed by documented instructions, procedures, or drawings; be accomplished in accordance with such documents, and are approved only when acceptance criteria are met. The responsibility for the development of the instructions, procedures, or drawings is delegated to the organization responsible for the activity; however, the developed instructions, procedures, and drawings are subject to OPPD QA audit. The Quality Assurance Manual contains the specific requirements pertaining to the instructions, procedures, and drawings associated with activities affecting plant quality.

The QA Department audits measures established to assure that approved changes are promptly included where applicable into instructions, procedures, and drawings associated with the change. The OPPD QA Program assures that changes are reviewed for their effect on present instructions, procedures, and/or drawings.

The OPPD QA Program requires that procedures include a description of the sequence of activities or operation for fabrication, processing, assembly, inspection and test. Instructions shall indicate the operations or processes to be performed, type of characteristics to be measured or observed, the methods of examination, the applicable acceptance criteria and documentation requirements. The QA Program also requires establishment of those inspections, tests, and holdpoints from raw material through fabrication, processing, and assembly, at which time conformance of parts, components, and subsystems to requirements will be verified. Hold points identify those inspection points which will be rendered impossible to inspect by subsequent operations, and must be certified complete before start of the next operation by use of checklists and certifications. Each checklist or certification shall include the date of completion of the operation or test and the signature of the operator or inspector.

The QA Department reviews such documentation to assure that it adequately reflects all applicable quality requirements. In review activities, the QA Department reviewer assures that instructions, procedures, and drawings contain appropriate quantitative (such as dimensions, tolerances, and samples) acceptance criteria for determining that important activities have been satisfactorily accomplished.

Inspections, tests, administrative controls, fire drills, and training that govern the Fire Protection Program will be prescribed by documented instructions, procedures, or drawings and will be accomplished in accordance with these documents. Instructions and procedures for design, installation, inspection, test, maintenance, modification and administrative controls will be reviewed in accordance with the established procedures to assure the proper inclusion of fire protection requirements.

Through its auditing procedures, as described in Section A.19, OPPD will determine that quality activities are accomplished in accordance with those approved instructions, procedures, and drawings.

A.7 DOCUMENT CONTROL

OPPD has established requirements to assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel. These requirements provide that contractors include, in their internal programs, measures to assure that changes to documents will be reviewed and approved by the same organization that performed the original review and approval. OPPD will verify implementation of these requirements through audits. The OPPD QA Program requires that changes to documents that have been reviewed and approved by OPPD organizations will be reviewed and approved by the same OPPD organizations that performed the original review and approval. These requirements also provide that the documents are distributed to and used at the location where the prescribed activity is performed. The scope of these requirements apply to OPPD as well as to contractors and subcontractors.

OPPD employs within its own internal organization a control system that utilizes numbering of documents requiring control, predetermined distribution lists, and review and approval procedures. Controlled documents associated with Fort Calhoun Station Unit No. 1 have been controlled by document change transmittal letters instructing the recipient to remove and destroy obsolete or superseded pages. OPPD requires:

(1) maintenance of a distribution list

(2) use of receipt acknowledgements which indicate that superseded pages/documents are destroyed or marked as superseded.

The Quality Assurance Program requires that design engineering and procurement documentation, except for fire protection equipment, which consists of specifications, drawings, USAR material, instruction, procedures, reports, and changes thereto, and manufacturing and construction documents and records required for traceability, evidence of quality, and substantiation of the as-built configuration, be controlled.

Instructions, procedures, specifications, drawings, and procurement documents are controlled in accordance with the QA Manual and established division/department procedures.

A "Table of Contents" or "Index" system is used by OPPD departments to identify the current revision number of instructions, procedures, and procurement documents. The controlled copies are distributed to predetermined, responsible personnel, and a distribution list is maintained. Superseded documents are returned to the originator or destroyed as directed in the transmittal letter.

Since Fort Calhoun Station Unit No. 1 was constructed prior to present requirements, the file of specifications and drawings is not complete. OPPD has a continuing program of updating its specifications and drawings files. A master index is in preparation and is controlled by GSE.

The QA Manual identifies those individuals or groups responsible for reviewing, approving, and issuing documents and revisions thereto. Where deemed necessary, OPPD will require that periodic document summary lists be submitted by an organization to verify the use of the proper document or change.

A.8 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

Measures utilized by OPPD to control purchased material, equipment, and services for an operating plant consist of individual committee reviews, audits, and inspections. These measures are described in the OPPD Quality Assurance Manual and the established procurement procedures.

Potential manufacturers or contractors who are to be considered by OPPD or its prime contractors for the supply of items will normally be evaluated in advance of their use as a District vendor. OPPD's evaluation of potential vendors is performed by QA in accordance with established procedures. The evaluation involves the review of available historical data on manufacturers' or contractors' performance and capability; review of their quality assurance programs; or results of previous shop surveys and audits. Quality assurance program descriptions are required to be submitted with bids for CQE listed items. The manufacturer or contractor selected to supply the material, equipment, or services will be approved by the Manager - QA or designated QA Department personnel. If required, a pre-award survey at the supplier's facility will be conducted before award of contract.

Documented, objective evidence such as certifications, chemical and physical analyses, inspection reports, test results, personnel and process qualification results, code stampings and nondestructive test reports are required to be evaluated by OPPD and suppliers or contractors. This verification will assure conformance to design requirements, drawings, specifications, codes, standards, regulatory requirements and other applicable criteria. These documents become a part of the quality verification records to be retained as a QA record in accordance with Section A.18.

Source inspection, when deemed necessary, is required by the applicable procurement document. The purchasing organization shall require that holdpoints be determined as necessary for this activity. Manufacturers are required to give sufficient notice of approaching holdpoints to allow scheduling of personnel.

Both in-process and final source inspections cover review of the quality verification documentation. An inspection document is used to establish the inspection sequence and for recording inspection results. This document also becomes part of the quality verification records. Provision is made for reporting deviations and nonconformances, if any; for recommending disposition and corrective action; for reinspection, if required; and for release for shipment, if appropriate. OPPD or its contractor may elect to participate in selected source inspections.

The OPPD QA Program requires that procurement documents specify that manufacturers or contractors provide the quality verification documentation at the plant prior to the scheduled time of installation or use of the subject material and equipment. During the review and approval of procurement documents, OPPD will check to assure that the above requirement is included. Audits will assure that the Contractor is implementing a records management system. Installation or use of delivered components will not occur until receipt of objective evidence of the quality verification package.

Receiving inspection of purchased products will be accomplished in accordance with established procedures. These procedures require that shipments delivered to the station be checked for shipping damage, agreement of actual count with the purchase order and packing slip, and agreement of the individual item identification with the purchase order and packing slip.

Limited CQE items are verified upon receipt that the item received is actually the item that was ordered.

Procedures require that one or more receiving inspection packets be prepared by the QA Department for each purchase order requiring delivery of material to the Station. A receiving inspection packet includes a preprinted packet cover, a copy of the purchase order or Requisition on Purchasing, a material inspection packet, and a document retention checklist. Special instructions may be included in the packet for complex inspection requirements and tests to be performed at the plant or the supplier's work site as determined from the purchase order. Drawings and/or specification documents are included as appropriate. The inspector(s) perform(s) the receiving inspection in accordance with the above instructions and/or specifications.

The QA Program requires that all inspection records or certificates of conformance attesting to the quality of materials and equipment be submitted to the District for permanent retention. All such records shall be available for review during shop audits and shall be forwarded prior to or concurrent with material or equipment shipments to which they are related. In addition, prior to acceptance of all material, the QA Department shall be notified to verify that necessary documentation has been received. The documentation is maintained within the "Receiving Inspection Packet."

Products intended for use as Critical Quality Elements/limited CQE are inspected upon receipt in accordance with established procedures, which require a "Rejected Material" tag to be affixed to rejected material, and the material segregated in the receiving area to prevent inadvertent use. Accepted material is identified, and there are records traceable to the material indicating acceptance. Furthermore, materials classified as Critical Quality Elements/limited CQE are controlled in accordance with ANSI N45.2.2 and 10 CFR 50, Appendix B.

A.9 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

Appropriate requirements have been established by the OPPD Quality Assurance Program to assure continuous and accurate identification and control of materials, parts, and components so that the use of incorrect or defective material, parts, or components is prevented.

Material received at the Storeroom for use as Critical Quality Elements/limited CQE or as packaging for radioactive material for transport are identified to prevent the use of incorrect or defective material. The identification of the item is maintained by an appropriate code, letter, or number so that the identity of the material is maintained. Items shipped to the plant are normally identified by nameplate or other identification marking on the item. In those instances when it is not practical to provide identification markings on the individual items, identification information will be provided in shipping paperwork that is transmitted with each shipment.

Materials classified as Critical Quality Elements/limited CQE are controlled in accordance with ANSI N45.2.2 and 10 CFR 50, Appendix B.

The traceability of materials is assured through the use of established procedures. The receiving inspection packet contains all of the documentation needed for the traceability of the item. Those documents which are not included are referenced as to their location. The method of identification to be applied to purchased materials is specified as part of the purchase document. Codes and standards referenced in the purchase document have incorporated the appropriate marking method, such that the fit, function, or quality of the item is not affected.

The correct identification of materials is verified and documented prior to release.

Contractors are required to utilize procedures which establish and document a system or method of identifying the material (e.g., physical marking, tagging, labeling, color code). This system shall clearly indicate whether materials are acceptable or unacceptable for further use, as required by the quality program. Material traceability is provided as specifically required by applicable codes; otherwise, material identification, either on the item or on records traceable to the item, will be used, as appropriate. Where identification marking of an item is employed, the marking will be clear, understandable, and legible, and applied in such a manner as not to affect the function of the item. The identification and control measures provide for relating the item of production (batch, lot, components, part) at any stage, from materials receipt through fabrication, shipment, and installation to an applicable drawing, specification, or other technical document.

OPPD requires its suppliers to establish and implement a program for inspecting, marking, identifying and documenting material prior to use or storage. This program must be documented.

Holdpoints are required where inspections must be made and certified complete before start of the next operation. Inspection of materials include the following:

(1) Verification that identification and markings are in accordance with applicable codes, standards, specifications, drawings, and purchase orders.

(2) Visual examination of materials and components for physical damage or contamination.

(3) Examination of quality verification records to assure that the material received was manufactured, tested and inspected prior to shipment in accordance with applicable requirements.

(4) Actual inspection, as required, of workmanship, configuration and other characteristics.

These inspections shall be documented by reports and controlled. OPPD performs surveillance of vendor facilities as necessary to assure implementation of the program.

OPPD requires that contractors establish specific measures to assure compliance with approved procedures for identification and control of materials, parts, and components, including coatings and partially fabricated assemblies. OPPD will verify conformance by one or more of the following methods:

(1) Review and approval of contractors' quality assurance programs, including procedures.

(2) Surveillance of selected manufacturing, fabrication, construction and installation activities by quality assurance personnel.

(3) Auditing:

(a) of contractors for satisfactory performance of committed quality actions; and

(b) of District activities for adherence to quality requirements.

A.10 CONTROL OF SPECIAL PROCESSES

OPPD requires for safety-related activities that written procedures and controls be prepared to assure that special processes, including welding, heat treating, special coating applications, and nondestructive testing are accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements. These procedures shall describe the operations to be performed, the sequence of operations, the characteristics involved (e.g.. flow temperature, fitup, finish, hardness, and dimensions), the limits of these characteristics, process controls, measuring and testing equipment to be utilized, and documentation requirements.

Examination, tests, and inspections shall be conducted to verify conformance to the specified requirements.

Written procedures are required to cover training, examination, qualification, certification, and verification of personnel as well as the maintenance of all required personnel records.

Compliance with these procedures is required for plant maintenance personnel, contractors, and vendors. Procedures for control of special processes are subject to review and approval by OPPD on an individual basis.

OPPD assures conformance with these requirements by:

(1) Review of procedures by Plant QC personnel and the QA Department for inclusion of special processes requiring control; definition of requirements for training, qualification and certification; conformance to applicable codes, standards, drawings, specifications, or other criteria.

(2) Audits to verify the adequacy of selected plant and vendor shop activities and the effectiveness of the special process procedures being implemented.

A.11 INSPECTION

OPPD will establish with its personnel and contractors a division of responsibility which will determine the services, structures, systems, components, and materials for which each is responsible. The organization having the responsibility for maintenance or repair of such items shall also have the primary responsibility to assure that adequate inspection is accomplished. OPPD QA, however, retains the responsibility and authority for review, approval, and surveillance or audit of the inspection procedures utilized by plant maintenance personnel or contractors.

OPPD QA or maintenance QC personnel will be responsible for the inspection of all work performed by OPPD maintenance personnel on nuclear safety related structures, systems, or components, and on radioactive material packaging. Fort Calhoun Quality Control personnel or other personnel who are independent of the individuals performing the activity being inspected and who are qualified in the design and installation requirements for fire protection will inspect activities affecting fire protection to verify conformance with documented installation drawings and test procedures for accomplishing the activities.

The review and approval of a contractor's inspection program and procedures will be accomplished as an integral part of OPPD's review of the organization's Quality Assurance/Quality Control programs. The QA Department will use the following criteria in evaluating inspection methods proposed by plant QC personnel or organizations under contract to OPPD:

(1) Inspection procedures for functional groups such as procurement, project engineering, construction, and shop inspectors, must be described including measures to identify inspection and test status.

(2) Duties and responsibilities of personnel performing quality activities must be clearly established.

(3) Qualifications of personnel performing quality activities must be commensurate with their duties and responsibilities.

(4) Documentation methods for inspection activities of each group must be established (e.g., inspection forms, reports).

(5) Documentation control systems for identification and distributing inspection documents must be defined.

(6) Review and approval procedures for inspection documentation must be provided.

(7) Surveillance methods must be established to assure proper implementation of inspection procedures.

(8) Planning of inspection sequence activities by plant maintenance personnel or the contractors shall include the type of characteristics to be measured, the methods of examination, and the criteria. OPPD will approve inspection holdpoints in the sequence.

The Manager - Fort Calhoun Station shall assure that the periodic inspections made by his staff members include:

(1) Periodic inspections of fire protection systems, breathing equipment, emergency lighting, and communication equipment to assure the acceptable conditions of these items.

(2) Periodic inspections of materials subject to degradation such as fire stops, seals, and fire retardant coatings to assure that such items have not been damaged or deteriorated.

Inspection planning shall be utilized to assure conformance to procedures, drawings, specifications, codes, standards, and other documented instructions. Inspections shall not be performed by those individuals who performed the activity being inspected. Sufficient inspections shall be conducted to verify conformance particularly in areas rendered inaccessible by further processing. Process monitoring may be utilized in lieu of inspection in those cases where inspection is impossible, disadvantageous, or destructive. When required for adequate control, a combination of inspection and process monitoring shall be employed. Hold points shall verify (by review of inspection reports, visits to supplier shops, and plant surveillance) that inspections are being performed and documented by personnel in conformance with approved procedures.

The provisions which assure inspection are performed with the necessary drawings and specifications are covered in established procedures.

Modifications are inspected in accordance with established procedures. A plan for inspection and monitoring is developed and incorporated in planning documents of work segments, including designation of mandatory holdpoints. The inspection and monitoring plan is designed to verify conformance of work and products with the Planning Documents, applicable Design Documents, and specific quality standards and requirements. The plan provides for inspection and monitoring during critical stages in the progression of work and for inspection at the conclusion of each work segment.

Repairs and replacements are inspected in process or during receiving inspection in accordance with established procedures. Any holdpoints for inspection or witnessing is specified under the QA or QC Requirements section of the maintenance order.

OPPD inspectors are qualified and maintain their qualification by participation in the training and indoctrination delineated in Section A.3.4. OPPD QA, QC, and maintenance personnel performing nondestructive examination are trained and qualified in accordance with established procedures. Consultant and Contractor inspectors performing inspection duties for OPPD are required to provide documentary evidence that they are qualified and that the certifications are current in accordance with ANSI N45.2.6.

A.12 TEST CONTROL

The OPPD Quality Assurance Program requires that plant personnel, contractors, and suppliers designate appropriate tests to be performed at specific stages of manufacturing, fabrication, construction, and operation. Conduct of tests will be governed by written procedures which will incorporate requirements and acceptance limits to assure that the structures, systems, and components tested will perform satisfactorily in service. Tests will be conducted in accordance with these procedures and will be properly documented. Written test procedures for radioactive material packaging shall incorporate the requirements and acceptance limits contained in the package approval.

OPPD shall assure that all necessary tests are conducted by contractors performing maintenance or repair service for an operating plant. Such testing will be performed in accordance with quality assurance and engineering test limits contained in applicable design documents. Test requirements and acceptance criteria are provided by the organization responsible for the specification of the item under test, unless otherwise designated. The entire test program will cover all required testing including, as appropriate, performance testing of production equipment, calibration testing of instruments, hydrostatic testing of pressure boundary components and surveillance testing.

Measures are established which assure that modifications, repairs, and replacements are tested in accordance with the original design and testing requirements or acceptance alternatives. Documentation of tests conducted is included in the completed design package, with the completed maintenance order by special procedure, or included in the receiving inspection packet.

Following construction, modification, repair or replacement, sufficient testing will be performed to demonstrate that fire protection systems, emergency lighting and communication equipment will perform satisfactorily in service and that design criteria are met. Written test procedures for installation tests will be prepared by the responsible engineering group and will incorporate the requirements and acceptance limits contained in applicable design documents.

All test procedures are evaluated for the following criteria and will include them where applicable:

(1) Requirements that prerequisites for the test have been met. Test prerequisites may include, but are not limited to, the following:

   (a) calibrated instrumentation

   (b) adequate and appropriate equipment

   (c) trained, qualified and, as appropriate, licensed or certified personnel

   (d) preparation, condition, and completeness of item to be tested

(e) suitable and, if required. controlled environmental conditions

(f) mandatory inspection holdpoints, where applicable, for witness by OPPD, contractor, or authorized inspector

(g) provisions for data collection and storage

(h) acceptance and rejection criteria

(i) methods of documenting or recording test data results

(2) Designation of specific test methods to adequately assess appropriate parameters.

(3) Designation of measuring and test equipment to be used.

(4) Specific environmental considerations.

(5) Measures to prevent damage to the item or system under test.

(6) Safety considerations.

(7) Documentation requirements.

Test results shall be evaluated to verify as applicable:

(1) Proper functioning of the system, structure, or component.

(2) Conformance to design specifications.

(3) Compliance with stated test requirements.

(4) That test results are within allowable limits.

(5) That recording and documentation is complete and accurate.

Audits by OPPD QA, vendor surveillance, and witness of specific tests will serve to assure the functional adequacy of, and verify compliance with, the testing program.

A.13 CONTROL OF MEASURING AND TEST EQUIPMENT

The OPPD Quality Assurance Program requires that organizations performing quality activities involving measuring and test equipment have written procedures to govern these actions. OPPD requires that the standards used for calibration and accuracy verification of measuring and test equipment be traceable to the U. S. Bureau of Standards or other appropriate sources. In addition, only properly calibrated measuring and test equipment shall be used. A calibration frequency and method system shall be established to which the tools, instruments, gauges, and other devices shall conform. Records of calibrations shall be maintained and the calibration equipment appropriately

marked to indicate the date and acceptance of the calibration. Calibration activities being performed by OPPD personnel are in accordance with Standing Orders. If a standards error exceeds the guaranteed accuracy, then the standard shall be replaced. Calibration standards, when not limited by the "state-of-the-art," will have an uncertainty (error) requirement of no more than 1/10th of the uncertainty of the equipment being calibrated.

When inspection and testing equipment is found to be out of calibration due to use or damage, or when out of limits at recalibration, all items inspected, tested, or measured with that equipment since the latest valid calibration shall be considered as being potentially unacceptable. Resolution of these cases shall be determined on a case basis by treating them as a nonconformance.

A.14 HANDLING, STORAGE, AND SHIPPING

OPPD's QA Program requires that instructions or guidance for plant handling, preservation, storage, and control of products are prepared and approved prior to arrival of the products at the plant. These procedures will specify, as required, that special environmental facilities, such as inert gas, humidity control, or temperature controlled storage area are established prior to the receipt of the products. Contractors performing maintenance or repair services for an operating plant shall provide procedures for the handling of products to prevent damage or deterioration. The procedures will be reviewed and approved by OPPD.

To assure existence of the requirements for procedures in the procurement documents, OPPD QA will verify the inclusion during its review prior to authorization for document issuance. OPPD personnel shall procure, receive, store and handle COE and radioactive material packaging products, material, and components in accordance with established procedures.

A.15 INSPECTION, TEST, AND OPERATING STATUS

OPPD's QA Program requires that procedures be established to identify the inspection, test, and operating status of radioactive material packaging and safety related structures, systems, and components. Identification of the inspection, test, and operating status of structures, systems, and components is provided in the Surveillance Test Program. Schedules and methods for periodic testing of fire protection systems and components will be developed and documented by the Manager - Fort Calhoun Station. Fire protection equipment, emergency lighting, and communication equipment will be tested periodically to assure that the equipment will properly function and continue to meet the design criteria. Test results will be documented, evaluated and reviewed for acceptability.

The application and removal of inspection and welding stamps and status indicators are procedurally controlled, and nonconforming, inoperative, or malfunctioning structures, systems, or components are identified in accordance with established procedures.

There is no provision for formally bypassing required inspections, tests, and other critical operations at the operating plant. System completeness and acceptance at the end of a maintenance or repair phase are determined by:

(1) reviewing for adequacy, completeness, and conformance to quality assurance requirements for each system or component being accepted;

(2) performing surveillance and monitoring of the test activities associated with the approved test program;

(3) reviewing the test records to verify that test results comply with established requirements.

The suppliers' and contractors' inspection and test status of items are required to be maintained through the use of status indicators such as physical location, tags, markings, shop travelers, stamps, or inspection records. These measures provide for assuring that only items that have received the required inspections and tests are used in manufacturing and are released for shipment. The procedures for control of status indicators, including the authority for application and removal of tags, markings, labels or stamps will be documented in approved manufacturing or quality assurance procedures.

A.16 NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

The OPPD Quality Assurance Program requires that measures be taken and documented to control the identification, documentation, segregation, and disposition of nonconforming material, parts, or components. The implementing instructions which fulfill these requirements are prescribed in established procedures. The QA Manual identifies those individuals or groups delegated the responsibility and authority for the disposition and approval of nonconforming items. Nonconforming items are controlled and identified in accordance with written procedures to prevent inadvertent use or installation. Control measures include tagging or marking and segregation when feasible. Nonconforming products are maintained in quarantine whenever possible. Control measures are maintained until the item has been removed from the plant site or corrective work has been completed and accepted.

Established procedures cover:

(1) Initiation of the documentation for material rejected at receiving inspection or in-plant activities including the tagging of nonconforming items. A nonconformance report identifies the nonconforming item and describes the nonconformance.

(2) Assignment of disposition and/or corrective action responsibilities, including the inspection requirements and signature approval of the disposition.

(3) Control of correction work planning and acceptance.

Nonconformance reports are analyzed during audits of the nonconformity control system to detect adverse quality trends. These reports go to management for review and assessment.

The OPPD Quality Assurance Program requires that measures be taken and documented by contractors and suppliers to control the identification, documentation, segregation, and disposition of nonconforming material, parts, or components. These measures will prevent inadvertent use or installation of defective components and are subject to review and approval by OPPD. Written procedures will be required for investigation of the nonconforming item, decisions on its disposition, and preparation of adequate reports. Procedures will also control further processing, fabrication, delivery, or installation of items for which disposition is pending. All reports documenting actions taken on nonconforming items will be made available to OPPD for evaluation. Departures from design specifications and drawing requirements that are dispositioned "use as-is" and "repair" will formally be reported to affected organizations and OPPD management.

The effectiveness of nonconformance control procedures will be assured by:

(1) Contractor quality assurance and manufacturing, fabrication, or construction personnel being involved in processing nonconforming reports.

(2) OPPD participation in dispositions and approvals.

(3) Document review at final inspection or shipping release and at receiving inspection by OPPD.

(4) Surveillance by OPPD and contractor personnel.

(5) Audits.

A.17 CORRECTIVE ACTION

OPPD requires measures for an operating nuclear power plant to assure that conditions adverse to quality are promptly identified, reported, and corrected. Responsibility for performing corrective action will be assigned to OPPD personnel and all contractors and suppliers so that each will be alert to those conditions adverse to quality within his own area of responsibility. In the case of significant conditions adverse to quality, measures shall be taken to assure that the cause of the condition is determined and corrective action is implemented to preclude repetition. Corrective action procedures will require thorough investigation and documentation of significant conditions adverse to quality. The cause and corrective action will be reported in writing to the appropriate levels of management. The corrective action to be applied will be subject to review and approval by OPPD QA. Corrective action followup and closeout procedures will provide that corrective action commitments are implemented in a systematic and timely manner and are effective.

The effectiveness of the suppliers' or contractors' corrective action program will be assessed during audits by the supplier, the contractor, and by OPPD. Stop work authority shall be exercised as required.

A.18 QUALITY ASSURANCE RECORDS

OPPD's Quality Assurance Program requires that OPPD and its contractors have a quality records system which will provide documentary evidence of the performance of activities affecting quality. The requirements include that:

(1) Records are to be maintained that show evidence of performance of activities affecting quality. Typical records to be maintained include quality assurance programs and plans, design data and studies, design review reports, specification procurement documents, procedures, inspection and test reports, material certifications, personnel certifications, test reports, audit reports, reports of nonconformances and corrective actions, as-built drawings, operating logs, calibration history, maintenance data, and failure and incident reports.

(2) Inspection and test records, as a minimum, will identify the date of the inspection or test, the inspector or data recorder, the type of observation, the results, the acceptability, and the action taken in connection with any nonconformances noted.

(3) Records shall be protected against deterioration and damage.

(4) Criteria shall be established for determining the classification of the record as well as the length of the retention period.

(5) A method of identification and indexing of records for ease of retrievability shall be established.

(6) Responsibility for recordkeeping during design, fabrication, construction, preoperational testing, and commercial operation shall be documented.

(7) Method of transfer of records between organizations and ultimate transfer to OPPD shall be established.

Requirements and responsibilities for the handling, storage, and retention of records which furnish documentary evidence of quality are prescribed by established procedures. The records are accumulated and handled in a controlled manner in accordance with these procedures.

A.19 AUDITS

The OPPD QA Program requires that planned and periodic audits be performed to verify compliance with all aspects of the Quality Assurance Program and to determine the effectiveness of the program. The OPPD QA department performs such audits on OPPD internal activities, contractors, suppliers, and others as necessary to provide an objective evaluation of the effectiveness of their programs; to determine that their programs are in compliance with established requirements, methods, and procedures; and to verify implementation of recommended corrective action.

The internal audit cycle for activities affecting safety and the Fire Protection Program is promulgated in established procedures and is based on the safety importance of the activities being performed. An audit schedule is distributed and updated quarterly to ensure coverage of status changes. If, in the opinion of the Manager - Quality Assurance, a given area requires added emphasis, the frequency of audits is increased until the situation is clarified.

The OPPD audits, both internal and external, will be conducted in accordance with the established procedures. Consultants may be utilized by OPPD on audits as required. OPPD specifies that the auditing system used by OPPD, its contractors, and suppliers:

(1) utilizes an audit planning document which defines the organizations and activities to be audited and the frequency of audits;

(2) requires auditors to be familiar with the type of activities to be audited and have no direct responsibilities in the type of activities to be audited;

(3) provides auditing checklists or other objective guidelines to identify those activities which affect quality;

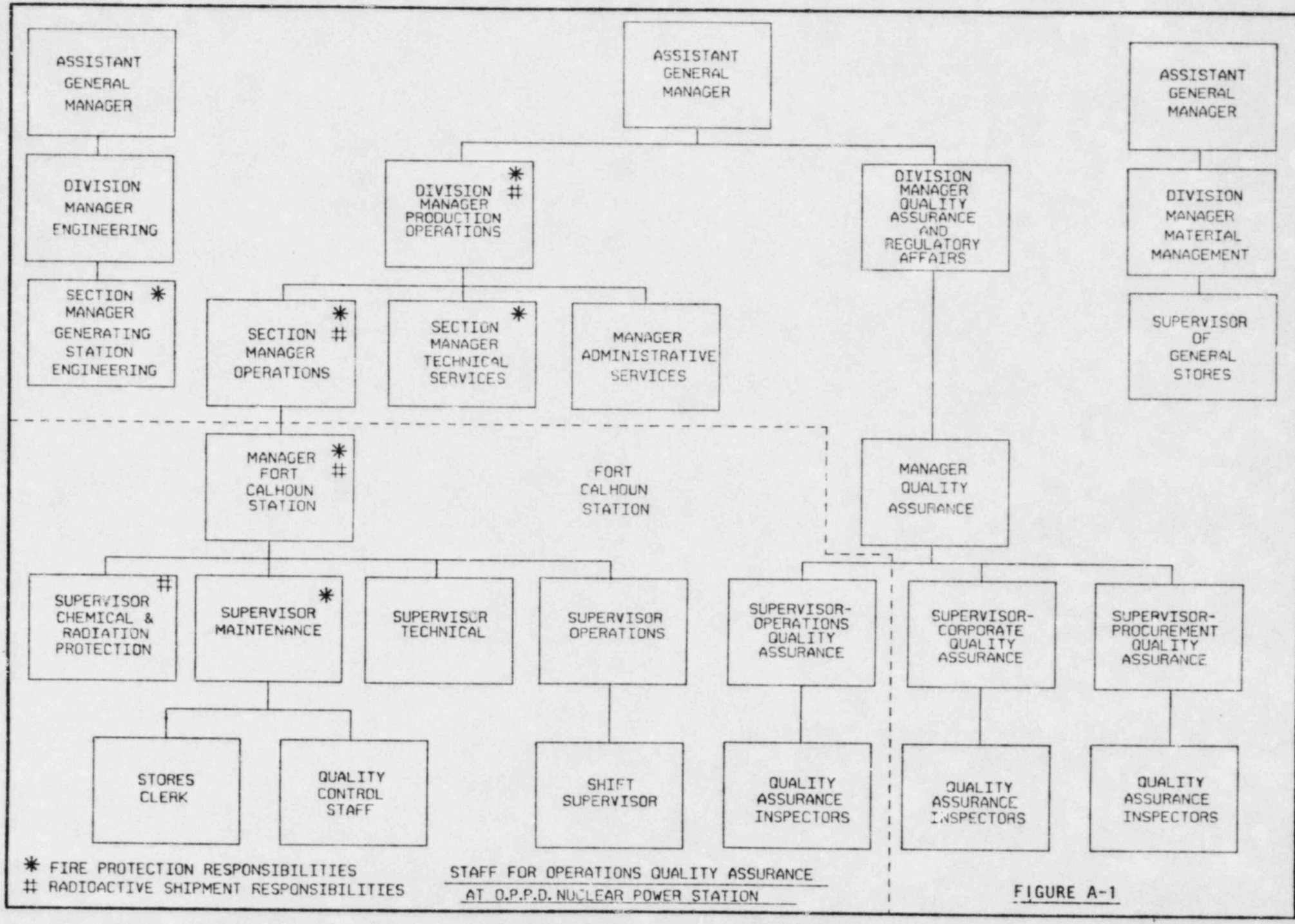
(4) requires examination of the essential characteristics of the quality activity examined;

(5) requires an audit report to be prepared and that it notes the extent of examination and deficiencies found.

Established procedures provide the means which assure that audits are performed in a thorough and professional manner. OPPD audits determine the existence of a system and the deficiencies of that system, and the actual practice of the system. Audit checklists are used to ensure that audits include the objective evaluation of work areas, activities, processes and items and the review of documents and records.

Established procedures require that upon completion of each audit, a formal report shall be prepared following the guidance of ANSI N45.2.12. The audit report shall contain any deficiencies or nonconformmances found during the audit, and recommended actions to be taken.

A quarterly report of deficiencies that have occurred, including the status of all resolved deficiency reports, is prepared and distributed by the Manager - QA. This report is routed to the management of OPPD organizations participating in the QA program. The Manager - Quality Assurance maintains a consolidated status summary of all deficiencies.



* FIRE PROTECTION RESPONSIBILITIES
\# RADIOACTIVE SHIPMENT RESPONSIBILITIES

STAFF FOR OPERATIONS QUALITY ASSURANCE
AT O.P.P.D. NUCLEAR POWER STATION

FIGURE A-1