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<b>FROM:</b> Duke Power Company Charlotte, N. C. 28201 A. C. Thies		<b>DATE OF DOC:</b> 4-27-73	<b>DATE REC'D</b> 4-30-73	<b>LTR</b> x	<b>MEMO</b>	<b>RPT</b>	<b>OTHER</b>
<b>TO:</b> R. C. DeYoung		<b>ORIG</b> 1	<b>CC</b>	<b>OTHER</b>	<b>SENT AEC PDR</b> x <b>SENT LOCAL PDR</b> x		
<b>CLASS:</b> <u>U</u> PROP INFO		<b>INPUT</b>	<b>NO CYS REC'D</b> 1	<b>DOCKET NO:</b> 50-269			
<b>DESCRIPTION:</b> Ltr re our 3-27-73 ltr....trans the following:  <b>ACKNOWLEDGED</b> <b>DO NOT REMOVE</b>				<b>ENCLOSURES:</b>  Oconee Nuclear Station Operational Quality Assurance Program  (1 cy rec'd)			
<b>PLANT NAMES:</b> Oconee							

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DUKE POWER COMPANY

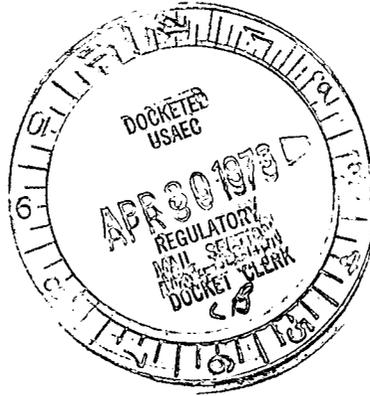
POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES  
SENIOR VICE PRESIDENT  
PRODUCTION AND TRANSMISSION

P. O. Box 2178

April 27, 1973



Mr. R. C. DeYoung  
Assistant Director for  
Pressurized Water Reactors  
Directorate of Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Re: Oconee Unit 1  
Docket No. 50-269

Dear Mr. DeYoung:

In response to your letter of March 27, 1973, please find attached for your review a description of the Oconee Nuclear Station Operational Quality Assurance Program.

Very truly yours,

*William A. Parker*  
for  
A. C. Thies

ACT:jv  
Enclosure

2814

DUKE POWER COMPANY  
OCONEE NUCLEAR STATION

OPERATIONAL QUALITY ASSURANCE PROGRAM

INTRODUCTION

The operational quality assurance program for Oconee Nuclear Station has been compared with the guidelines expressed in Safety Guide 33, "Quality Assurance Program Requirements (Operation)," dated November 3, 1972. It has been determined that the content of this program is in agreement with those guidelines as expressed in Safety Guide 33. A description of the operational quality assurance program for Oconee Nuclear Station is given below and is written using Revision 1 of "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants" as a guide.

I. ORGANIZATION

The organizational structure for Oconee Nuclear Station operational quality assurance is shown diagrammatically in Figures 1, 2 and 3.

The Executive Vice President and General Manager has overall responsibility for planning, design, construction and operation of Duke Power Company's generation and transmission facilities. Reporting to the Executive Vice President and General Manager is the Senior Vice President, Production and Transmission, who is responsible for directing the operation of the company's generation and transmission facilities. The Executive Vice President and General Manager has appointed a Nuclear Safety Review Committee to serve as an independent nuclear safety review and audit backup to the normal operating organization.

Operational quality assurance for Oconee Nuclear Station is the direct line responsibility of the Steam Production Department, directed by the Assistant Vice President, Steam Production. At the departmental level the Steam Production Department Quality Assurance Staff has the responsibility for administering the operational quality assurance program.

The Station Superintendent has the responsibility for directing station operation and administration, and has the final responsibility for assuring that the station complies with all applicable requirements of the operational quality assurance program. The Station Superintendent is assisted in administering and implementing this program by the general station staff, the station Quality Assurance Staff and the Station Review Committee.

The responsibilities of the various individuals and organizations concerned with Oconee Nuclear Station operational quality assurance are clearly delineated in written charters, in the station's Technical Specifications, in the Steam Production Department "Administrative Policy Manual for Operational Quality Assurance of Nuclear Stations" and/or in documents issued by the Station Superintendent. Each of these individuals and organizations has the authority necessary to adequately discharge their responsibilities. Those individuals and organizations which are responsible for checking, auditing,

inspecting or otherwise verifying that an activity has been correctly performed are independent of the individual or organization directly responsible for performing that specific activity.

## II. QUALITY ASSURANCE PROGRAM

The fundamental administrative policies for the conduct of operations at Duke Power Company nuclear stations are defined in the "Administrative Policy Manual for Operational Quality Assurance of Nuclear Stations." The purposes of these policies are:

- (a) To assure that operations are conducted in such a manner as to not endanger the health and safety of the public.
- (b) To assure that operations are conducted in such a manner as to comply with all license and regulatory requirements.
- (c) To assure that operations are conducted in such a manner that the station is capable of fulfilling its intended function.
- (d) To assure that operations at all nuclear stations are conducted in a consistent manner in order that management may achieve proper and efficient quality assurance.

This document forms the basis of the Steam Production Department's operational quality assurance program for Oconee Nuclear Station. Supplementing this manual are the Nuclear Safety Review Committee's written charter, the station's Technical Specifications and various, additional, written policies, procedures and instructions developed at the station.

External to the Steam Production Department, the Design Engineering Department furnishes design engineering and review and vendor qualification services, and Mill-Power Supply Company (a Duke Power Company subsidiary) provides purchasing services which interface with the operational quality assurance program. These organizations have established, functioning quality assurance programs which address their specific responsibilities.

Personnel are presently in the process of specifying those structures, systems and components which are considered safety-related and must be addressed by the operational quality assurance program. This development should be completed no later than December 31, 1973.

The objectives and methods of the operational quality assurance program for Oconee Nuclear Station are in agreement with the requirements of Title 10, Code of Federal Regulations, Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants."

## III. DESIGN CONTROL

The operational quality assurance program for Oconee Nuclear Station requires that a request for a design change to a station safety-related structure,

system or component be submitted to the Station Review Committee for review and evaluation. If the proposed modification is approved by the Station Review Committee, it is subsequently forwarded to the Station Superintendent for his review. If the Station Superintendent approves the proposed modification and determines that the modification might affect the proper functioning of the structures, systems or components involved; might involve a change in the station's Technical Specifications; might involve an unreviewed safety question; might require further design review or might otherwise violate license or regulatory requirements the request for the modification is forwarded to the Assistant Vice President, Steam Production, and to the Nuclear Safety Review Committee. The Assistant Vice President, Steam Production, assures that the necessary design reviews and safety analyses are performed.

It is specifically required that modifications be approved by the organization which was responsible for the original design, or another comparably qualified organization designated to perform such a function. Modifications must be executed in accordance with approved checklists, instructions, procedures, etc., appropriate to the nature of the work to be performed.

#### IV. PROCUREMENT DOCUMENT CONTROL

The originator of a purchase requisition is responsible for entering the appropriate procurement information on the requisition, e.g., item description, quality and documentation required, suggested vendor, references to applicable license or regulatory requirements and design bases, etc. Purchase requisitions must be identifiably designated as being quality assurance related and are approved by the Station Superintendent. Copies of approved purchase requisitions are retained.

#### V. INSTRUCTIONS, PROCEDURES, AND DRAWINGS

The basic, written instructions and procedures for activities affecting quality are prescribed by the operational quality assurance program as discussed in Item II above. This program includes certain additional written instructions and procedures that are to be utilized for the execution of specific activities affecting safety-related structures, systems and components. The operational quality assurance program also provides appropriate criteria for determining that the required activities have been satisfactorily accomplished.

#### VI. DOCUMENT CONTROL

The operational quality assurance program establishes criteria and methods for the control of document routing and distribution, in order to assure that documents necessary for proper operational quality assurance are available. Distribution indices are established and utilized for various, appropriate items such as drawings and vendor documents. Master files are required in order to assure that necessary documents are properly retained. Procedures generated at the station, and changes thereto, are subject to

an established, well-defined review and approval process. Copies of procedures and drawings used within the station are verified against the applicable master copies at specified intervals or under specified conditions.

#### VII. CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

The Design Engineering Department is responsible for the initial evaluation and periodic auditing of vendors, in order to verify the adequacy of the quality assurance program of each vendor. Mill-Power Supply Company is responsible for procuring goods and services in accordance with an approved station purchase requisition. Upon receipt at the station, materials, parts and components are placed in a controlled, designated area and a receipt inspection is conducted to verify conformance with the applicable specifications and requirements. Such inspections and subsequent conformance, or nonconformance, are documented by means of reports, which are retained on file, and tags, which are attached to the items.

#### VIII. IDENTIFICATION AND CONTROL OF MATERIALS, PARTS AND COMPONENTS

Following receipt inspection, materials, parts and components which are determined to be acceptable are tagged as being such and are assigned an identifying designation (such as a serial number) in order to provide quality assurance traceability of each item. Items are stored and issued in such a manner as to provide quality assurance traceability and inventory accountability for each item. Nonconforming materials, parts and components are tagged as being unacceptable, are not assigned identifying designations, such as those given to acceptable items, and are stored such that they are segregated from conforming items in order to preclude their inadvertent substitution for and use as conforming materials, parts and components.

#### IX. CONTROL OF SPECIAL PROCESSES

The operational quality assurance program addresses the control of welding, heat treating and non-destructive examination. The program requires that approved, written procedures, qualified in accordance with applicable codes and standards, be utilized when the performance of these processes affects the proper functioning of the station's safety-related structures, systems and components. In addition, personnel performing such activities must be certified in accordance with applicable codes and standards. Documentation of the performance of these processes, and of the qualifications of the personnel involved, must be retained.

#### X. INSPECTION

In order to assure the safety and reliability of the station, the operational quality assurance program requires a program of inspections for safety-related structures, systems and components to accomplish the following:

- (a) Observe for signs of wear, deterioration or loss of efficiency.
- (b) Verify compliance with cleanliness requirements.
- (c) Verify compliance with certain station procedures for operation and maintenance.

Personnel performing a given inspection are responsible to the Station Superintendent for inspections performed under their cognizance, and are to be independent of the individuals performing the activity being inspected. Inspections are documented in such a manner as to allow identification of the individual performing the inspection, the date the inspection was performed, the type and purpose of the inspection, and the results of the inspection.

#### XI. TEST CONTROL

The operational quality assurance program addresses both preoperational and periodic testing. The program requires that safety-related testing be accomplished in accordance with approved, written procedures and that schedules be provided and maintained to assure that all necessary testing is performed and properly evaluated on a timely basis. The process for developing, reviewing and approving procedures is clearly defined, with final approval of safety-related procedures being the responsibility of the Station Superintendent. The contents of procedures are specified and must include, as applicable, such items as prerequisite tests, limits and precautions, required station (or unit) status, prerequisite system conditions, data required, test method and acceptance criteria. Criteria for verification of test completion and results are also established.

#### XII. CONTROL OF MEASURING AND TEST EQUIPMENT

In order to assure the required accuracy of tools, gauges, instruments and other measuring and test devices affecting the proper functioning of station safety-related structures, systems and components, a program of control and calibration for such devices is specified. Devices are assigned a unique, identifying designation (such as a serial number) and are calibrated in accordance with the applicable manufacturer's recommendations. The calibration status of a device, and the identification of the individual determining that status, must be clearly shown on each device. The storage and issue of measuring and test devices are controlled in order to preclude their unauthorized use. Adequate documentation relating to these devices is maintained by means of equipment histories.

#### XIII. HANDLING, STORAGE AND SHIPPING

The operational quality assurance program establishes certain criteria for the handling, storage and shipping of materials, parts, and components. The bases of these criteria are that the handling, storage and shipping of items shall be in such a manner that the serviceability of an item is not

impaired and that quality assurance traceability and inventory accountability for each item is maintained. Special provisions are made for the handling, storage and shipping of special nuclear materials.

#### XIV. INSPECTION, TEST AND OPERATING STATUS

In order to assure that equipment status is clearly evident, and to prevent inadvertent operation, the operational quality assurance program provides for the identification of systems, sections of systems and components which are non-operational for purposes of maintenance or testing. In addition to such identification, the establishment of the non-operable status of an item, and its subsequent return to operation, are documented. Procedures require that the operability of any item removed from operation for maintenance or testing be verified prior to returning the item to normal service.

#### XV. NONCONFORMING MATERIALS, PARTS AND COMPONENTS

Materials, parts and components which do not conform to applicable quality assurance requirements are tagged to identify their nonconformance and a report of nonconformance is prepared documenting the nature of the discrepancy. Nonconforming items are not to be utilized with regards to safety-related structures, systems and components and are segregated from conforming materials; parts, and components in order to prevent their inadvertent substitution for and use as conforming items.

#### XVI. CORRECTIVE ACTION

All personnel are assigned the responsibility for the implementation of the operational quality assurance program as it pertains to the performance of their activities. Inherent in this responsibility is the requirement that conditions adverse to quality be identified and corrected, and that the cause of significant conditions adverse to quality be determined and corrective action taken to preclude repetition. Discrepancies revealed during the performance of station operation, maintenance and testing activities must be adequately resolved prior to verification of the completion of the activity being performed. In the event of the failure of safety-related structures, systems and components, the cause of the failure is to be evaluated, appropriate corrective action taken, and items of the same type evaluated to determine whether or not they can be expected to continue to function in an appropriate manner.

#### XVII. QUALITY ASSURANCE RECORDS

The operational quality assurance program requires that adequate, identifiable and retrievable records be maintained in order to properly document all phases of the program. The station is assigned the responsibility for the management of such records in a controlled and systematic manner by means of the station's Master File. Safety-related preoperational testing records; records of modifications to safety-related structures, systems and components;

physical inventory records of special nuclear material; isotopic inventory records of special nuclear material; radiation monitoring records, records of off-site environmental surveys; records of radioactive releases and waste disposal and personnel radiation exposure records are to be retained for the life of the station. Records of the qualifications and training of certain, specified station personnel must be retained as long as each individual is employed by Duke Power Company. As they pertain to the station's safety-related structures, systems and components, copies of purchase documents, copies of receipt inspection reports, issue records, records of special processes affecting such structures, systems and components, equipment and maintenance histories and quality assurance records compiled during design and construction are to be retained for five (5) years, or for the service life of the item(s) for which the records are applicable, whichever is greater. Drawings and vendor documents must be retained as long as such items are applicable to the station. Review and audit records, periodic testing records, inspection records, reports of abnormal occurrences and unusual events, reports of safety limits exceeded, radioactive source inventory records, records of off-site shipments of radioactive material and copies of station correspondence are required to be retained for a minimum of five (5) years.

#### XVIII. AUDITS

The Steam Production Department Quality Assurance Staff is assigned the responsibility for conducting periodic audits, at least semi-annually, of station activities in order to verify the station's compliance with established operational quality assurance requirements. These audits are to be conducted in accordance with written procedures, instructions, checklists, etc., and may be announced or unannounced. Audits of safety-related aspects of station operation are to be conducted with a frequency commensurate to their safety significance and all safety-related station activities must be audited no less frequently than biennially. The departmental Quality Assurance Staff is required to develop an overall, long-range plan of areas to be audited in order to assure adequate coverage of each activity. The results of each audit are summarized in a report and submitted to the Assistant Vice President, Steam Production, with a copy being transmitted to the chairman of the Nuclear Safety Review Committee.

The station Quality Assurance Staff is responsible for conducting periodic audits, at least monthly, of station activities in order to verify the station's compliance with established operational quality assurance requirements. These audits must be conducted in accordance with written procedures, instructions, checklists, etc. The station Quality Assurance Staff is required to develop an overall, long-range plan of areas to be audited in order to assure adequate coverage of each activity. The results of each audit are summarized and submitted to the Station Superintendent.

OPERATIONAL QUALITY ASSURANCE  
MANAGEMENT ORGANIZATION

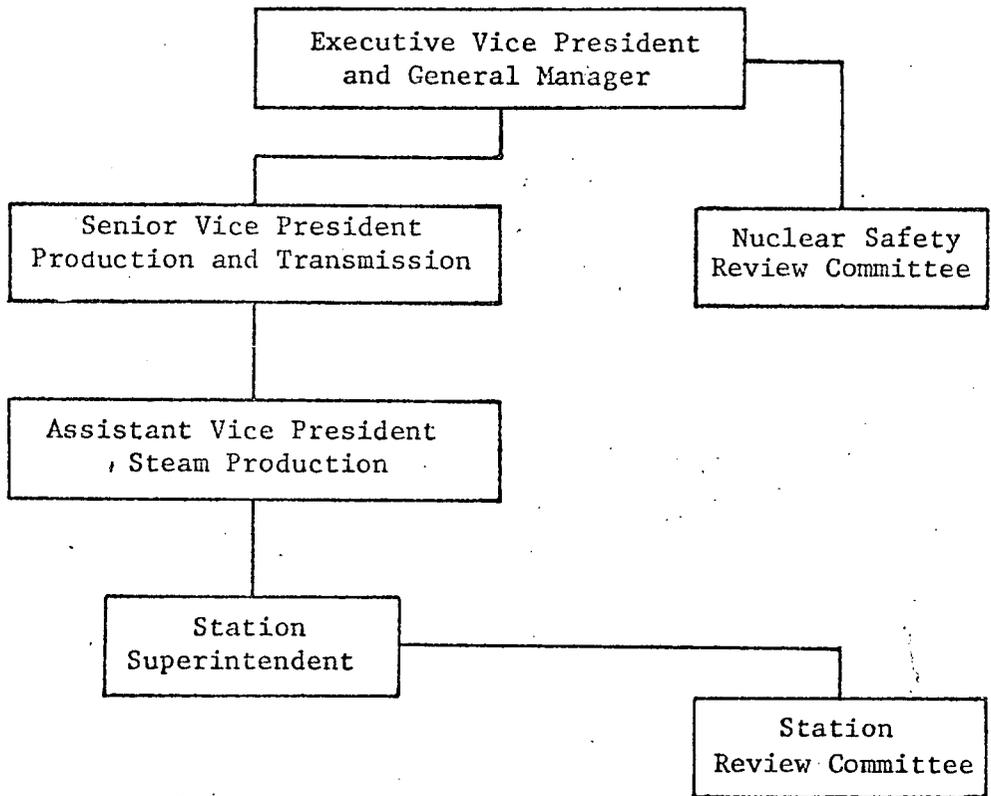


Figure 1

OPERATIONAL QUALITY ASSURANCE  
STEAM PRODUCTION DEPARTMENT ORGANIZATION

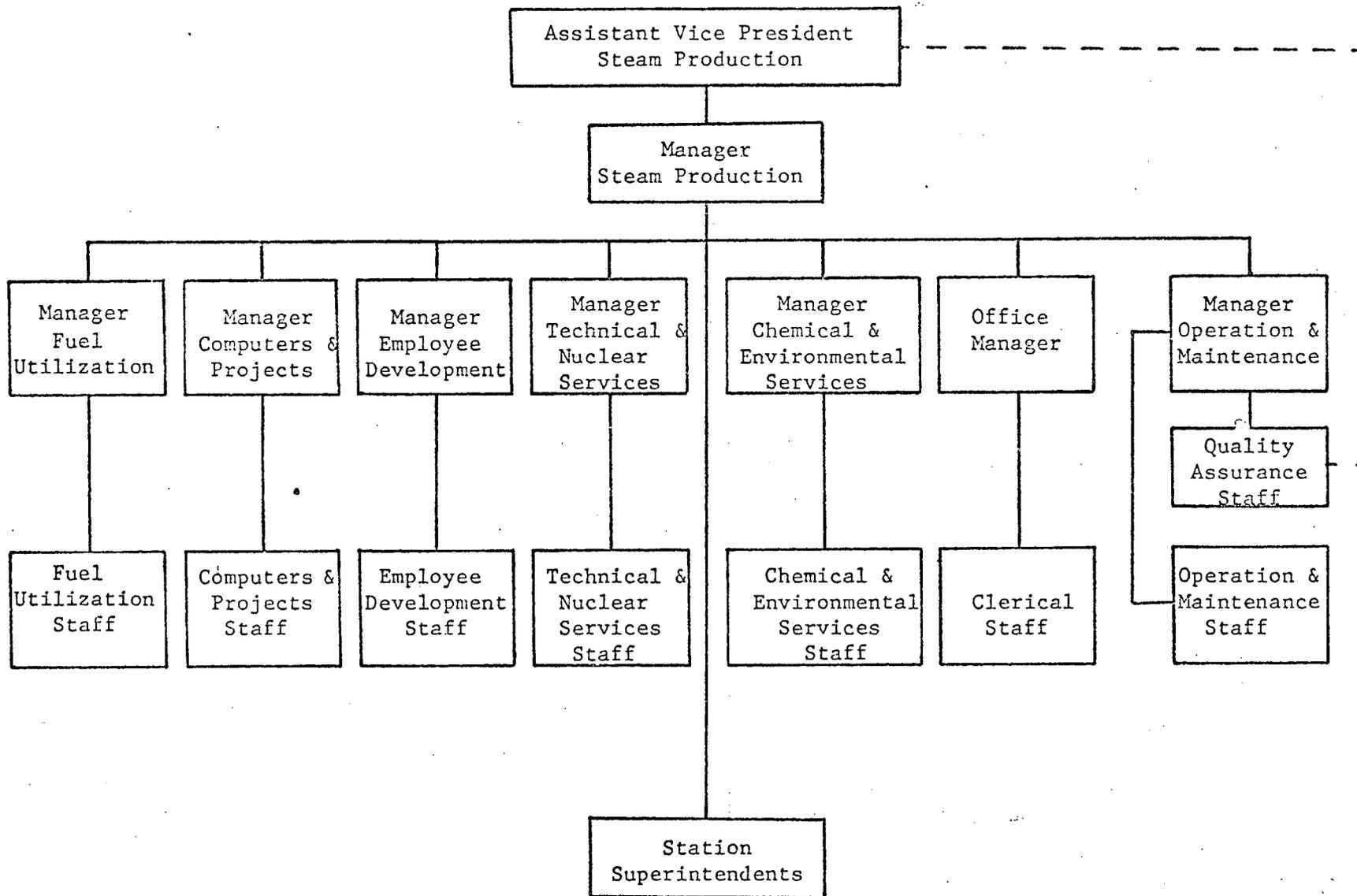


Figure 2

OPERATIONAL QUALITY ASSURANCE  
NUCLEAR STATION ORGANIZATION

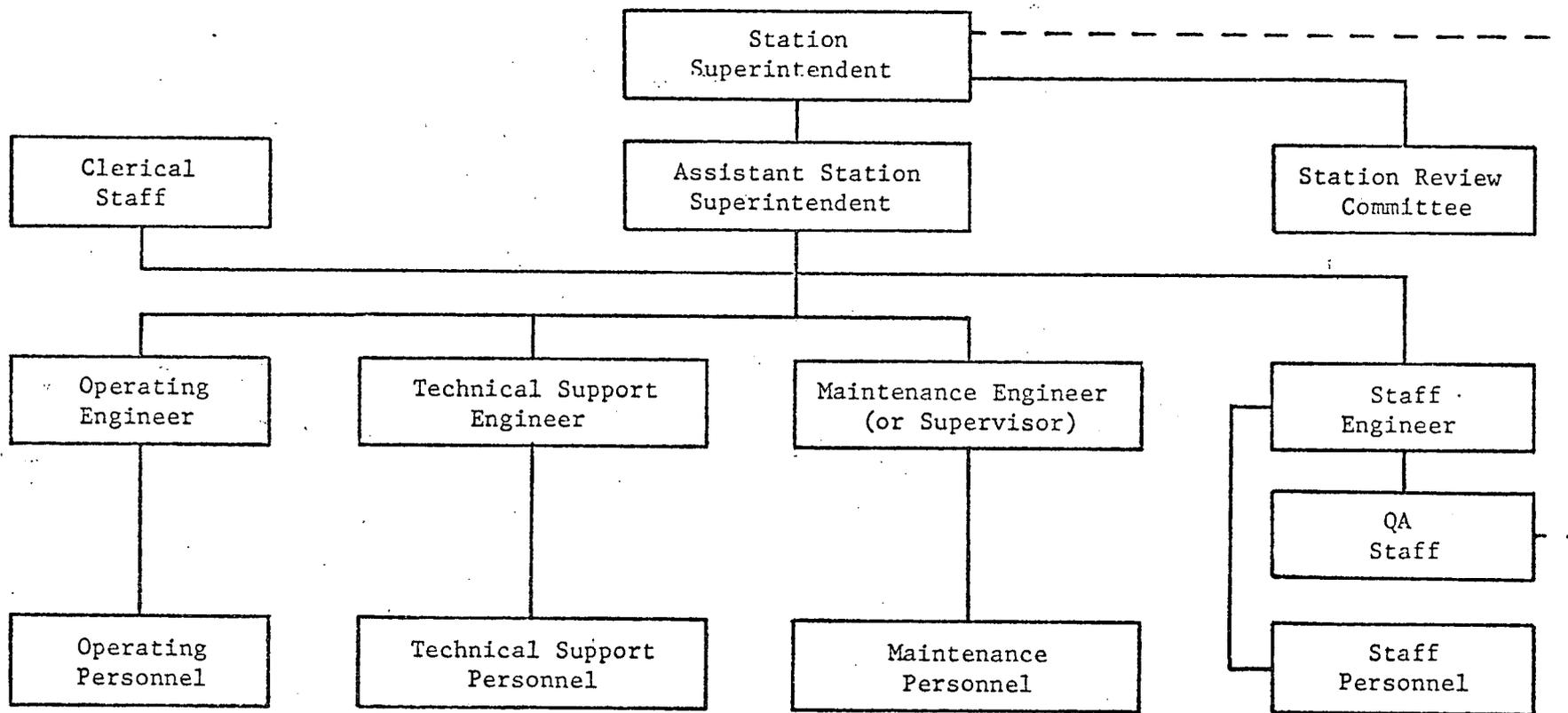


Figure 3