

Operational Quality Assurance Plan  
TMI Units I & II

August 25, 1978  
J.P.P.

Change List

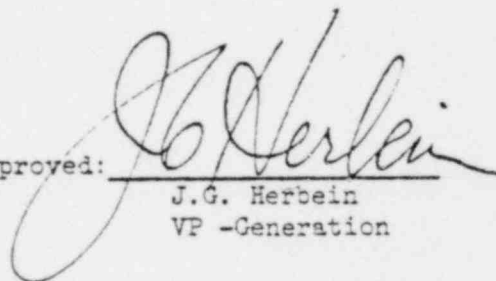
CHANGE #	AFFECTED PAGES	CHANGE DATE
1 To Rev. 6	12, 12a, 37	03/08/77
Rev. 7	All Pages	12/06/77
1 To Rev. 7	3, 8, 11, 17, 35, 36, 56, 57	05/08/78
2 To Rev. 7	45, 47	07/11/78
3 To Rev. 7	6, 10, 21, 22, 25, 32, 34	09/25/78
<b>POOR ORIGINAL</b>		
<p><i>HAL</i></p> <p><i>PER YOUR</i></p> <p><i>REVISIONS</i></p> <p><i>Jim</i></p>		

OPERATIONAL QUALITY ASSURANCE PLAN  
FOR THREE MILE ISLAND NUCLEAR STATION

REVISION 7

Controlled Copy

**POOR ORIGINAL**

Approved: 

J.G. Herbein  
VP -Generation

Issued to: C.A. Nixdorf

Date: 12/6/77

Copy No: 36

**CONTROLLED COPY**

TABLE OF CONTENTS

	<u>Page</u>
A Policy Statement	1
B Introduction	1
C Purpose and Scope	1
D Program Description and Format	2
E Definitions	2
Section I-Organization	3
Section II-Quality Assurance Program	12
Section III-Design, Modification, Maintenance, and Repair Control	13
Section IV-Procurement Document Control	16
Section V-Instructions, Procedures, and Drawings	18
Section VI-Document Control	20
Section VII-Control of Purchased Material, Equipment, and Services	21
Section VIII-Identification and Control of Materials, Parts, and Components	25
Section IX-Control of Special Processes	26
Section X-Inspection (Surveillance)	27
Section XI-Test Control	28
Section XII-Control of Measuring and Test Equipment	28
Section XIII-Handling, Storage, and Shipping	30
Section XIV-Inspection, Test, and Operating Status	30
Section XV-Nonconformances	32
Section XVI-Corrective Action	33
Section XVII-Quality Assurance Records	33
Section XVIII-Audits	34
F Met-Ed/GPU Service Corp. Interface	36
G Provisional List of Procedures Implementing the Quality Assurance Program	38
Table 1 - Summary of Quality Assurance Systems List or Partial Systems List	44
Table 2 - Quality Assurance Program Procedure Categories and Approvals	46
Table 3 - Quality Assurance Program Document Categories and Approvals	49
Table 4 - Matrix of Provisional OQA Implementing Procedures	52
Table 5 - Committed to ANSI Standards and Regulatory Guides	56
Figure 1- Organization Chart	58
Figure 2- Organization of Generation Division	59
Figure 3- Organization of QA Staff	60
Figure 4- Organization of Generation Engineering Staff	61
Figure 5- Organization of Generation Maintenance Staff	62
Figure 6- Organization of Generation Administration Staff	63

## OPERATIONAL QUALITY ASSURANCE PLAN FOR THREE MILE ISLAND NUCLEAR STATION

### A. Policy Statement

It is the policy of Met-Ed to meet the requirements of the Code of Federal Regulations, 10CFR50, Appendix B, and the applicable codes, guides, and standards with respect to operation, inservice inspection, refueling, maintenance, procurement, repair, and modification of the station.

The Vice President-Generation is responsible for assuring that an Operational Quality Assurance (OQA) Program is implemented.

The Manager-Generation Quality Assurance reports to the Vice President-Generation and is responsible for developing the detailed program, updating it as necessary, and monitoring all on-site and off-site activities required by the program to assure compliance with its requirements. He has the authority and the organizational freedom necessary to carry out his responsibilities.

In developing the details of the OQA Program for Three Mile Island Nuclear Station (TMI) consisting of Units I and II, the Manager-Generation Quality Assurance (MGQA) will coordinate his efforts with the GPU Service Corporation's Manager of Quality Assurance. This coordination is to assure that all of the GPU companies have the same basic approach for their OQA Programs.

### B. Introduction

Met-Ed has authorized the establishment of a formal and comprehensive OQA Program for TMI. This program shall be implemented throughout station life in accordance with approved policies, procedures, and instructions.

The TMI OQA Program consists of this OQA Plan, detailed procedures used to implement it, and all those activities carried out in accordance with the plan and procedures. The Plan includes a detailed description of the responsibilities and controls for quality activities conducted at TMI.

### C. Purpose and Scope

The purpose of this OQA Plan is to assign and define responsibilities for implementing the requirements of NRC Regulation 10CFR50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants," and the Met-Ed policy statement regarding the OQA Program for TMI. Met-Ed retains overall responsibility for all activities associated with this program. This overall responsibility is assigned to the VP-Generation. The work is performed either by Met-Ed personnel or by organizations or personnel performing services for or under contract to Met-Ed.



This OQA Plan applies to the design, installation, procurement, fabrication, inspection, operation, maintenance, refueling, and modification of systems, components, materials, and facilities essential for preventing or mitigating the effects of postulated accidents which could affect the public health and safety. Specifically, those systems and components identified in the Quality Assurance Systems List (summary included as Table 1) are within the scope of this OQA Plan.

D. Program Description Format

The Met-Ed OQA Plan is arranged under major headings I through XVIII which correspond with the eighteen criteria contained in 10CFR50, Appendix B. The information required by Section 17.2, "Quality Assurance Program for Station Operations" of the NRC "Standard Format and Contents of Safety Analysis Reports for Nuclear Power Plants" is included in this OQA Plan.

Under each heading a statement is made which indicates the individuals and organizations responsible for ensuring compliance with the criterion.

E. Definitions

Inspection

A phase of quality control which by means of examination, observation, or measurement determines the conformance of material, supplies, components, parts, appurtenances, or specific processes, structures, or systems to pre-determined quality requirements.

Modifications

A planned change in station design or operation and accomplished in accordance with the requirements and limitations of applicable codes, standards, specifications, licenses and pre-determined safety restrictions.

Operation

Comprises those actions required to control, monitor, and supervise the functioning of station equipment and facilities. Operation includes, but is not limited to power operation, shutdown, refueling, and startup.

Surveillance

An independent observation of activities affecting quality to verify conformance with established requirements utilizing both inspection and auditing techniques.

Surveillance Testing

Whenever "surveillance" is used in context - with actions required of the site personnel, it is defined as those tests which are performed as required in the Surveillance Testing Program as listed in the Technical Specifications.

Site Personnel  
(Station Staff)

Is that organization which includes the Station/Unit Superintendent and those persons responsible to him. It does not include the quality assurance and quality control personnel located at the station; they are part of Quality Assurance.

Quality Assurance  
Review and Concurrence

Quality Assurance review involves checks by Quality Assurance Personnel that documents are satisfactory from a Quality Assurance standpoint, e.g., make necessary provisions for Quality Assurance Program requirements, specify required Quality Control inspections, and comply with or invoke appropriate codes, standards, and regulations. Quality Assurance concurrence means that all Quality Assurance comments on the document have been resolved to the satisfaction of Quality Assurance prior to the document being used.

Test

Comprises those activities conducted to assure that structures, systems, and components will meet specified requirements.

#### SECTION I ORGANIZATION

The overall Met-Ed organization is shown in Figure 1. Positions responsible for the principal elements of this Operational Quality Assurance Program (as shown in Figures 1 and 3) are listed as follows:

President, Met-Ed  
Vice President and Manager - Generation Division  
Manager - Generation Quality Assurance  
Manager - Generation Operations  
Manager - Generation Engineering  
Manager - Generation Maintenance  
Manager - Generation Administration  
Three Mile Island Station/Senior Unit Superintendent  
Three Mile Island Unit Superintendents  
Supervisor - Quality Control

In addition to the above listed individuals, three advisory groups are utilized in carrying out quality related functions for station operations. These are the Plant Operations Review Committee (PORC), the General Office Review Board (GORB) and the Generation Review Committee (GRC).

## President

The Met-Ed OQA Program for the operation of TMI was established by direction of the President of Met-Ed. Problems that may develop with Met-Ed's basic approach to quality assurance for an operational station or with the Company's policy regarding quality assurance shall be brought to the attention of the President of Met-Ed for appropriate corrective action.

## Vice President - Generation

The Met-Ed OQA Program for the operation of TMI will be implemented under the direction of the VP-Generation and, as such, he is responsible for overall effectiveness of the program. This responsibility is carried out through the Manager-Generation Quality Assurance, Manager-Generation Operations, Manager-Generation Engineering, Manager-Generation Maintenance, and the Manager-Generation Administration, who all report to the VP-Generation. On an individual case basis, the VP-Generation can arrange with other organizations for assistance in support of the Met-Ed OQA Program. In such cases, he is responsible for assuring that these organizations have suitable quality assurance programs for the work they perform. The VP-Generation is responsible for assuring that management reviews are conducted and documented on the effectiveness of the OQA Program. These reviews are comprised of actions taken by Met-Ed upper management to assure that the OQA Program is functioning in accordance with the basic Company Policy as established in the Policy Statement. The review will be conducted at least every two years and the results of the review will be reported to the President.

## Manager - Generation Quality Assurance

The Manager - Generation Quality Assurance (MGQA) reports to the VP-Generation and has responsibility for ensuring the detailed development, direction, and overall coordination of OQA activities for TMI. OQA activities cover all activities affecting quality, including operations, inservice inspection, maintenance, refueling, modifications, engineering support, and procurement for TMI. The Manager - Generation Quality Assurance has the authority and organizational freedom to identify quality problems and provide solutions.

In the detailed implementation of this program, the MGQA will coordinate with the GPU Service Corporation Manager of Quality Assurance. This coordination is to ensure that all GPU companies employ the same basic approach to operational quality assurance programs and procedures in the interest of standardization and multi-station use where feasible.

Specific responsibilities of the MGQA include the following items:

1. Development and implementation of the OQA Program and changes thereto.
2. Maintenance of an Operational Quality Assurance organization in accordance with the OQA Program.
3. Development and implementation of a quality assurance training program for quality assurance personnel. He also ensures that quality assurance indoctrination is provided to appropriate personnel outside of the quality assurance organization.

4. Supervision and direction of OQA department staff quality assurance engineers and the site quality assurance organization under the site Supervisor-Quality Control.
5. Approval of or concurrence with Met-Ed and vendor quality assurance and quality control documents (such as NDE and special process procedures) in accordance with this OQA Plan.
6. Concurrence, from a quality assurance standpoint, with design and engineering documents such as specifications, drawings when considered necessary by MGQA, and installation requirements used for equipment or site work. (Note that individual drawings for construction or modification do not require the concurrence/approval of MGQA as long as the applicable design/drawing control procedures are being followed.)
7. Concurrence with the Quality Assurance Systems List. This list comprises those systems, equipment, and components which are within the scope of this OQA Plan.
8. Review and approval of audit schedules, supervision of the planning for audits, review of results of audits and surveillance, and ensuring follow-up correction of nonconformances.
9. Review and concurrence with documents, procedures, and changes thereto in accordance with Tables 2 and 3.
10. Reporting audit results, that he considers significant, to the VP-Generation. In addition, he appraises the VP-Generation as to the effectiveness and adequacy of this OQA Program.
11. Supervise and direct vendor quality assurance evaluation and source inspections.
12. Final preparation of and responsibility for responses to inquiries from regulatory and licensing agencies using support from other departments as necessary.
13. Reviewing and concurring, with station procedures required to implement this plan.

When quality problems occur, the MGQA has the responsibility and authority to take necessary corrective action. Corrective action shall be arranged through the appropriate channels and may include the stoppage of work when manufacturing, maintenance, or modification work fails to comply with the approved specifications and plans. For cases when the noncomplying unit is operating, he may recommend to the Unit Superintendent that the unit be shut down. The Unit Superintendent has the final responsibility for the overall evaluation of all aspects and implications of shutting down the operating unit. Whenever the MGQA stops work or recommends that an operating unit be shutdown, as discussed above, he shall, as soon as practicable, inform the VP-Generation of his actions and reasons therefore.

The MCQA shall have a baccalaureate in engineering or science with at least five years experience in nuclear plant operations and support activities. He will be assisted in carrying out his responsibilities by Quality Assurance Engineers and the site Supervisor-Quality Control and staff described below.

Quality Assurance Section

This section is headed by the Supervisor QA, who reports to the MCQA. In the performance of his duties, if a quality problem is detected, he shall ensure that appropriate corrective action is taken. Specifically, the Supervisor-QA is responsible for the following activities:

1. Preparing operational quality assurance procedures and changes thereto.
2. Preparing audit schedules and performing audits and surveillances of activities affecting quality. These activities include station operations and Generation Division activities. He is also responsible for the performance of audits and surveillances of suppliers of engineering services, equipment suppliers, and site contractors.
3. Reviewing various documents for adequacy of quality control and quality assurance requirements, including Generation Division administrative procedures implementing the OQA Plan and installation requirement documents.
4. Quality assurance evaluation of suppliers of engineering services, including performance of preaward audits when appropriate.
5. Vendor quality assurance evaluation, process inspection and audits in support of procurement of items for spare parts, repairs, and modifications.
6. Reviewing vendor quality control and nondestructive examination procedures as required by specific specifications.
7. Reviewing site quality control, special process, and nondestructive examination procedures.
8. Complying with document control procedures for all documents issued by the Quality Assurance Department.
9. Approving and issuing audit reports for audits conducted within the OQA Department.

Rec. 7  
Change 3



The Supervisor-QA shall have a Baccalaureate in Engineering or Science and at least four years experience in industry, of which at least two years must be in the nuclear industry. The Supervisor-QA, in the performance of his duties, is assisted by quality assurance engineers who shall have a Baccalaureate in Engineering or Science or equivalent experience.

#### Supervisor-Quality Control and Specialists/Assistants

The Supervisor-Quality Control is located at the TMI site and reports to the MGQA. He has authority to take appropriate corrective action, including stoppage of work on specific station maintenance, repair, refueling, or modification activities, when work is not in conformance with approved procedures and specifications.

He may also recommend to the Unit Superintendent, if appropriate, that the unit be shut down when a serious quality problem is identified. The final responsibility for the overall evaluation of all aspects and implications of shutting down an operating unit is the Unit Superintendent's. In the event the Supervisor-QC recommends that the unit be shut down, he will so advise the MGQA without delay.

The Supervisor-QC is responsible for the following functions:

1. Supervising the site quality control group including permanently assigned Quality Control Specialists/Assistants and any temporary quality assurance/control personnel assigned to the site.
2. Approving procedures for station quality group activities and changes thereto.
3. Reviewing quality assurance record documents for adequacy and aiding the MGQA in ensuring quality assurance records are properly maintained.
4. Reviewing and concurring with site maintenance, modification, and repair procedures (except for procedures for special processes and nondestructive examinations) with regard to quality assurance aspects.
5. Preparing and approving quality control checklists defining specific quality control inspections or surveillances to be performed in support of operations, tests, refueling, maintenance, modification, or repair activities.
6. Performing surveillances and audits of the station staff's various site activities involving nuclear-safety related structures, components, and systems for compliance with written procedures and the Technical Specifications.
7. Performing inspections for items within the scope of quality control, including: receipt inspections, nondestructive examinations, and acceptance inspections following modifications, nonroutine maintenance or repairs.

8. Performing surveillance of site contractors to assure they meet specified quality control requirements.

The Supervisor-QC shall either have a baccalaureate in engineering or science together with operational experience in the nuclear field or have a minimum of six years nuclear and quality control experience. He shall be assisted by quality control specialists who shall have a minimum of two years of relevant experience or by quality control assistants who have shown an aptitude for quality control work. When necessary, additional quality control personnel may be assigned to the Supervisor-QC to assist during outages, etc. These personnel will work under the direction of the Supervisor-QC and follow approved Met-Ed procedures.

#### Manager-Generation Operations

The Manager-Generation Operations is responsible to the VP-Generation for the centralized control of Met-Ed generating stations. As the immediate supervisor of the Station/Unit Superintendents, he has management responsibility for the overall direction of nuclear station operations. He is responsible for ensuring that nuclear station operations are carried out in accordance with the operating licenses including the Technical Specifications; this includes ensuring that this OQA Program and its implementing procedures are followed by the station staff. He carries out this responsibility through directions to the Unit Superintendents.

Specific responsibilities of the Manager-Generation Operations include the following:

1. Maintaining a Generation Operations organization in accordance with this OQA Program.
2. Ensuring that required station procedures are available and up-to-date.
3. Ensuring that draft responses to inquiries from regulatory and licensing agencies are prepared.
4. Ensuring that regulatory agencies are advised of reportable incidents.
5. Verifying proper management of the procurement of nuclear fuel.

The Manager-Generation Operations shall have a baccalaureate in engineering or science with at least five years experience in nuclear plant operations and support activities. He is assisted in carrying out his responsibilities by the Station/Unit Superintendents and station staff and by his generation department staff.

#### Station/Senior Unit Superintendent

The Station/Senior Unit Superintendent is responsible for the safe operation of the Three Mile Island Nuclear Generating Station. His specific responsibilities include:



1. Ensuring that the station operates in compliance with the requirements contained in the operating license, Technical Specifications, and this OQA Plan.
2. Ensuring that corrective action, including shutdown of an operating unit, is initiated as required by the Technical Specifications.

#### Unit Superintendents

The Unit Superintendents are directly responsible for the safe operation of their respective units at TMI. Their specific responsibilities include the following:

1. Operating the units in compliance with the requirements of the operating license, including the Technical Specifications, and this OQA Plan.
2. Initiating corrective action, including shutdown of the unit as required by the Technical Specifications, when operations are not being conducted in accordance with the requirements contained in item "1" above.
3. Ensuring that conditions adverse to quality, when identified, are corrected for all activities involving operations, maintenance, repair, refueling, testing, and site engineering.
4. Approving and implementing station administration, operation, testing, repair, maintenance, refueling, health physics, environmental, and emergency procedures as required by Section 6 of the Technical Specifications.
5. Ensuring that maintenance and/or modifications to structures, components, and systems are properly coordinated and that necessary safety precautions; e.g., tag outs, draining of systems, designation of exclusion areas, etc., are performed in accordance with written procedures.
6. Ensuring that station purchase requisitions are prepared using approved specifications which have received required quality assurance and engineering reviews.
7. Ensuring that unit staff training and qualifications are maintained.
8. Ensuring that inservice inspections are performed as required.

The Unit Superintendents are assisted in carrying out the above responsibilities by the Unit Superintendents-Technical Support, the Supervisor of Maintenance, the respective Unit Supervisor of Operations, and their staffs. The organization, responsibilities, and qualifications of the station staff are specified in station procedures.

## Manager-Generation Engineering

The Manager-Generation Engineering reports to the VP-Generation and has the responsibility for the detailed development, direction, and overall coordination of engineering activities for TMI. This includes modifications, engineering support, and procurement for the station. The Manager-Generation Engineering is responsible for providing technical support to other Generation Division Departments.

Specific responsibilities of the Manager-Generation Engineering include the following:

1. Supervision of engineering tasks in accordance with this OQA Plan.
2. Developing and implementing Generation Engineering procedures covering items such as engineering control of modifications, design control, etc.
3. Exercising project control of modifications, including design work, preparation of procurement documents, procurement of equipment and services, installation, and testing.
4. Controlling preparation of specifications and drawings for accomplishment of repairs and modifications. This includes the administration of engineering services supplied by other organizations, and ensuring that engineering work is given appropriate design checks or reviews.
5. Providing evaluations of contractor's and vendor's technical adequacy as required.
6. Providing training of Generation Engineering personnel.
7. Carrying out document control requirements for Generation Engineering procedures, specifications, and drawings as specified in Section VI of this OQA Plan. Rev. 7  
Chg. 3
8. Developing the inservice inspection program technical requirements for implementation by the TMI staff.
9. Establishing and maintaining the Quality Assurance Systems List.
10. Coordinating engineering and design methods utilized for TMI with the GPU Service Corporation Manager of Engineering to ensure that all GPU companies employ the same basic approach and procedures in the interest of standardization and multi-station use where possible.

The Manager-Generation Engineering shall have a baccalaureate in engineering with at least five years experience in nuclear plant operations and support activities. He is assisted in carrying out the above responsibilities by the organization shown in Figure 4.

### Manager-Generation Maintenance

The Manager-Generation Maintenance is responsible to the VP-Generation for scheduling and coordinating major unit outages of all Met-Ed generating stations, including the performance of overhauls, maintenance, and refueling work. In addition, he provides technical assistance, such as turbine specialists, welding engineers, instrument engineers, etc. The Manager-Generation Maintenance reviews maintenance practices on a system-wide basis to ensure that standardization is achieved. He is available to both Unit Superintendents for consultation and troubleshooting on maintenance problems. Upon completion of significant maintenance projects, he will prepare reports which include information on the cause of the problem, corrective action required to prevent or reduce the problem, and other administrative or technical recommendations as appropriate.

Specific responsibilities of the Manager-Generation Maintenance include the following:

1. Performing generation maintenance in accordance with this OQA Plan.
2. Developing and qualifying, where required by applicable codes, standard Met-Ed generation maintenance procedures for special processes such as welding, brazing, and heat treatment.
3. Maintaining qualifications of personnel within his organization where required by applicable codes, e.g., welders.
4. Providing assistance to TMI staff as necessary in support of normal and emergency maintenance. Such work is performed in accordance with approved TMI maintenance procedures except for procedures covered by item "2" above.

The Manager-Generation Maintenance shall have a baccalaureate in engineering or science with at least five years experience in power plant operations and support activities. He is assisted by the organization shown in Figure 5. The Supervisor-Mechanical Maintenance is responsible for welding procedures, welder qualifications, and providing engineering support for mechanical maintenance. The Supervisor-Electrical Maintenance is responsible for engineering support of electrical maintenance. The Supervisor-Centralized Maintenance is responsible for administration of the centralized maintenance crews.

### Manager-Generation Administration

The Manager-Generation Administration is responsible to the VP-Generation for providing services for the following four areas:

- 1) Corporate Office Administration
  - a) Budgets and Reports Section
  - b) Administrative Support Section
- 2) Generation Personnel
- 3) Generation Stores
- 4) Generation Safety

These services support the other Generation Division departments.

Specific responsibilities of the Manager-Generation Administration include the following:

- 1) Ensuring that Quality Assurance records and documents (i.e., as built drawings, vendor drawings, bills of materials, audit reports, NRC correspondence, etc) are properly filed, stored in a manner conducive to safekeeping, and prepared for microfilming in accordance with approved written procedures.
- 2) Developing and implementing a storage system that permits segregation by general station use and by Quality Assurance vs. Non-Quality Assurance items.
- 3) Developing and maintaining a master list or lists to identify the current revision number of controlled documents.

The Manager-Generation Administration shall have a baccalaureate degree and at least five years experience in administrative activities relating to power plant operations and support activities. He is assisted in carrying out the above responsibilities by the organization shown in Figure 6.

## SECTION II QUALITY ASSURANCE PROGRAM

This program shall be applied to the safety-related items of the Station that prevent or mitigate the consequences of postulated accidents which could cause undue risk to the health and safety of the public. A summary of structures and systems covered in whole or in part by this program are identified in Table 1. The actual boundaries of these systems and structures will be specified in the Quality Assurance Systems List. The Manager-Generation Engineering, with concurrence of the Manager-Generation Quality Assurance, is responsible for maintenance of this list.

The Manager-Generation Quality Assurance has the direct responsibility for ensuring that this Operational Quality Assurance Program is implemented and that it provides for control of all activities affecting the quality of nuclear safety related items. He is also responsible for ensuring that the program is modified and updated as standards, regulations, results, and experience dictate. The various groups involved in the Operational Quality Assurance Program, and their responsibilities, are described in Section 1. Disputes involving quality arising from a difference of opinion between QA/QC personnel and other department personnel, that cannot be resolved at lower organizational levels, shall be settled by the Vice President of Generation.

The Operational Quality Assurance Program is described by a written policy, plan and procedures. The basic company policy is established by the President as described in the preceding Policy statement. This Operational Quality Assurance Plan is issued by the Vice President-Generation. The procedures, which are the Operational Quality Assurance Program's detailed requirements, are originated and approved as shown in Table 2, Quality Assurance Program Procedure Categories and Approvals.

The Manager-Generation Quality Assurance is responsible for maintaining a comprehensive training program for both the original and refresher training of personnel on the Operational Quality Assurance Staff. He also ensures that quality assurance indoctrination is given to Generation Division personnel who are not on the Operational Quality Assurance Staff but whose job responsibility will affect quality. The training program shall comply with Regulatory Guides and ANSI Standards listed in Table 5.

Each manager is responsible for maintaining formal training programs and procedures to ensure the proper job related training and qualification of his personnel. The Unit Superintendents are responsible for the indoctrination and training of station staff personnel performing activities affecting quality of operations, and for ensuring that, where required by Section 6.1 of the Technical Specifications, operators are formally licensed or qualified.

All contractors who perform engineering, construction, or other technical services on structures, systems or components, are required to meet those portions of the 10CFR50, Appendix B, which are applicable to their services and the materials and equipment which they supply. The Manager-Generation Engineering is responsible for ensuring that these requirements are contained in the specifications and purchase documents, as appropriate, and receive Manager-Generation Quality Assurance concurrence.

The Vice President-Generation is responsible for the performance of a management review, at least every two years, of the effectiveness of the Operational Quality Assurance Program. The Vice President-Generation will utilize a group independent of the Operational Quality Assurance Group to perform these reviews or audits.

Where the guidance is applicable, Met-Ed will comply with the ANSI standards and Regulatory Guides listed in Table 5. It is the policy of Met-Ed to review revisions of the aforementioned documents for applicability and incorporation into the Quality Assurance Program.

### SECTION III DESIGN, MODIFICATION, MAINTENANCE, AND REPAIR CONTROL

#### III.1 Design and Modification

The Manager-Generation Engineering is responsible for controlling design work and administering design control activities (including design interfaces) for the modification of structures, systems and components listed on the Quality Assurance Systems List.

Design control is implemented by means of Generation Engineering Procedures which include: design considerations, design review requirements, internal and external interface control considerations; and design document review, approval, distribution, control, and revision requirements. Suitable design controls are applied to activities such as reactor physics, seismic, stress, thermal, hydraulic, radiation, and accident analysis; compatibility of materials; accessibility for inservice inspection, maintenance and repair; appropriate design bases, codes, standards and regulations; acceptance



and rejection criteria; and quality assurance requirements. Design verification includes the use of formal design reviews, checks or tests as appropriate to ensure the adequacy of the design with regard to the design considerations. Design reviews may be conducted by means of the same, an alternate, or a simplified calculational method or by the performance of a suitable testing program. A design review shall be performed by an individual or group other than the individual or group who performed the original design, but who may be from the same organization.

The Manager-Generation Engineering is responsible for ensuring that design control procedures, whether the work is done by Met-Ed or by other organizations, are prepared and implemented and incorporate appropriate design control practices, checks, and reviews.

Proposed unit modification packages and their implementation are the responsibility of the Manager-Generation Engineering and controlled by means of written Generation Engineering procedures. This coordination includes the necessary interface with the Unit Staff in regard to unit scheduling, unit procedure preparation and approval, Plant Operations Review Committee and General Office Review Board review and approval, etc.

The Manager-Generation Engineering is responsible for the timely approval and updating of specifications and drawings, as well as changes or deviations thereto, utilized for purchase, design or installation of materials, parts, or components. Any new design documents, specifications, drawings, installation requirements, and changes thereto, shall be approved in the same manner. Materials, parts and equipment which are standard, commercial (off the shelf) or which have been previously approved for a different application shall be reviewed for suitability prior to selection.

Specifications, design documents, installation requirements and changes thereto, are reviewed by Operational Quality Assurance personnel to ensure they meet the requirements of this quality assurance program and require the concurrence of the Manager-Generation Quality Assurance or his designee.

Minor design and modification work may be performed by unit engineers; however, when this alternative is utilized, the unit engineers are subject to the Generation Engineering design and modification control procedures. In addition, the Manager-Generation Engineering retains the responsibility for the proper review and approval of design and modification documents.

### III.2 Maintenance and Repair

The station/senior unit Superintendent is responsible for the preparation, review, and approval of the station maintenance control procedure. This procedure specifies the manner in which station maintenance and repair is controlled by distinguishing between different types of maintenance and repair and specifying the applicable requirements

for control of each, including the use of: approved procedures, instructions and/or drawings during maintenance or repair work; maintenance request forms which specify the work scope and provide for signatures which document that appropriate requirements have been established, reviewed, concurred with and approved; quality control checklists; etc.

Maintenance is divided into routine and nonroutine maintenance:

1. Routine maintenance does not require Generation Engineering participation and includes preventive maintenance (e.g. lubricating bearings, vibrational analysis, etc.) and correction of minor recurring conditions such as leaking valve packing.
2. Nonroutine maintenance requires Generation Engineering assistance because it involves unusual conditions or major amounts of work warranting detailed engineering preparations. Nonroutine maintenance is treated as nonroutine repair work in the manner described below.

Repairs are considered to be of two types:

1. Routine repairs are normal, and often repetitive, do not require special engineering assistance and thus are considered equivalent to routine maintenance. Examples of this type of routine repair are lapping of small leaking valves and replacement of leaking gaskets with approved gaskets in items where no special problems (such as chronic failures requiring engineering resolution) are involved.
2. Nonroutine repairs are those requiring special engineering input and are handled in the same manner as modifications, i.e., Generation Engineering exercises technical control of the repairs. All repairs which do not restore safety related items to their original conditions (i.e., involve some sort of modification or change) are included in this category.

The Unit Superintendent is responsible for the proper determination of system classification in accordance with the Quality Assurance Systems List and whether or not the task is within the unit staff capability (and hence is handled as described for the maintenance function) or requires engineering assistance and is handled as nonroutine repair. In the event the classification is unclear, the Unit Superintendent may request clarification from the Manager-Generation Engineering.

The Supervisor-Quality Control may, at his discretion, provide standard quality control checklists for routine repair and maintenance. If the maintenance or repair action is within the scope of a standard approved quality control checklist, the checklist is issued by maintenance supervision prior to maintenance or repair work, completed by the maintenance personnel during the work, and approved by the



Maintenance Foreman, as required on the checklist (which could be at various steps in the procedure or at completion of the work.) In the event standard checklists are not available, the maintenance or repair action is to be reviewed for concurrence by Operational Quality Assurance personnel. This review covers quality assurance requirements including preparation of Quality Control Checklists.

As required by the Unit Superintendents' classification of the maintenance or repair, Generation Engineering personnel are utilized for technical support. This technical support includes calculations, design work, procurement, specification preparation, recommendations, etc.

#### SECTION IV PROCUREMENT DOCUMENT CONTROL

Procurement document control applies to the control of procurement documents for materials, parts, components, and services required to perform design, maintenance, repair, modification, operation, test, refueling, inservice inspection, and quality assurance functions. Such documents may be prepared by Met-Ed or by a contractor or agent and include purchase requisitions, purchase orders, service agreements and invoked specifications, drawings, etc. In any case, the procurement document shall comply with the appropriate ANSI Standards listed in Table 5.

Procurement documents prepared by or for the Generation Division shall be prepared, reviewed, approved, revised, and controlled in accordance with the Generation Division Procedures.

The Manager-Generation Engineering is responsible for requiring, in procurement documents, that contractors involved in station modifications prepare procedures which require that nonconformances be promptly identified, corrected, documented, and reported to Met-Ed for concurrence. He is also responsible for ensuring that appropriate calibration requirements which are consistent with the requirements described in section XII are included in procurement documents.

Procurements of materials, parts, or components are initiated by purchase requisitions prepared by the station staff or by others in the Generation Division. The Generation Division procurement procedures require that the organization preparing a requisition ensures that the requisition either invokes approved specifications or is reviewed by the Generation Engineering and Quality Assurance staffs.

For station initiated purchase requisitions, the Unit Superintendent is responsible for the determination of the system or component safety class in accordance with the Quality Assurance Systems List. If the classification is unclear, he contacts Generation Engineering for resolution. For items within the scope of this Operational Quality Assurance Plan, purchase requisitions and invoked requirements are reviewed for concurrence by the Quality Assurance Department. Further, if the requirements invoked by the purchase requisition are not taken from current approved Generation Engineering specifications or drawings, then Generation Engineering and Quality Assurance Staff approval of the requisition and invoked requirements is required.

For cases where requisitions are not prepared by the station, the requisition and invoked requirements, including specifications prepared by outside organizations, must be reviewed for concurrence by the Generation Engineering and Quality Assurance staff or by other approved organizations.

After purchase requisitions have received the required approvals and concurrence described above, they are converted to purchase orders for vendors selected as described in Section VII. It should be noted that under no circumstances shall purchase requisition requirements be altered (except for pricing and quantity) during order placement unless review and concurrence is obtained from the groups and levels which were originally required to review, concur with, and approve the requisition as described above.

Generation Engineering review of procurement documents (including service agreements) includes verification that appropriate classification, technical requirements, and code application, regulatory requirements, and material specifications (ASTM, AWS, etc.) are invoked; that FSAR commitments are covered; that appropriate acceptance/rejection criteria are incorporated; and that quality assurance/quality control program requirements are incorporated. Quality Assurance review of the above includes checks to verify that the quality requirements are correctly stated, inspectable (if appropriate), and controllable; that the acceptance/rejection criteria are adequate; and that the procurement document has been prepared, reviewed, and approved in accordance with OQA Program requirements. Both the Generation Engineering and OQA reviews shall be documented.

Once issued, the procurement documents are controlled in accordance with appropriate sections of this plan, especially document control as described in Section VI.

For fuel, the Manager-Generation Operations is responsible for ensuring proper management of fuel purchasing.

## SECTION V INSTRUCTIONS, PROCEDURES AND DRAWINGS

This section covers instructions, procedures, and drawings of an internal Met-Ed nature (requirements for vendors and contractors to have appropriate instructions, procedures, and drawings are included in procurement documents as discussed in section IV). Table 2 lists the categories of procedures used for implementing the Operational Quality Assurance Program. The Quality Assurance Program procedures are designed to provide detailed written requirements which fulfill the program's objective of assuring a quality product. In so doing they will additionally assure compliance with 10CFR50 Appendix B and the applicable standards and Regulatory Guides in Table 5.

The Unit Superintendents are responsible for ensuring that instructions and procedures associated with the administration, operation, health physics, environmental monitoring, fuel handling, inservice inspection, calibration, maintenance, and operational testing of structures, systems and components, are prepared, reviewed, approved, and implemented in accordance with this Quality Assurance Plan. This also includes the issuance of appropriate changes to such documents upon receipt of regulatory directives, instructions from Met-Ed management, or accomplishments of modifications. The Plant Operations Review Committees, which serve in an advisory capacity to the Unit Superintendents have the responsibility for reviewing procedures prior to their approval by the Unit Superintendent when required by the Technical Specifications, Section 6.1 and 6.2. The Unit Superintendents are also responsible for assuring that QA implementing, unit administrative, maintenance, repair, modification and inservice inspection procedures are reviewed for concurrence, prior to use, by the Quality Assurance Department for quality assurance requirements.

Each manager and the Station/Senior Unit Superintendent is responsible for developing, reviewing, approving, and implementing his group's procedures as required to implement the provisions of this Operational Quality Assurance Plan. These procedures cover activities such as document control, training of personnel, responsibilities and duties of personnel, etc.

The Manager-Generation Quality Assurance is responsible for the review of and concurrence with these procedures and changes thereto.

The Manager-Generation Engineering is responsible for the issuance and approval of specifications, drawings, and installation requirements associated with modifications to the nuclear safety-related structures, systems and components, in accordance with Section III. These documents require those performing the work (either Met-Ed or contractor personnel) to have and to follow appropriate instructions, drawings, and procedures. The Manager-Generation Engineering shall also establish a system for maintaining as-built drawings in a current status. This system shall include written procedures covering updating of as-built drawings after station modifications and designating the persons responsible and procedures used for the revision, approval, distribution, and control of all as-built drawings.

The Manager-Generation Quality Assurance is responsible for the review of specifications, drawings -when considered necessary by the MGQA, and installation requirements and any changes thereto for concurrence with quality assurance requirements.

(Note that individual drawings for construction and modification do not require the concurrence/approval of the MGQA as long as applicable design/drawing control procedures are being followed).

He is also responsible for providing procedures which ensure the maintenance of records (other than design records and station operating records) sufficient to furnish objective evidence of activities affecting quality in compliance with the requirements of the applicable ANSI standards listed in Table 5.

The Supervisor-Quality Control is responsible for preparing, approving, and implementing site quality assurance/control procedures and changes thereto. These procedures require the post-implementation concurrence of the Manager-Generation Quality Assurance, and are reviewed by other interested persons when appropriate, e.g., the Unit Superintendent or Unit Superintendent-Technical Support.

Persons preparing and approving documents are responsible for ensuring that specifications, instructions, procedures, and drawings include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished as well as assuring that these documents are maintained up-to-date.

Surveillance of the implementation of instructions and procedures for operation, maintenance, modification, operational testing, etc., is the responsibility of the Manager-Generation Quality Assurance.

The Unit Superintendent is responsible for the unit procedures relating to the operational status of the unit. These procedures indicate by use of markings, logs, or other suitable means the test or operational status of all nuclear safety-related systems and their components when in other than normal status.

A procedure for the formal handling of special procedures shall be contained in the station administrative procedures. These special procedures may be issued during the operational phase: to direct operations during testing, refueling, maintenance, and modifications; to provide guidance in unusual situations not within the scope of the normal procedures; and to ensure orderly and uniform operations for short periods when a unit, system, or component is performing in a manner not covered by existing procedures or has been modified or extended in such a manner that portions of existing procedures do not apply. Special procedures shall include designation of the period of time during which they may be used and shall be subject to the review process as described in the station administrative procedures.



The Manager-Generation Engineering is responsible for providing and implementing procedures for the preparation and maintenance of design records such as specifications, design reports, as built drawings, etc.

He is further responsible for ensuring that specifications require that contractors involved in station modifications prepare and utilize written procedures for the control of nonconforming items and services and notify Met-Ed personnel of such nonconformance.

The Supervisor of Electrical/Mechanical Maintenance may, at his discretion, provide standard approved procedures for routine repair and maintenance. In cases where a standard, approved procedure is available, the Maintenance Department must notify the QC Department prior to starting the work. In the event standard procedures are not available, the maintenance or repair action is to be reviewed for concurrence by Operational Quality Assurance personnel. This review covers quality assurance requirements including preparation as necessary of Quality Control Checklists and designation of QC hold points. In all cases OQA personnel review the completed work package to ensure compliance with QA/QC requirements.

#### SECTION VI DOCUMENT CONTROL

The standard Generation Division procedures for document control shall include basic generic controls and shall be prepared in accordance with this Operational Quality Assurance Plan and approved by the Vice President-Generation.

The Generation Division document control procedures shall require that documents be controlled as appropriate considering the type of document involved and its importance to safety. Accordingly, they shall specify the types of documents which must be controlled; identify the difference between controlled and uncontrolled copies of the same document; include the method for identifying holders of controlled copies; require that only controlled copies of a document be used for official purposes; require lists of effective revisions be issued periodically; require distribution lists for the documents to be maintained by the distributors; require that distributors transmit controlled documents using Generation Division forms internally and approved forms externally; and require holders of controlled copies of documents to assume responsibility for the document and revisions as well as to certify that the document and/or revisions are entered and implemented. Types of documents which are controlled to various degrees include Technical Specifications, FSAR, Operational Quality Assurance Plan, procedures (such as, quality assurance, operation, repair, maintenance, health physics, fuel handling, modification, administrative, and environmental procedures), specifications, drawings, inspection and test results, procurement documents, quality assurance documents, and nonconformance and corrective action documentation.

The Generation Division document control procedures shall further require that each Manager provide in their department procedures for measures: to ensure documents are available when required; to properly review and approve documents such as procedures, instructions, specifications, drawings, etc.: to ensure

changes to documents are reviewed and approved by the same organizations that performed the original review and approval of the document; to ensure that approved changes are promptly transmitted for incorporation into documents; and to ensure that obsolete or superseded documents are eliminated from the system and not used. Approved changes shall be included in instructions, procedures, drawings and other documents prior to implementation of the change. Tables 2 and 3 of this plan provide lists of procedure and document categories. These tables specify review, concurrence, and approval requirements for the included procedures and documents. A master list or lists shall be established to identify the current revision number of controlled documents: the procedure, instruction, and drawing lists are the responsibility of the Manager-Generation Administration; the specification list is the responsibility of the Manager-Generation Engineering. Re Ch.

The Manager-Generation Operations is responsible for the implementation of the document control system for all instructions, procedures, drawings, and other controlled documents received by or prepared at the TMI generating station for use in administering, operating, testing, maintaining, and modifying the nuclear-safety related structures, systems, and components. The Unit Superintendents shall ensure that no changes are made to site instructions, procedures, and drawings unless such changes are approved by the appropriate approving organization.

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

All procurement is conducted in accordance with procurement documents as stated in Section IV. A Manager or Unit Superintendent, when originating a procurement document, is responsible for ensuring that they include appropriate document control provisions for vendors and subvendors, as well as between Met-Ed Company, vendors and subvendors. Re Ch.

Procurement documents, vendor selection, vendor surveillance, and receipt inspection are the four major means of controlling purchased material, equipment, components, and services. All reviews, inspections, surveillances and audits are conducted by personnel who are competent in establishing within the scope of their function whether or not a supplier is capable of providing acceptable quality products. Contractors and consulting firms performing services for Metropolitan Edison Company are considered as vendors for the purpose of this Quality Assurance Plan. Re Ch.

The Manager-Generation Quality Assurance is responsible for quality assurance review and concurrence of pertinent documents, including procurement documents, and procedures to assure that proper handling, storing, and shipping requirements have been specified. He is further responsible, through reviews and surveillances conducted by the Supervisor-Quality Control, for ensuring proper implementation of handling, shipping, and storage requirements required of vendors, the station staff, and contractors. The performance of activities discussed above shall comply with the applicable Regulatory Guides and ANSI Standards listed in Table 5.

## VII.1 VENDOR SELECTION

Unless control is assured by the requirements of Receiving Test Inspection (Section VII.4) or the items being procured are designated to be of commercial quality (commercial quality or "off the shelf" items being those for which no QA/QC requirements apply and are normally listed in suppliers catalogs) by the Generation Engineering and Generation Quality Assurance departments, all vendors must be on the approved vendors list prior to the commencement of work. For those situations relating to procurement of services, where a vendor's quality assurance program cannot be evaluated in advance of beginning work, it is permissible to use the vendor's services provided that the site quality control group surveils the vendor's activity during performance of work by the vendor. Vendor evaluations are conducted by a team consisting of qualified personnel from the Quality Assurance Staff, Generation Engineering Staff, and/or other interested parties or their representatives as required. The depth of the vendor evaluation will vary depending on the complexity and importance to safety of the item involved.

The Generation Engineering staff is responsible for evaluating the overall design or manufacturing capability of the vendor including his particular technical ability to produce the design, service, item, or component delineated in the procurement document. As part of this review, the vendor's design capabilities, manufacturing capabilities, special fabrication processes, output capabilities, handling capabilities, testing facilities, service capabilities, and experience are reviewed as necessary. The evaluation of vendors includes, as necessary, selection and testing of components in conjunction with receipt inspection and vendor surveillance.

The Manager-Generation Quality Assurance is responsible for review, inspection, surveillance, and audit of the contractor quality assurance program and compliance to procurement documents and, therefore, identification and control procedures. The Generation Quality Assurance staff is responsible, as necessary, for evaluating the vendor's overall quality assurance organization and program in accordance with applicable codes, standards, applicable parts of 10CFR50 Appendix B., and Metropolitan Edison Company requirements. The review includes consideration of: company organization, quality assurance personnel qualifications, review and control of design documents, manufacturing procedures, quality assurance procedures, calibration practices, acceptance criteria, required quality assurance records and their retention, quality assurance requirements and controls imposed by the vendor or his subcontractors, and past performance and historical records demonstrating experience in the field.

Vendor evaluations will be conducted by means of procedures or checklists which identify applicable regulatory or code quality assurance requirements when a code or regulatory requirement is imposed. The evaluation will consist of an examination of past experience or written descriptive material which describes the vendor's manufacturing capability and quality assurance program and/or an inspection of the vendor's facility by the evaluation team for acceptable organization, program capabilities.

Generation Quality Assurance and Generation Engineering document their results in a joint report which discusses the areas investigated, results, and conclusions. If satisfactory, the vendor is added to the approved vendors list. Approval of both the Manager-Generation Quality Assurance and Manager-Generation Engineering, or their designees, is required to place an organization on the approved vendors list but either is authorized to remove a vendor from the list.



without the concurrence of the other. To remain on the approved vendor list, the vendor must be evaluated at least once every five years. Additional reviews are conducted as desired by the Manager-Generation Quality Assurance.

### VII.2 VENDOR SURVEILLANCE

Operational Quality Assurance is responsible for determining and documenting the degree of vendor surveillance (including review, inspection, or audit) required during design, fabrication, inspection, testing, and shipping and for providing the required surveillance. The objective of vendor surveillance is to provide a sampling review of the vendor's Quality Assurance Program implementation and of product conformance with respect to the purchase order requirements. For complex equipment and design, Operational Quality Assurance and Generation Engineering are responsible for joint development of surveillance plans which identify areas to be reviewed in advance of surveillance trips.

The results of the surveillance trip will be documented by means of inspection sheets and a trip report which will be distributed to the Manager-Generation Quality Assurance, the vendor, and the Manager-Generation Engineering or the Unit Superintendent as applicable. When a deviation from purchase order requirements is noted, the Operational Quality Assurance representative has the authority to inform the vendor that a particular item is unacceptable to Met-Ed and will issue a nonconformance report.

The Supervisor-Quality Control is responsible for surveillance of site contractors to assure that they meet all technical and quality assurance/quality control requirements. This surveillance is performed in accordance with written procedures and/or checklists. The reporting and documenting of the surveillance is managed in a similar manner as vendor surveillance.

Vendor surveillance is conducted using the same techniques as delineated in Section V. Operational Quality Assurance maintains a file of all vendor surveillance reports. The results of these reports are used by Operational Quality Assurance in determining vendor surveillance frequencies and continued vendor qualification status.

### VII.3 RECEIPT INSPECTION

The Unit Superintendent is responsible for receiving and storing materials, parts, and components. Upon arrival, the plant storekeeper logs the item on the call sheet, places those items within QC scope in the "hold" area, and notifies the Supervisor-Quality Control by transmittal of an "L form" that the item has arrived.

The site Supervisor-Quality Control is responsible for receipt inspection, in accordance with this Plan, of material, equipment, and associated services for maintenance, repair, and modifications upon delivery at the station site. This inspection shall include the use of written procedures and checklists to verify that the material, equipment, and services conform to the procurement documents (if this has not been performed by source inspections) and that documentary evidence of conformance is available at the station prior to installation or use.

Documentary evidence sufficient to identify the codes, standards, or specifications met by the purchased material, equipment, and services shall be retained. In the event a final source inspection was conducted by Operational Quality Assurance prior to the arrival at the site, the site Warehouse Supervisor performs an inspection for shipping damage or lost parts and a document check to ensure that he either has the proper documentation or a notification from the Manager-Generation Quality Assurance that the required documentation has been reviewed and is adequate. The receiving inspection report is prepared for all items received to document the extent of the inspection performed, including the documents checked, and the inspection results.

Once satisfied that the item and documentation are adequate, the Supervisor-Quality Control labels the item as "Accepted", files the documentation and receipt inspection results, and informs the stock keeper. If the item is nonconforming or the documentation is not adequate, the Supervisor Quality Control labels the item as "Hold", logs the results in the receipt inspection report; prepares a nonconformance report; files all documents including the receipt inspection report and nonconformance report; reports the nonconformance to the Unit Superintendent; the Manager-Generation Quality Assurance, and the purchase order originator; and informs the stockkeeper. All receipt inspection nonconformances must be resolved to the satisfaction of the purchase requisition originator, Manager-Generation Quality Assurance, and the Unit Superintendent; in addition, Generation Engineering approval is required if there is any deviation to any approved generation engineering specification or drawing.

If the receipt inspection nonconformance is resolved by correcting the item or documentation to conform to the requirements, the item is then labeled "Accepted" and the corrective action documentation and amended receipt inspection report is filed with the original documentation. If the item is rejected, it will be either downgraded or disposed of as appropriate and the documentation made to show the disposition. If an item is "used-as-is", its documentation will reflect this fact and include justification for the action.

On a case basis, nonconforming items may be released from stores for "installation but not operation" by either the Manager-Generation Quality Assurance or the Supervisor-Quality Control. Under this condition, a system, component, part or material cannot be made operational or returned to operation, until all non-conformances resulting from the receipt inspections are resolved in accordance with the Nonconformance and Corrective Action Documents section of Table 3 of this Plan.

In the event traceability of an item is lost, the item becomes nonconforming and is controlled as such until traceability is reestablished.

#### VII.4 RECEIVING TEST INSPECTION

An alternate means of control of purchased material, equipment, and services is to perform adequate tests and inspections, upon receipt, to demonstrate specification compliance. For example, if a specification for metal requires chemical and physical certifications, these certifications may be established by tracing this material to its heat number and obtaining the certifications for that heat or upon delivery, samples of the metal may be taken and chemical and physical certification tests made by a testing lab. When procuring pressure switches, tests such as set point accuracy, drift rates, and repeatability may be part of the specification. If so, the required tests could be performed by the supplier or the same tests could be performed as part of a receiving test inspection.

The performance of receipt test inspections is accomplished in accordance with specification requirements, codes, standards, etc., and could be used to verify vendor results and/or to alleviate some or all of the vendor selection requirements and/or surveillances.

Rev 7  
Chg 1

The Manager-Generation Quality Assurance is responsible for ensuring that receiving test inspections are performed by qualified personnel using approved procedures or methods and surveillance for proper test inspection performance. He is further responsible for reviewing and approving the use of receipt test inspections in lieu of vendor qualification and surveillance.

#### Notes:

1. For further detail on nonconformances, refer to Section XV.
2. Materials manufactured by Metropolitan Edison Company are subject to controls similar to those required for purchased items in this section.
3. For nuclear fuel, the Manager-Generation Operations is responsible for ensuring proper management of the technical aspects involving-vendors.

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

The identification and control of materials, parts, and components is accomplished in accordance with written procedures and applies to material, parts or components in any stage of fabrication, storage, or installation. The identification and control requirements cover items including: traceability to associated documents such as drawings, specifications, purchase orders, manufacturing test data and inspection documents, and physical and chemical mill test reports; specification of the degree of identification and control necessary; location and method of identification to preclude a degradation of the item's functional capability or quality; and the proper identification of materials, parts, and components prior to release for manufacturing, shipping, construction, and installation.

The Manager-Generation Engineering is responsible for ensuring that procurement documents contain appropriate requirements for the identification and control of materials, parts, or components (heat number, part number, serial numbers, drawing identification numbers, etc.). The Manager-Generation Quality Assurance is responsible for quality assurance review and concurrence with procurement and installation documents, and therefore, identification and control requirements. The Unit Superintendents are responsible for maintaining identification and control of materials, parts, or components received, stored, installed, and used at the station site in accordance with written procedures.

In the event that traceability is lost for a specific item, it will be handled as nonconforming material and treated in accordance with section XV.

In the case of nuclear fuel, the Manager-Generation Operations is responsible for ensuring proper management of procurement documents, including the requirements for identification and control of materials, parts, and components.

#### SECTION IX CONTROL OF SPECIAL PROCESSES

For work performed by vendors or Metropolitan Edison Company, written procedures are established and qualified, as required, for special processes, such as welding, heat treating, cleaning and nondestructive examination (NDE). These procedures ensure compliance with applicable codes, standards, design specifications, and vendor's requirements. When special processes and qualification requirements are not included in existing codes and standards, they are described in procedures which give details of the special process, personnel qualification requirements, necessary equipment, and the special process qualification requirements. The performance of special processes as discussed above shall comply with the applicable Regulatory Guides and ANSI Standards listed in Table 5.

The Manager-Generation Engineering, Manager-Generation Maintenance, and Unit Superintendents are responsible for requiring vendors, in procurement documents, to control special processes in accordance with the above requirements. The Manager-Generation Quality Assurance is responsible for review of requirements for control of special processes in procurement documents.

The following reviews and approvals are required for special process procedures submitted by vendors in accordance with procurement document requirements and for all Metropolitan Edison Company special process procedures:

- 1) Special process procedures other than nondestructive examination procedures are reviewed for concurrence with quality assurance requirements by Operational Quality Assurance and approved by the Manager-Generation Engineering or Manager-Generation Maintenance, as appropriate.
- 2) Nondestructive examination procedures are approved by the Manager-Generation Quality Assurance. However, if required by applicable codes or standards, he also ensures that the procedures are approved by formally qualified examiners prior to granting his approval.



The Manager-Generation Maintenance and the Supervisor of Maintenance are responsible for ensuring that the personnel performing special processes under their cognizance are qualified and using qualified procedures in accordance with applicable codes, specifications and standards. The Manager-Generation Quality Assurance is responsible for the qualifications of NDE personnel and procedures. The Manager-Generation Maintenance, Supervisor of Maintenance, and the Manager-Generation Quality Assurance maintain records for their personnel and their procedures to demonstrate that required qualifications have been obtained and are maintained current.

The site and/or home office Operational Quality Assurance staffs perform surveillances, inspections, and audits of special processes performed by the plant staff or site contractors to ensure compliance with procedures.

#### SECTION X INSPECTION (SURVEILLANCE)

Procedures prepared for the control of activities performed by Metropolitan Edison Company personnel shall include surveillance requirements and hold points as required by drawings, instructions, requirement documents, specifications, codes, standards, or regulatory requirements. These surveillances shall be performed by personnel from the Operational Quality Assurance Department or others who are independent of the personnel actually performing the work. These personnel shall be qualified in accordance with applicable codes, standards, and company training programs, and their qualifications and certifications kept current.

Surveillance programs shall utilize written and approved surveillance packages. These packages shall include (as applicable): procedures, checklists, instructions, drawings, and specifications which specify surveillance scope, personnel qualification requirements, surveillance method description, equipment requirements, including calibration requirements, limiting conditions, environmental conditions, prerequisite conditions, acceptance and rejection criteria, data collection requirements, and documentation approval, retention and storage requirements.

During normal unit operation or functional testing, the surveillance program shall include random observation of operations and functional testing. Inspections, examinations, measurements, or tests of materials, products, or activities performed for each work operation where necessary to assure quality, whether the work is done by the station staff or an outside contractor.

In the event a surveillance of processed material or products is impossible or impractical, indirect control by monitoring processing methods, equipment, and personnel is required. Both inspection and process monitoring shall be provided when control is inadequate without both.

The Manager-Generation Quality Assurance is responsible for quality assurance review and concurrence of procurement specifications and installation requirements which include surveillance requirements.

## SECTION XI TEST CONTROL

Whenever testing is required to demonstrate that a material, part, component, or system will perform satisfactorily in service (whether it be prototype, preoperational, proof, or operational surveillance testing) a test program shall be instituted employing written and approved procedures which are in accordance with the basic requirements established in the Technical Specifications, drawings, instructions, procurement documents, specifications, codes, standards, and regulatory requirements (Regulatory Guides and ANSI Standards included in the OQA Program are Listed in Table 5). Test procedures shall include provisions for assuring that all prerequisites for the given test have been met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions. Test results shall be documented and evaluated to assure that test requirements have been satisfied.

The Unit Superintendent is responsible for the operation and maintenance test programs, including the surveillance test program required by the Technical Specifications. The test program and procedures shall be prepared by Generation Engineering or the unit staff, reviewed by the Plant Operations Review Committee when required by the Technical Specifications, and approved by the Unit Superintendent.

The Unit Superintendent is responsible for the performance of the required tests in a correct and timely manner utilizing written and approved procedures. When site contractors are employed for tests, the Unit Superintendent is responsible for provisions that require the site contractor to provide a testing program which satisfies the requirements of this Quality Assurance Plan. He is further responsible for requiring that test results are documented, reviewed, and approved.

The Manager-Generation Engineering is responsible for ensuring that required tests for modifications are specified in procurement documents and/or modification requirement documents. He is further responsible for assisting the TMI staff in the preparation of station-related test procedures.

The Manager-Generation Quality Assurance is responsible for ensuring that test requirements contained in procurement and other requirement documents are reviewed, from a quality assurance standpoint. The Supervisor-Quality Control is responsible for quality assurance review and concurrence with station test procedures. As appropriate, the Supervisor-Quality Control prepares quality assurance checklists for site modification, repair and maintenance-type tests which define the monitoring, inspection, and checks Operational Quality Assurance personnel will perform.

## SECTION XII CONTROL OF MEASURING AND TEST EQUIPMENT

The following requirements for the control of measuring and test equipment apply to the station staff and vendors:

1. The calibration and control of measuring and test equipment includes calibration techniques, calibration frequencies, and maintenance and control requirements of measuring and test instruments, tools, gauges, fixtures, reference standards, transfer standards, and nondestructive test equipment which are used in the measurement, inspection, and monitoring of components, systems, and structures. Establishing calibration techniques includes specifying step-by-step methods for calibration and specifying instrument accuracy requirements. Required calibration frequency is based on required accuracy, degree of usage, stability characteristics, manufacturer's recommendations, experience, and other conditions affecting measurement capability. Maintenance includes preventive and corrective maintenance performed on the equipment.
  
2. Control of measuring and test equipment requires: a recall system assuring timely calibration of equipment; a system providing unique identification of equipment, traceability to calibration test data, and identification of the next calibration date on the equipment; a system providing traceability of referenced standards to a recognized body of standards and periodic revalidation of reference standards; a system providing for records to be maintained which indicate the complete status of all items under the calibration system including the maintenance, calibration results, abnormalities, and last and future calibration dates; and a system controlling the purchase requirements and acceptance tests of new equipment to be entered into the calibration and control system including requirements for accuracy, stability, and repeatability under normal use conditions. In the event a measuring instrument is found out of calibration, an investigation will be conducted to determine the validity of previous measurements.

The Unit Superintendent is responsible for the procedures and programs required to assure control, calibration, and testing of measuring and test equipment at TMI in accordance with the above requirements. Instruments specified in the Technical Specifications Section 4.1 are periodically checked, calibrated, and tested in accordance with written surveillance procedures. Tools, gauges, and instruments necessary for maintenance, inspections, and tests are calibrated and controlled in accordance with unit maintenance procedures. Measuring, test, or inspection equipment used by the site Operational Quality Assurance Staff is included in the unit procedures. The Unit Superintendent is responsible for requiring calibration and control requirements on measuring and test equipment in procurement documents which he issues.



### SECTION XIII HANDLING, STORAGE, AND SHIPPING

The Station/Senior Unit Superintendent is responsible for developing and implementing general station procedures for the handling, storage, shipping, preservation, and cleaning of material and equipment delivered to or located at TMI. Under normal circumstances, the manufacturer's specific written instructions and recommendations along with purchase specification requirements (where applicable) shall be invoked on cleanliness, preservation, special handling, and storage with respect to environmental requirements. In the absence of, or in addition to, specific manufacturer requirements, the Station/Senior Unit Superintendent may invoke additional requirements in accordance with the station procedures.

The Manager-Generation Engineering is responsible for specifying in the procurement documents and in modification requirement documents that written procedures be used as appropriate for the handling, shipping, storage, cleaning, and preservation of materials and equipment procured. These procedures shall be prepared by contractors or by the station staff as appropriate. Procedures not involving the station stores facilities shall be reviewed and approved by the Manager-Generation Engineering when so specified in the procurement or modification requirement documents. Procedures involving the station stores facilities shall be reviewed and approved by the Station/Senior Unit Superintendent. They shall also be approved by Manager-Generation Engineering when so specified in the modification requirement documents.

In the preparation of documents, including procurement documents, station requirement documents, contractor procedures, station procedures, etc., consideration of handling, shipping, storage, cleanliness, and preservation shall be given to all material and equipment throughout various stages of manufacturing and installation prior to operational acceptance.

The Manager-Generation Quality Assurance is responsible for review of and concurrence with pertinent documents and procedures to assure that proper handling, storing, and shipping requirements have been specified. He is further responsible for ensuring proper implementation of handling, shipping, and storage requirements required of vendors. The Supervisor-Quality Control is responsible for review and surveillance of handling, storage, and shipping of materials and equipment by vendors, the station staff, and contractors. The performance of activities discussed above shall comply with the applicable Regulatory Guides and ANSI Standards listed in Table 5.

### SECTION XIV INSPECTION, TEST AND OPERATING STATUS

All items received at the station, which require identification and control in accordance with the Quality Assurance Systems List, shall be identified and controlled, until installation, in accordance with the Operational Quality Assurance procedures titled "Receipt Inspection of Material and Equipment".

This procedure defines the appropriate identification and control requirements, such as: identification by means of stamps, tags, labels, routing cards, or other suitable means; requirements for segregation during storage; procedures for maintaining identification and traceability to the manufacturer and receipt inspection documentation; and a means of identifying the status of the item with respect to release for use. In general, an item, not actually installed in a system, requiring identification and control, shall be positively marked with respect to traceability requirements and whether it is suitable for use. In the event the traceability is either lost or destroyed, the item shall be considered nonconforming until otherwise identified.

The Unit Superintendents shall be responsible for implementing storage requirements and ensuring that their personnel abide by the identification and control procedures.

The Unit Superintendents are responsible for the unit procedures relating to the operational status of the units. These procedures indicate by use of markings, logs, or other suitable means the test or operational status of all nuclear safety-related systems and their components when in other than normal status.

Items removed from a plant system shall be identified and controlled in accordance with the Operational Quality Assurance procedure titled "Receipt Inspection of Material and Equipment", if they are to be replaced or stored and if it is required in accordance with the Quality Assurance Systems List. In general, no item shall be placed back into a controlled system without meeting the same type of identification and control requirements as a replacement part. An item which is removed and stored shall meet similar identification and control requirements as an item received at the site. If the item is to be no longer used, no control or identification is required.

The Unit Superintendents are responsible for the establishment, implementation and approval of surveillance test schedules which reflect Technical Specification requirements. They shall also be responsible for accurate and complete documentation of all tests, inspections and checks completed. The Supervisor-Quality Control shall review and audit the schedules for completeness and accomplishment at intervals consistent with the inspection or test interval.

Tests and inspections required as a result of repair, modification, or maintenance shall be conducted in accordance with specifications, maintenance procedures, etc. The procedures for performing the work shall require sign-off on travelers or similar documents to assure that required inspections and tests are performed. The procedures shall be prepared and approved by the responsible organization as defined by unit procedures, specifications, Operational Quality Assurance procedures, etc., and shall be reviewed and audited by Operation Quality Assurance. All required documentation shall be maintained in accordance with document control practices.

## SECTION XV NONCONFORMANCES

Nonconformances, as discussed herein, include both hardware problems involving materials, parts, components, or systems which do not comply with licensing, codes, specifications, or drawing requirements, and non-hardware problems such as failure to comply with the operating license, technical specifications, procedures, regulations, etc., with respect to tests, operations, etc.

Rev  
Chen

The requirements for identification, reporting, segregation, disposition, and management review are included in the general generation procedure. Specific implementing procedures (e.g., audits, receipt inspection, nonconforming station equipment, etc.) provide detailed instructions for controlling nonconformances.

It is the responsibility of anyone who detects a nonconformance to report it in accordance with the applicable generation procedure. This procedure describes the method for recording, identifying, and segregating nonconformances and notifying affected organizations.

The Manager-Generation Quality Assurance is responsible for the administration of nonconformances found both within and outside the Operational Quality Assurance organization. He shall ensure that each nonconforming item is documented including the description of the nonconformances, its disposition and inspection requirements; and signature approval of the disposition is included. In addition, the Manager-Generation Quality Assurance is responsible for ensuring that nonconformances which are identified by means of quality assurance staff surveillances or audits, are resolved in accordance with Quality Assurance organization nonconformances and audit procedures. Periodically, he shall analyze nonconformance reports to check for any quality trends. The results from these checks shall be reported to higher management for review and assessment.

Specific quality assurance procedures shall also be maintained regarding nonconformances in connection with areas such as receipt inspections and vendor surveillances. The Supervisor-QA and the Supervisor-QC are both responsible for the implementation of these procedures for the Corporate Technical Support Staff and Three Mile Island respectively, and for the documentation on disposition of nonconforming items. Both maintain a separate file of nonconforming items with the status of corrective action on each item and ensure that timely corrective action is taken and that the item is closed out. In the event prompt corrective action is not taken, they shall notify the Manager-Generation Quality Assurance so that corrective action can be expedited.

Each manager and the Unit Superintendents shall have the responsibility and authority for the disposition and approval of nonconforming items under their cognizance. Whenever a nonconformance requires rework or repair of materials, parts, components, systems, and structures, the rework or repair must be verified as satisfactory by an inspection of the affected item which is the same, or at least equal to the original inspection method. This inspection shall be documented in the inspection, rework, or repair procedure. Any nonconformance which is dispositioned "use as is" or "repair" requires formal documentation in accordance with appropriate procedures. In the case of an outside contractor, he is required to formally report such a disposition to Met-Ed for concurrence.

## SECTION XVI CORRECTIVE ACTION

Generation Division Procedures shall establish requirements for obtaining corrective action to nonconformances described in Section XV and XVIII. The procedures shall include provisions for the determination of suitable corrective action, assignment of responsibility for timely disposition and follow-up action; the authority for approval of proposed corrective action and the required corrective action documentation. The determination of appropriate corrective action shall, in the case of significant conditions adverse to quality (i.e., those conditions which require reporting to the NRC per the technical specifications), take into account the cause of the problem to ensure that the solution reduces the probability of a repetition of the problem; consideration should also be given to other areas which could experience similar problems.

The Manager-Generation Quality Assurance is responsible for ensuring that appropriate corrective action is taken for nonconformances discovered within his operational quality assurance staff. He is responsible for ensuring that suitable corrective action is assigned and taken for nonconformances identified by other departments and the station staff. He is also responsible for ensuring that the nonconformance, the cause of the nonconformance and the corrective action taken by the responsible groups are reported to the appropriate plant and corporate management for their review and assessment.

Each manager and unit superintendent is responsible for ensuring that conditions adverse to quality under his cognizance (such as nonconformances, failures, malfunctions, deficiencies, deviations, and defective material and equipment) are evaluated to determine the need for corrective action in accordance with established procedures and requirements.

The audit and surveillance finding follow-up activities shall be performed in accordance with a written procedure which ensures verification of the timely and proper implementation of corrective action to preclude repetition of deficiencies.

## SECTION XVII QUALITY ASSURANCE RECORDS

The Manager-Generation Administration shall be responsible for the collection, storage, and maintenance of Quality Assurance Records. Quality assurance records include those records required by the Technical Specifications, Section 6.10; the ANSI Standards listed in Table 5; documentation of principal maintenance and modification activities; event reports; results of reviews, inspections, tests, audits, and appropriate material analyses; monitoring of work performance (i.e. surveillances); qualification of personnel, procedures, and equipment; and other documentation such as drawings, specifications, procurement documents, calibration procedures and reports; nonconformance reports and corrective action reports.



The Manager-Generation Administration is responsible for providing procedures which ensure the maintenance of records sufficient to furnish objective evidence that activities affecting quality which are in compliance with the applicable requirements of the referenced Regulatory Guide/ANSI Standard. He is also responsible for ensuring that the Operational Quality Assurance Staff reviews and concurs with Generation Division Records Procedures as specified Table 3.

The Manager-Generation Quality Assurance is responsible for review, inspection, surveillance, and audit, as appropriate, of document control systems to ensure that adequate systems are implemented.

Requirements and responsibilities for preparation, inspection, identification, review, storage, retrieval, maintenance, and retention period of quality assurance records will be in accordance with the applicable record procedures.

The Manager-Generation Engineering is responsible for implementing procedures for the preparation and maintenance of design records such as specifications, design reports, as-built drawings, etc.

#### SECTION XVIII AUDITS

The Manager-Generation Quality Assurance shall be responsible for a comprehensive system of planned and periodic audits to verify compliance with all aspects of the Operational Quality Assurance Program, and to ensure the adequacy of the program. A formal schedule for these audits will be maintained and up-dated every six months. At least once every two years an audit will be performed in each area covered by the Operational Quality Assurance Plan and those additional areas prescribed by the Unit Technical Specifications. Also, audits will be performed as required for special evaluations such as major modifications. Audits not on the six month schedule may be conducted in areas suspected for noncompliance or inadequacy. When functioning within the scope of the Operational Quality Assurance Program, both Met-Ed and organizations providing it with goods and/or services are subject to the appropriate requirements of this program and thus, audits. Audits that are conducted on organizations within Met-Ed are designated as internal audits and audits conducted on all other organizations are designated as external audits. As described in Section I, the Manager-Generation Quality Assurance shall have the authority and organizational freedom to schedule and perform both internal and external audits as well as provide and/or ensure corrective action.

Audits shall be conducted using a written and documented plan in accordance with an audit procedure. Audits shall include (as required) but are not limited to an evaluation of work areas, activities, processes, goods, services, and the review of documents and records for quality-related practices, procedures, and instructions to determine the adequacy of the implementation of this Quality Assurance Program and compliance with 10CFR50 Appendix B. Rev  
2/3



Audit reports shall be transmitted via the Manager-Generation Quality Assurance to the responsible manager or outside organizations. It is the responsibility of the cognizant manager or the person in the outside organization specifically designated as responsible, to review the audit report and to ensure that corrective action is accomplished in a timely manner. The Manager-Generation Quality Assurance is responsible for timely follow-up action (including reaudits) as required to ensure corrective action has been taken. The second and subsequent audits in a given area shall be considered reaudits in that they provide the opportunity for a verification of the implementation of the corrective action; this mechanism will help to minimize any recurrence of deficiencies. Audit findings are documented in the audit report and all corrective action, follow-up action, and reaudits are documented with reference to the original audit report.

At least once every two years, the Vice President-Generation shall be responsible for the performance of an independent review of the Operation Quality Assurance Program and related activities. The purpose of this review is to evaluate the effectiveness of the program, outline trends and to ensure proper compliance with Met-Ed policy and the 10CRF50 Appendix B criteria.

In addition to the above-described audit program, the General Office Review Board shall be responsible for the conduct of special reviews, audits and investigations as requested by the President of Metropolitan Edison Company or as deemed necessary by themselves to confirm the adequate functioning of the unit and corporate staff. These audits may be assigned to other qualified persons having no direct line of responsibility for day-to-day operations of the plant, including Met-Ed Quality Assurance personnel. To prevent unnecessary duplication, some General Office Review Board audits may also serve to satisfy audits scheduled by the Manager-Generation Quality Assurance. The results of General Office Review Board audits shall be reported to the Met-Ed President, Vice President-Generation, Manager-Generation Quality Assurance, Manager-Generation Operations-Unit Superintendents, and others, as appropriate.

The scope of the audit program is the following thirty-one areas which will be audited at a minimum frequency as determined by the audit procedure GP 4016.

1. Organization
2. Quality Assurance Program
3. Design Control
4. Procurement Document Control
5. Instructions, Procedures and Drawings.
6. Document Control
7. Control of Purchased Material, Equipment and Services
8. Identification and Control of Material, Parts and Components

9. Control of Special Processes
10. Inspection
11. Test Control
12. Control of Measuring and Test Equipment
13. Handling Storage and Shipping
14. Inspection, Test and Operating Status
15. Nonconforming Materials, Parts, or Components
16. Corrective Action
17. Quality Assurance Records
18. Audits
19. Normal Station Operations
20. Inservice Inspection
21. Refueling
22. Radiological Controls
23. Station Maintenance (Includes Modifications)
24. Technical Specifications - App. A
25. Technical Specifications - App. B
26. Training and Qualifications of Station (and Support) Staff
27. Emergency Plan
28. Industrial Security Plan
29. Special Evolutions (e.g. Major Modifications)
30. Fire Protection Program
31. Special Nuclear Material

F. MET-ED/GPU SERVICE CORP. INTERFACE

The GPU Service Corporation (GPUSC) was established as a subsidiary of General Public Utilities Corporation (GPU) to provide various technical and administrative

services to the operating subsidiaries of GPU - Met-Ed, Jersey Central Power and Light Company, and Pennsylvania Electric Company. Met-Ed has complete responsibility for the engineering, design, construction, operation, and maintenance of the Three Mile Island Nuclear Station. Under the provisions of the service contract with GPUSC, Met-Ed has assigned responsibility for the overall direction and administration of the design, construction, initial test (pre-operational and start-up) program. These activities are being conducted as described in the TMI-1 and TMI-2 Final Safety Analysis Reports and in accordance with the TMI Project Organization and Responsibilities Document which was approved by Met-Ed. The Organization and Responsibilities Document required the development and implementation of three quality assurance plans in fulfillment of the project quality assurance program; i.e., Design and Construction QA Plan, Startup and Test QA Plan, and the Initial Fueling QA Plan. These plans control their appropriate activities during the time period from receipt of the operating license until commercial operation as well as their appropriate activities prior to receipt of an operating license. (Commercial operation will commence upon completion of power operations testing.) These QA plans define, and assign responsibilities for implementing the requirements of NRC regulation 10CFR50 Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants" for the activities covered by each plan.

Met-Ed fulfills its responsibilities as the Applicant for the construction permit and holder of the operating license through several management mechanisms. These mechanisms are incorporated into the Project Organization and Responsibilities Document. They are:

1. An officer of Met-Ed is designated as being responsible for all official communications with the NRC
2. Met-Ed approves directly, or by inclusion in the Safety Analysis Report, project QA Plans and revisions thereto
3. The Vice President-Generation of Met-Ed maintains current awareness of the status of quality related matters on the project by receiving:
  - a. Copies of all deficiency reports issued by the project QA organization
  - b. Monthly status report of disposition of these deficiency reports.
  - c. Copies of reports of audits conducted by the project QA organization
4. The Vice President-Generation of Met-Ed receives a monthly report of the project QA organization activities

5. The Vice President-Generation receives a copy of a semi-annual report on the activities of the GPUSC QA Department
6. The Vice President-Generation participates in a management review of the effectiveness of the GPUSC QA programs at least once each calendar year.
7. The Vice President-Generation has line responsibility for the TMI station staff which officially accepts equipment and systems after successful startup and test. The official acceptance involves a review of all documentation related to the equipment or system which is being accepted to verify that the equipment or system is ready for operation and the documentation is complete

Subsequent to commercial operation of the unit, the Vice President-Generation may utilize the services of GPUSC to support design, modification, maintenance, repair, procurement, special processes, inspections, and tests. In such instances, the GPUSC personnel will either be integrated into the Met-Ed organization and they will function in the same manner as employees of Met-Ed, or Met-Ed will establish and implement organizational, administrative, and reporting arrangements equivalent to those described previously for the precommercial phase of the project. If the latter arrangement is utilized, the Vice President-Generation will review and approve the Project Organization and Responsibilities Document and the Project QA Plan to ensure that these arrangements are in compliance with the requirements of this Operational Quality Assurance Plan. He will also ensure that appropriate audits are conducted of the GPUSC QA program.

Consistent with Chapter 13 of the TMI-1 FSAR and Chapter 14 of the TMI-2 FSAR, maintenance and system modifications, identified during the conduct of initial testing as being necessary, may be accomplished in accordance with the provision of the GPUSC Start-up and Test Quality Assurance Plan.

#### G PROVISIONAL LIST OF PROCEDURES IMPLEMENTING THE QUALITY ASSURANCE PROGRAM

The list of procedures given below is tentative and may change as the Quality Assurance Program is implemented. A change may be reflected in the title or number of procedures but areas discussed in this attachment as well as areas not discussed in this attachment will be implemented by written procedures as required by this Operational Quality Assurance Plan.

It is not intended to amend this Plan for procedure title or quantity changes.

GP 4001

#### QC Personnel Duties, Authority, and Responsibilities

Establishes the authority, responsibilities, and duties of Met-Ed's Quality Control assigned to the Three Mile Island Nuclear Generating Station.

GP 4003                    Operational Quality Assurance Personnel Training

Establishes the education and training program for personnel assigned to TMI.

GP 4004                    Review of Design  
                                 Specifications and Documents

Establishes requirements for the review of design specifications and documents to assure that applicable regulatory requirements and the design basis for those structures, systems, and components which are nuclear-safety-related items, are correctly translated into specifications, drawings, procedures, and instructions.

GP 4005                    Review of  
                                 Procurement of Documents

Delineates the QA requirements for review of procurement documents prepared for the purchase of material to be utilized for modification or repair of nuclear-safety-related systems or components. The QA review process will ensure that applicable regulatory requirements which are necessary to assure adequate product quality are included in the procurement documents.

GP 4008                    Receipt Inspection of  
                                 Material and Equipment

Defines the responsibilities of QC in performing the receiving inspection of nuclear-safety-related material and equipment for the TMI Station.

GP 4015                    Audit Finding Closeout Program

Describes the corrective actions required for QA/QC audit findings, for QC surveillance findings, or hardware failures.

GP 4407                    Regulatory Retention and Storage of  
                                 Quality Control Department Records

Establishes the requirements for retention of QC records.



GP 4016

Audit Program

Establishes the requirements for a comprehensive system of documented, planned, periodic audits to verify the extent of compliance with all aspects of the Met-Ed Operational Quality Assurance Program. The audit system also provides for reporting, review, and follow-up action, including the reauditing of deficient areas.

GP 1017

Control of Met-Ed Performed  
Special Processes

Assures that adequate control is exercised over the special processes of welding, heat treating, special cleaning processes, nondestructive testing, and acid pickling when such processes are performed by Met-Ed personnel.

GP 1008

Quality Assurance  
Systems Lists

Lists for each operating Met-Ed nuclear generating unit those structures, systems, and components which must comply with the requirements of the Met-Ed Operational QA Program and AEC Regulation 10CFR50 Appendix B.

GP 0038

Reporting of Significant  
Operating Experience

Describes administrative action to be followed by all Met-Ed generating facilities in reporting significant operating experiences.

GP 1026

Control of Generation  
Engineering Records

Provides requirements for the retention and control of those Generation Engineering Department records which furnish documentary evidence of engineering activities affecting quality.

GP 1019

Control of Vendor  
Special Processes

Assures that adequate control is exercised over contractor and/or vendor special processes, such as welding, heat treating, cleaning processes, nondestructive testing, coating processes, plating processes, chemical processes, and surface finishes.

GP 1015

Administrative Controls for  
Preparation, Approval, and Revision of TMI Drawings  
To Show As-Built Conditions

Provides administrative controls for the preparation, approval, and revision of as-built drawings to be applied to all Met-Ed generation stations.

GP 1000

Standard Memoranda

Establishes a versatile form for documentation of activities performed within the Generation Engineering Department.

GP 1021

Evaluation of Tests and Test Results

Establishes the responsibility of the Met-Ed Generation Engineering Department for reviewing and evaluating test reports/results of all tests performed by outside sources, in accordance with purchase documents and specification requirements, or by station personnel for those tests identified by the Generation Engineering Department that must be performed following a modification.

GP 1011

Preparation, Changing and  
Issuance of Specifications and Bills of Material

Specifies Generation Engineering Department requirements for the preparation, review, and approval of procurement specifications and changes thereto, as they apply to all existing and new specifications.

GP 1025

Evaluation and Corrective Action of  
Conditions Adverse to Quality

Establishes measures for the evaluation and correction of conditions adverse to quality on work or items under the control of the Generation Engineering Department.

GP 1024

Identification and Evaluation  
of Nonconforming Materials,  
Parts, and Components

Delineates the methods for handling engineering evaluations of nonconforming materials, parts, and components.

GP 0007

Generation Division Departmental  
Training and Retraining

Provides a method of assuring that initial training and retraining of all Generation Division personnel is properly evaluated, organized, and documented.

GP 1009

Procurement Document Control

Specifies requirements for the control of procurement documents for materials, part, components, and services required to perform design, maintenance, repair, modification, testing, refueling, inservice inspection, and/or QA functions in support of Met-Ed nuclear generating stations.

GP 0001

Origination, Promulgation, and Revision of  
Generation Division Procedures

Defines the responsibilities of the Generation Division personnel concerning the origination, promulgation, and revision of division, department, and section procedures.

AP 1009

Station Organization and  
Chain of Command

Defines the on-site organization and the chain-of-command that will be responsible for the operation and maintenance of the TMI Nuclear Generation Station.

AP 1001

TMI Procedure Control

Establishes the requirements and defines the responsibilities for control of all TMI plant procedures and revisions thereto.

AP 1018

Quality Control Warehousing

Provides instruction in the identification and control of nuclear-safety-related materials, parts, and components stored or handled in the TMI warehouse.

AP 1019

Qualification of Personnel  
Performing Special Processes

Establishes the requirements to assure that special processes are controlled and accomplished by qualified personnel using approved and qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

AP 1020

Cleanliness Requirements

Defines the cleanliness requirements for the operation and maintenance of the TMI Station.

AP 1010

Surveillance Test Schedule

Provides directions for department heads, shift supervisors, and testing personnel to aid in the timely performance and documentation of plant surveillance tests.

AP 1022

Control of Measuring and Test Equipment

Establishes the requirements and defines the responsibilities for the control, calibration, and periodic adjustment of tools, gages, instruments, and other measuring and test equipment used to verify conformance to established requirements of recognized standards.

AP 1023

Test Equipment Recall

Delineates the requirements for establishing and maintaining a system that assures the recall for calibration of all testing and measuring instruments on a scheduled basis.

AP 1011

Controlled Key Locker Control

Establishes the methods used to assure that only authorized personnel have access to controlled areas, rooms, cabinets, and equipment involved in critical operations at the TMI Station.

AP 1012

Shift Relief and Log Entries

Establishes the requirements for recording station operating activities in logs or other controlled documents on a shift basis.

AP 1015

Required Reports and Notification

Defines the reports and notifications required at TMI.

AP 1024

Control of TMI QC Records

Provides guidelines to the TMI staff for the collection, storage, and maintenance of QA records associated with the operating phase of the TMI Station.

AP 1016

Implementation and Control of Station  
Maintenance and Modifications

Describes the current maintenance effort of TMI, outlines a new standardized maintenance and surveillance concept, and describes the transition process from the current system to the new system.

AP 1013

Bypass of Safety Functions and Jumper Control

Establishes methods to insure that bypassing of reactor safety functions, installations of electrical jumpers, and lifting of electrical leads will be properly controlled, identified, and recorded in the appropriate control room logs.

SUMMARY OF QUALITY ASSURANCE SYSTEMS  
OR PARTIAL SYSTEM LISTS

1. Control Building Heating and Ventilation System
2. Fuel Handling/Auxiliary Building Ventilation System
3. Reactor Building Emergency Cooling System
4. Reactor Building Spray System
5. Nuclear Chemical Addition and Sampling System
6. Condensate System
7. Core Flood System
8. Chilled Water System
9. Containment Monitoring System
10. Decay Heat Closed Cycle Cooling Water System
11. Emergency Diesel Generator Fuel System
12. Decay Heat Removal System
13. Decay Heat Water System
14. Emergency Feedwater System
15. Emergency Diesel Generator Services
16. Feedwater System
17. Hydrogen Purge Discharge System
18. Main Steam
19. Make-up and Purification System
20. Nuclear Services Closed Cooling River Water System
21. Nuclear Services Closed Cooling System
22. Penetration Cooling System
23. Reactor Coolant System
24. Control Rod Drive Mechanisms



25. Reactor Building Emergency River Water System
26. Spent Fuel Cooling System
27. Screen House Ventilation and River Water System
28. Waste Gas System
29. Liquid Waste Disposal System
30. Solid Waste Disposal System
31. Reactor Building Isolation System
32. 4160 & 480V Class IE Distribution System
33. Emergency Diesel Generators
34. 250/125V D.C. System
35. 120V A.C. Vital Instrumentation Distribution System
36. Reactor Protection System
37. Engineered Safeguards Actuation Systems
38. Air Intake Structure
39. Auxiliary Building
40. Fuel Handling Building
41. Control Building
42. Diesel Generator Building
43. Intermediate Building
44. Reactor Building
45. Intake Screen and Pump House
46. Nuclear Instrumentation and In-Core Monitoring System
47. Radiation Monitoring
48. Fire Protection System
49. Shipping Packages for Radioactive Material

R-7  
CM#2

TABLE 2

## QUALITY ASSURANCE PROGRAM PROCEDURE CATEGORIES AND APPROVALS

<u>PROCEDURES</u>	<u>SUBJECTS COVERED</u>	<u>PREPARED BY</u>	<u>REVIEWED BY</u>	<u>QUALITY ASSURANCE CONCURRENCE REQUIRED</u>	<u>APPROVED BY</u>	<u>ISSUED BY</u>
<b>I. <u>Generation Division</u></b>						
Generation Division Procedures	Activities which affect several groups within the Generation Div. and which should be controlled in a uniform manner. Examples: Organization, duties, and responsibilities of Gen. Div. personnel.	Assigned division personnel	Affected Generation Div. Managers; others as required	Manager-Generation Quality Assurance or his designee*	V.P.-Generation or his designee*	V.P.-Generation
<b>II. <u>Operational QA</u></b>						
A. QA Procedures and Non-destructive Examination Procedures	Home Office QA activities and company wide QA procedures. Examples: Performance of Audits, Vendor Evaluation, NDE.	Home Office QA or Site QA/QC personnel, as appropriate	Home Office QA Personnel--others as appropriate	Manager-Generation Quality Assurance or his designee*	Manager-Generation QA; or his designee* Qualified Personnel for NDE Procedures, as required	Manager-Generation QA
B. Site QA/QC Procedures	Site QA/QC activities, e.g., Surveillance of Site Contractors, Surveillance of Plant Operations, Receipt Inspection	QC Specialists or Assistants	Supervisor-QC, others as appropriate	Manager-Generation Quality Assurance or his designee*	Supervisor-QC or his designee*	Supervisor-QC
C. Site QA Checklists	Detailed inspections or surveillance to be performed on specific operations, for example, replacement of a valve or a special test.	QC Specialists or Assistants	QC Specialists/ Assistants--others as appropriate	Supervisor-QC or his designee*	Supervisor-QC or his designee*	Supervisor-QC

NOTE: EXCEPT FOR SPECIAL PROCESSES AS DISCUSSED ABOVE, GENERATION MAINTENANCE PERSONNEL, E.G., MOBILE MAINTENANCE CREWS, USE THREE MILE ISLAND PLANT PROCEDURES WHEN THEY PERFORM WORK AT THE PLANT.

TABLE 2 (Cont'd)

<u>PROCEDURE</u>	<u>SUBJECTS COVERED</u>	<u>PREPARED BY</u>	<u>REVIEWED BY</u>	<u>QUALITY ASSURANCE CONCURRENCE REQUIRED</u>	<u>APPROVED BY</u>	<u>ISSUED BY</u>
<u>III. Generation Operations</u>						
A. Staff Administrative Procedures	Generation Operation activities	Generation Operation Staff	Manager-Generation Operations	Manager-Generation QA or his designee* (procedures required by Part G)	Manager-Generation Operations or his designee*	Manager-Generation Operations
B. Three Mile Island Plant Procedures	Plant operation, test, maintenance, repair, modification, inservice inspection, health physics, administrative, emergency procedures.	Three Mile Island Plant Staff	Maintenance, Technical, Operations, Health Physics Engineers, as appropriate--Plant Operations Review Committee	Supervisor-QC for plant maintenance, repair and modification procedures on systems per GP 1008; Manager Generation QA or his designee on procedures per AP 1001.	Three Mile Island Station Superintendent or his designee*. PORC, as required.	Three Mile Island Station Superintendent
C. Environmental procedures	Plant Environmental Procedures	Three Mile Island Plant Staff	Three Mile Island Technical Engineer (or alternate)--Plant Operating Review Committee	NOT REQUIRED	Three Mile Island Station Superintendent or his designee*. PORC, as required	Three Mile Island Station Superintendent
<u>IV. Generation Engineering</u>						
A. Administrative Procedures	Procedures covering design, procurement, modification and repair activities, e.g., Design Controls, Approval of Modifications, Preparation, Review and Approval of Specifications and Drawings.	Generation Engineering Staff	Staff Engineer, SR., Section Head or other senior personnel	Manager-Generation QA, or his designee* (procedures required by Part G)	Manager-Generation Engineering or his designee*	Manager-Generation Engineering
B. Modification and Installation Procedures	Procedures giving detailed instructions for making repairs or modifications to the plant	Generation Engineering Staff	Staff Engineer, Sr. or other senior personnel	Operational QA Staff	Manager-Generation Engineering or his designee*	Manager-Generation Engineering

RT  
CM  
#2

TABLE 2 (Cont'd)

<u>PROCEDURE</u>	<u>SUBJECTS COVERED</u>	<u>PREPARED BY</u>	<u>REVIEWED BY</u>	<u>QUALITY ASSURANCE CONCURRENCE REQUIRED</u>	<u>APPROVED BY</u>	<u>*ISSUED BY</u>
<u>V. Generation Maintenance</u>						
A. Administrative Procedures	Procedures such as Document Control, Personnel Training, Qualification of Procedures and Personnel, Nonconformances and Corrective Action, Organization and Responsibilities, etc.	Generation Maintenance Staff	Centralized, Mechanical and/or Electrical Maintenance Engineers	Manager-Generation QA or his designee* (for procedures required by Part G)	Manager-Generation Maintenance or his designee*	Manager-Generation Maintenance
B. Special Process Procedures	Procedures for special processes such as welding, brazing, heat treating, etc. (NDE not included)	Generation Maintenance Staff	Centralized, Mechanical and/or Electrical Maintenance Engineers	Manager-Generation QA or his designee*	Manager-Generation Maintenance or his designee*	Manager-Generation Maintenance
<u>VI. Equipment Fabricators, Engineering Services, Site Contractors, etc.</u>						
A. Manufacturing Installation and Special Process Procedures other than Nondestructive Examination	The procedures required are described in the Metropolitan Edison specifications. The specifications also describe any Metropolitan Edison approvals required of these procedures.	Contractor	Generation Engineering, Generation Maintenance, Generation QA, Generation Operations as appropriate	Operational QA	Manager-Generation Engineering, Generation Maintenance, Generation QA, Generation Operations or their designee* as appropriate	Contractor
B. QA/QC and Non-destructive Examination Procedures	The procedures required are described in the Metropolitan Edison specifications. The specifications also describe any Metropolitan Edison approvals required of these procedures.	Contractor	Operational QA-- others as appropriate	Operational QA	Manager-Generation QA, or his designee*. Qualified Personnel for NDE Procedures	Contractor
C. Maintenance and Repair Procedures	The procedures are described in procurement documents which indicate approvals required.	Contractor	Three Mile Island Plant Staff and/or Generation Maintenance, Plant Operations Review Committee	Operational QA	Station Superintendent and Manager-Generation Maintenance (when appropriate) or their designees*	Contractor

\*This designation must be made in writing and this alternate signature authority is to be used only when the original authorized signatory is not available and the task/project cannot be postponed until his (the original authorized signatory's) return.

TABLE 3

## QUALITY ASSURANCE PROGRAM DOCUMENT CATEGORIES AND APPROVALS

<u>DOCUMENT CATEGORY</u>	<u>SUBJECTS COVERED</u>	<u>PREPARED BY</u>	<u>REVIEWED BY</u>	<u>QUALITY ASSURANCE CONCURRENCE REQUIRED</u>	<u>APPROVED BY</u>	<u>ISSUED BY</u>
Licensee Event Reports	Technical Specification or Operating License Violations	Three Mile Island Plant Staff	PORC, GORB, Corp. Tech. Support Staff	Licensing Section	Manager-GQA, V.P.-Generation or their designees*	V.P.-Generation
Approved Vendors List	Vendors Qualified to Supply Equipment and/or Services	Operational Quality Assurance	Operational Quality Assurance and Generation Engineering	Manager-Generation Quality Assurance or his designee*	Manager-Generation Quality Assurance and Manager-Generation Engineering or their designees*	Manager-Generation Quality Assurance
Audit and Surveillance Reports	Audit and surveillance checklists, reports, followups, corrective actions, etc., as appropriate.	Operational Quality Assurance	Operational Quality Assurance and others as affected	Manager-Generation Quality Assurance or Supervisor-QA as appropriate or their designees*	Manager-Generation Quality Assurance or Supervisor-QA as appropriate or their designees*	Manager-Generation Quality Assurance or Supervisor-QA as appropriate
Design, Manufacturing, Construction, Installation Maintenance and Repair Drawings	Drawings required for design, manufacturing, construction, installation, maintenance, and repair.	Generation Engineering, others as required	Generation Engineering and others as appropriate	Manager-Generation Quality Assurance, or his designee's* concurrence required for the controlling procedure	Manager-Generation Engineering or his designee*	Manager-Generation Engineering or his designee*
Inservice Inspection Requirements	Documents covering the general schedule and types of inservice inspections to be performed, acceptance standards, qualification of inspection procedures, indoctrination, training and qualification of inspection personnel, evaluation of test results and handling anomalous and unacceptable results.	Generation Engineering, others as required	Generation Engineering	Manager-Generation Quality Assurance or his designee*	Manager-Generation Engineering or his designee*	Manager-Generation Engineering



TABLE 3 (Cont'd)

DOCUMENT CATEGORY	SUBJECTS COVERED	PREPARED BY	REVIEWED BY	QUALITY	APPROVED BY	ISSUED BY
				ASSURANCE CONCURRENCE REQUIRED		
Maintenance or Repair Requirements Documents	Maintenance and repair requirements for either a specific situation or general maintenance and repairs.	A. Generation Engineering B. Vendor or Station Staff	Generation Engineering Three Mile Island Personnel and others as appropriate	Manager-Generation Quality Assurance or his designee* Supervisor-Quality Control or his designee*	Manager-Generation Engineering or his designee* Three Mile Island * Station Supt. or his designees* PORC, others at appropriate	Manager-Generation Engineering Three Mile Island Station Supt., PORC
Modification and Design Documents	Documents required for the accomplishment of a plant modification	Generation Engineering	Generation Engineering	Manager-Generation Quality Assurance or his designee*	Manager-Generation Engineering or his designee*	Manager-Generation Engineering
Nonconformance and Corrective Action Documents	Nonconformances, corrective action documents, records, etc.	A. Nonconformance by person noting the nonconformance B. Corrective Action by personnel responsible for corrective action	Responsible Manager or plant personnel	Manager-Generation Quality Assurance or his designee*	Corrective action approved by responsible Manager or Plant personnel	As required
Proposed Changes to Operating License including Technical Specifications	Operating License and all amendments	Responsible Staff and Licensing Section	Appropriate Managers, As required under the Three Mile Island personnel, PORC, CORB, and Corp. Tech. Support Staff	As required under review requirements	V.P.-Generation or his designee*	V.P.-Generation
QA/QC Requirements Relating to Procurement Documents	The documents required for procurement including specifications, drawings, purchase requisitions, etc.	Responsible Home Office Staff or Three Mile Island Plant Staff	Operational Quality Assurance	Manager-Generation Engineering and Manager-Generation Quality Assurance or their designees*	NA	NA

TABLE 3 (Cont'd)

<u>DOCUMENT CATEGORY</u>	<u>SUBJECTS COVERED</u>	<u>PREPARED BY</u>	<u>REVIEWED BY</u>	<u>QUALITY ASSURANCE CONCURRENCE REQUIRED</u>	<u>APPROVED BY</u>	<u>ISSUED BY</u>
Quality Assurance Plan	Quality Assurance Program Requirements	Operational Quality Assurance	The Managers, PORC, GORB, Three Mile Island Superintendent	Manager-Generation Quality Assurance or his designee*	V.P.-Generation or his designee*	V.P.-Generation
Quality Assurance Records	Quality Assurance Records, including material cert'd, radiographs, test reports, etc. as listed in N45.2.9 (Draft-Jan., 1973)	Responsible Personnel	Operational Quality Assurance as required	Operational Quality Assurance as required	Originator	Originator
Specifications	Detailed requirements that must be satisfied to ensure that a part, material, component, service, etc., is adequate.	Generation Engineering	Generation Engineering	Manager-Generation Quality Assurance or his designee*	Manager-Generation Engineering or his designee*	Manager-Generation Engineering

\* This designation must be made in writing and this alternate signature authority is to be used only when the original authorized signatory is not available and the task/project cannot be postponed until his (the original authorized signatory's) return.

QA Implementing Procedures	Table 4 Criterion from 10 CFR 50 Appendix B																		Rev. 7
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	
GP 0001						X													
GP 0002	X																		
GP 0003						X													
GP 0006						X													
GP 0007		X																	
GP 0013								X											
GP 0016						X													
GP 0026									X										
GP 0029															X				
GP 0031																	X		
GP 0036		X																	
GP 0037						X													
GP 0039		X																	
GP 0048		X																	
GP 0060																		X	
GP 0061						X													
GP 0062																		X	
GP 0063																		X	
GP 0064																		X	
GP 0065						X													
GP 1000		X																	
GP 1003			X																
GP 1006		X																	
GP 1008		X																	
GP 1009				X															

Table - continued  
 Criterion from 10 CFR 50 Appendix B

Rev. 7

QA Implementing Procedures	Criterion from 10 CFR 50 Appendix B																	
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII
GP 1011						X												
GP 1015				X														
GP 1017										X								
GP 1018										X								
GP 1019										X								
GP 1021											X							
GP 1022													X					
GP 1023													X					
GP 1024															X			
GP 1025																X		
GP 1026																	X	
GP 1029		X																
GP 3800										X								
GP 4001	X																	
GP 4002		X																
GP 4003		X																
GP 4004			X															
GP 4005				X														
GP 4008										X								
GP 4009		X																
GP 4010						X												
GP 4012															X			
GP 4013		X																
GP 4015																X		X
GP 4016																		X

Table 4 Continued  
 Criterion from 10 CFR 20 Appendix B

Rev. 7

QA Implementing Procedures	Criterion from 10 CFR 20 Appendix B																	
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII
GP 4409		X																
GP 4401										X								
GP 4402									X									
GP 4403		X																
GP 4404								X										
GP 4405											X							
GP 4406										X								
GP 4407																		X
GP 4408																		X
GP 4409															X			
GP 4410									X									
GP 4411									X									
GP 4412										X								
AP 1001		X																
AP 1002															X			
AP 1006	X																	X
AP 1007																		X
AP 1009	X											X						
AP 1010												X						
AP 1011		X																X
AP 1012															X			
AP 1013																		X
AP 1015										X								
AP 1016			X															
AP 1018															X			



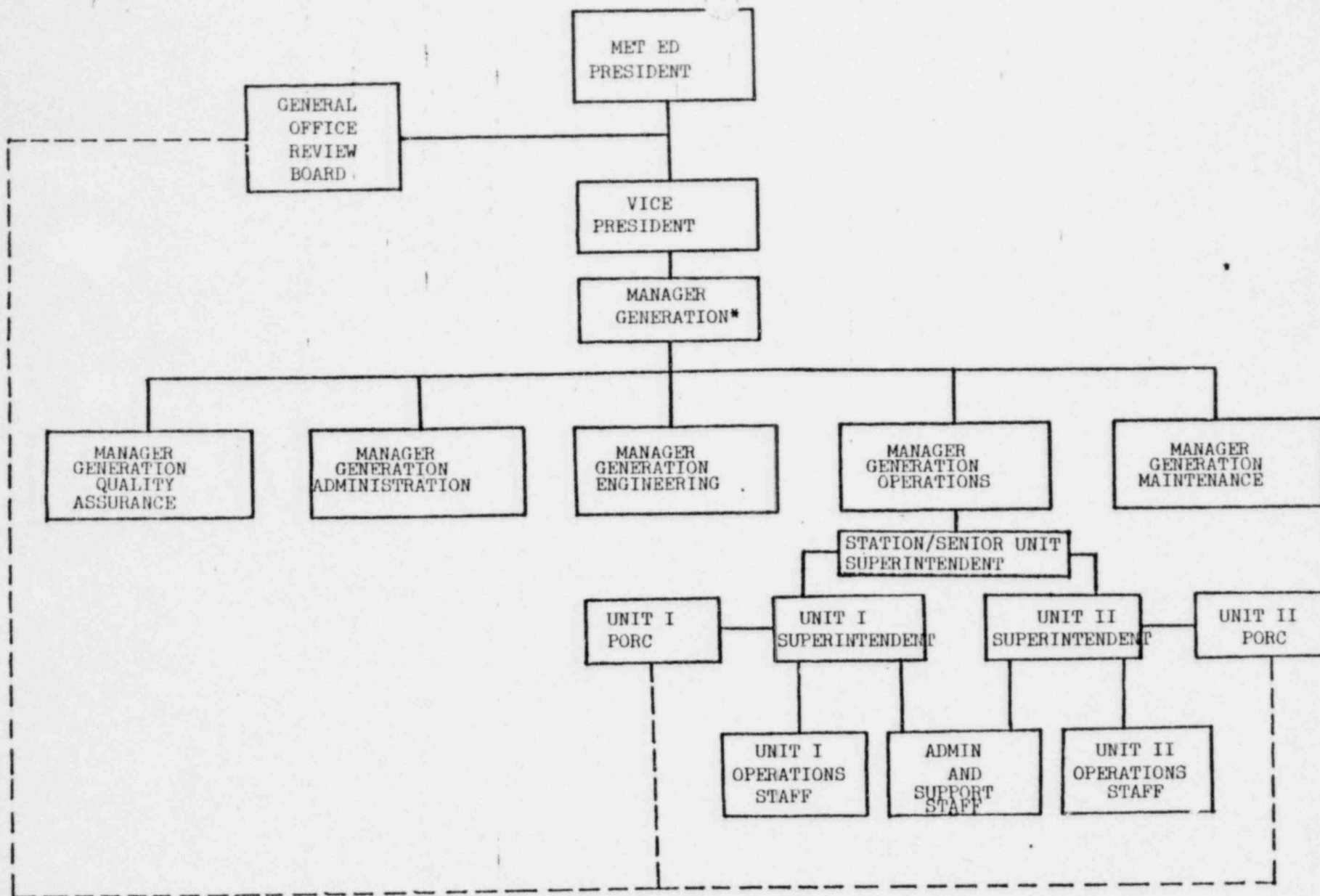


## COMMITTED TO ANSI STANDARDS AND REGULATORY GUIDES

ANSI STANDARD		Endorsing Regulatory Guide
N 18.1-1971	Selection and Training of Personnel for Nuclear Power Plants	(1) 1.8
N 18.7-1976	Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants	1.33
N45.2-1971	Nuclear Power Plants, Operational Quality Assurance Program, Requirements for	1.28
N45.2.1-1972	Cleaning Fluid Systems and Associated Components during Construction Phase of Nuclear Power Plants	1.37
N45.2.2-1972	Packaging, Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants (during the Construction Phase)	1.38
N45.2.3-1973	Housekeeping During the Construction Phase of Nuclear Power Plants	1.39
N45.2.4-1972	Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment during the Construction of Nuclear Power Generation Stations	1.30
N45.2.5-1974	Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel during the Construction Phase of Nuclear Power Plants	1.94
N45.2.6-1973	Qualifications of Inspection, Examination and Testing Personnel for the Construction Phase of Nuclear Power Plants	1.58
N45.2.8-1975	Installation, Inspection, and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants, Supplementary Quality Assurance Requirements for	1.88
N45.2.9-1974	Quality Assurance Records for Nuclear Power Plants, Requirements for Collection, Storage and Maintenance of	

ANSI STANDARD		Endorsing Regulatory Guide
N45.2.10-1973	Quality Assurance Terms and Definitions	1.74
N45.2.11-1974	Nuclear Power Plants, Quality Assurance Requirements for the design of	1.64
N45.2.12- Draft 3 Rev. 4 2/22/1974	Requirements for Auditing of Operational Quality Assurance Programs for Nuclear Power Plants	(3)
N45.2.13- Draft 2 Rev.4 April 1974	Quality Assurance Requirements for Control of Procurement of Equipment, Materials, and Services for Nuclear Power Plants	
N101.4-1972	Protective Coatings Applied to Nuclear Facilities, Quality Assurance for	1.54
	Initial Test Programs for Water-Cooled Reactor Power Plants	1.68
	Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants	1.70

- (1) Exception is taken here to the qualifications requirements for the Supervisor-Radiation Protection and Chemistry and the Radiation Protection Supervisor Qualification requirements for these positions shall be those given in proposed Technical Specification Change Number 58.
- (2) Exception is taken here to the requirement to mark the "Weight of package (in excess of 100 pounds)" on the package. Packages shall be marked with the weight when deemed necessary.
- (3) Exception is taken here to the annual audit requirement of ANSI N45.2.12. In lieu of an annual frequency, audits will be scheduled so as to be conducted at least biennially.

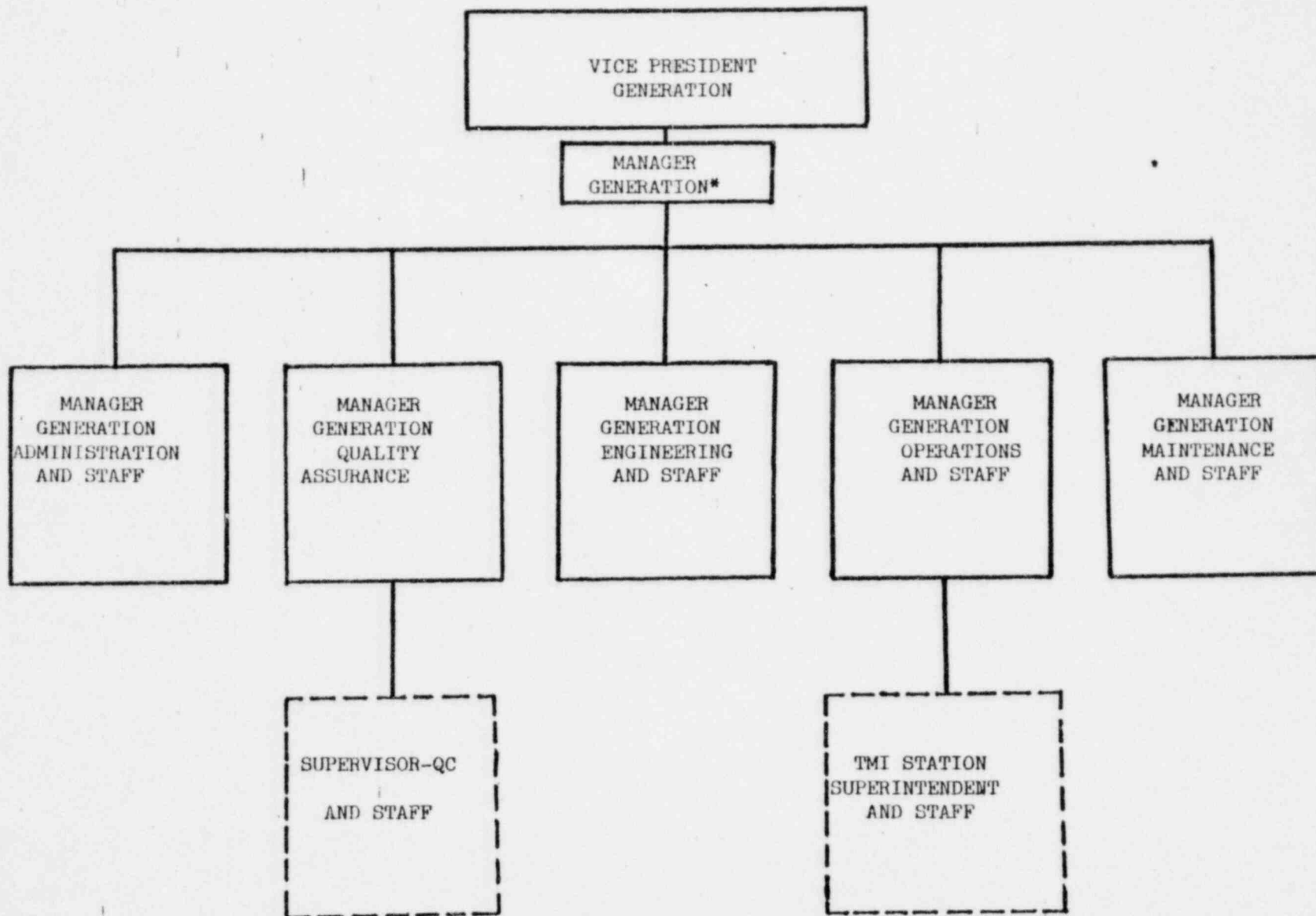


Legend

- \* If assigned
- Lines of Responsibility
- - Lines of Communication for access to & reporting of information, as appropriate

Organization Chart  
Three Mile Island Nuclear Station

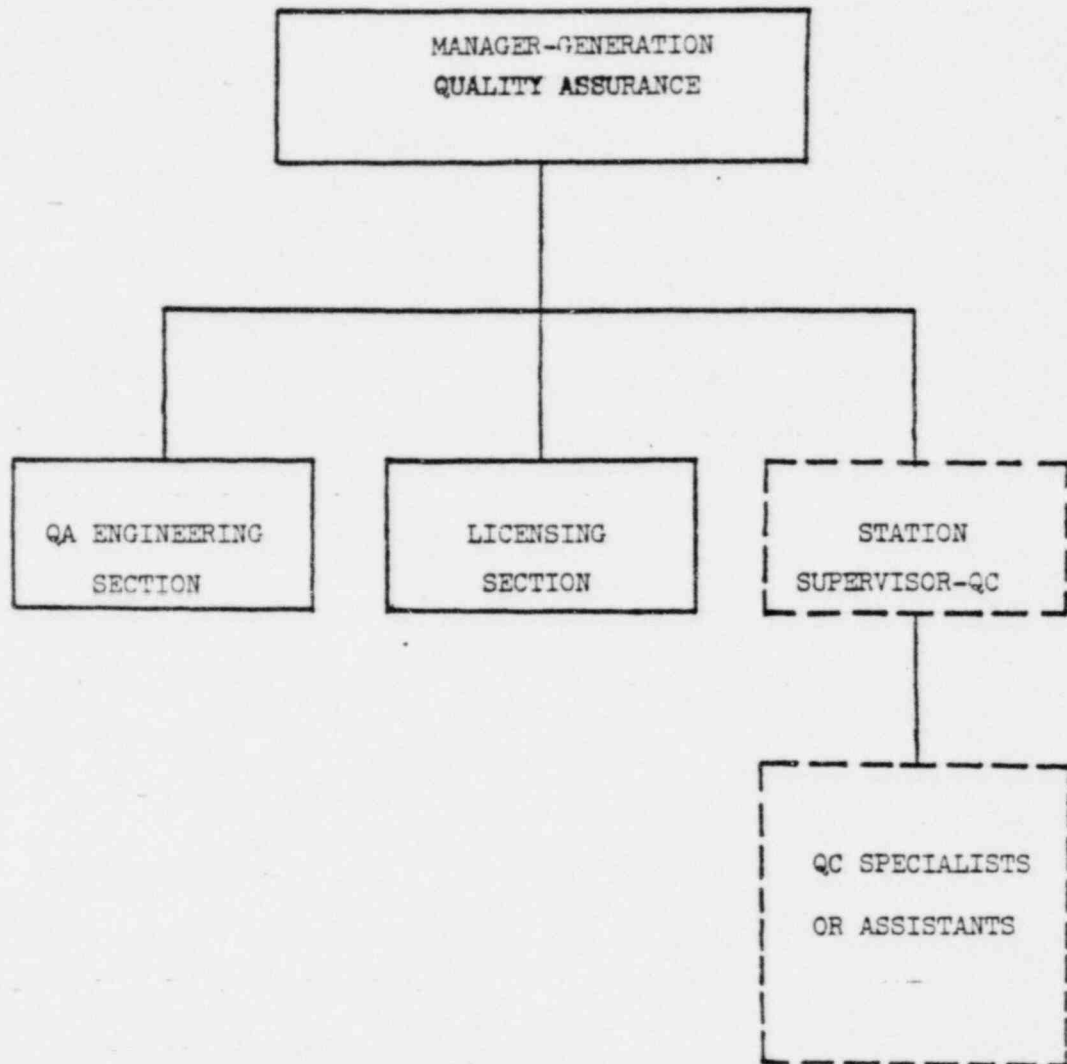
Figure 1



Organization of Generation Div,  
Three Mile Island Nuclear Station

Legend  
-----  
Located at Station Site

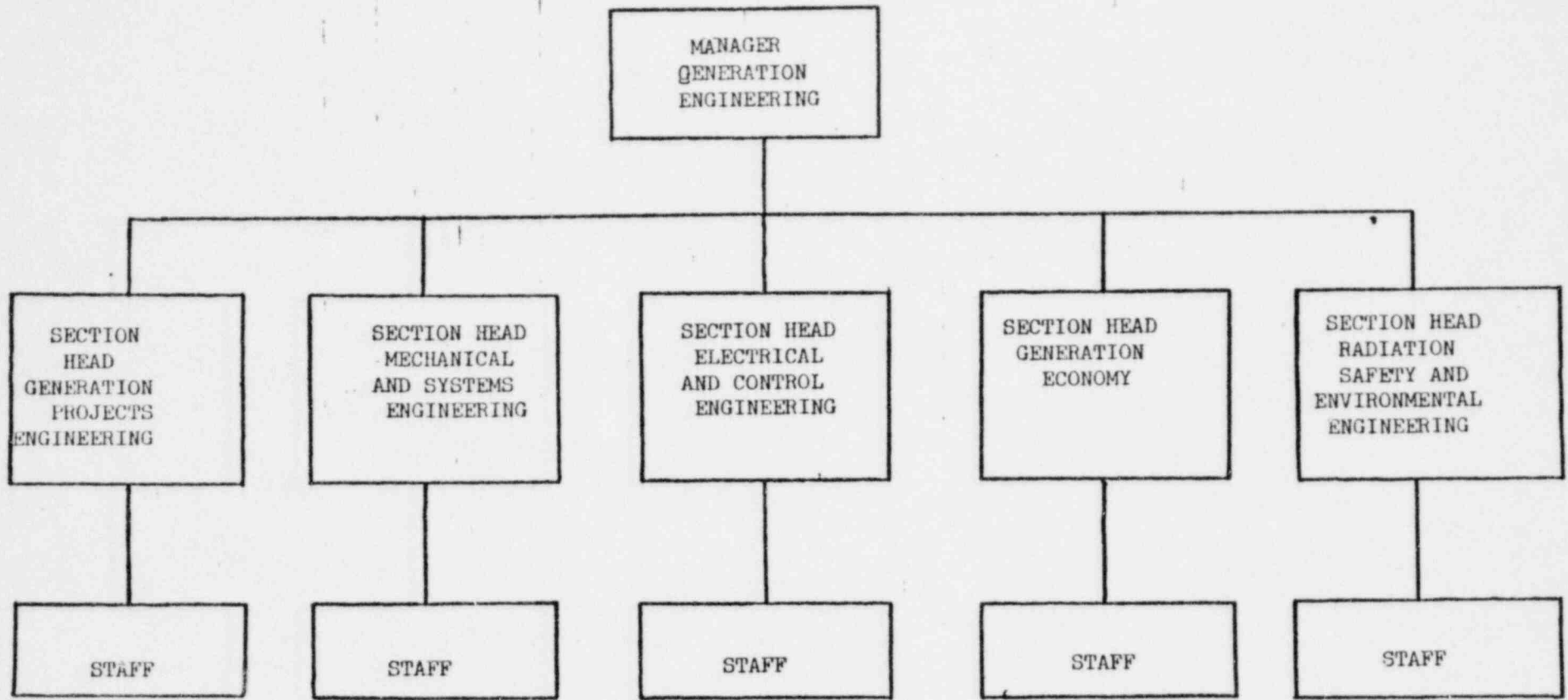




Legend

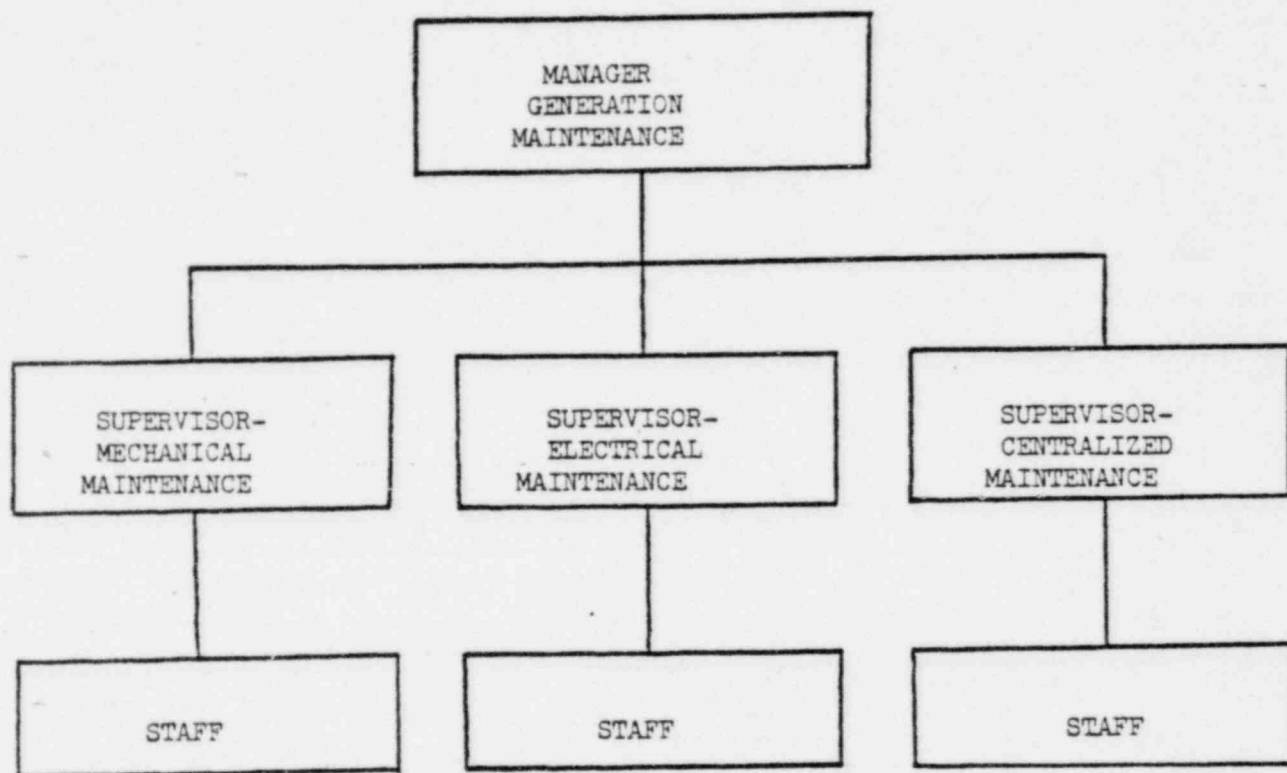
- - - Located at Station Site

Organization of Q/A Staff  
Three Mile Island Nuclear Station

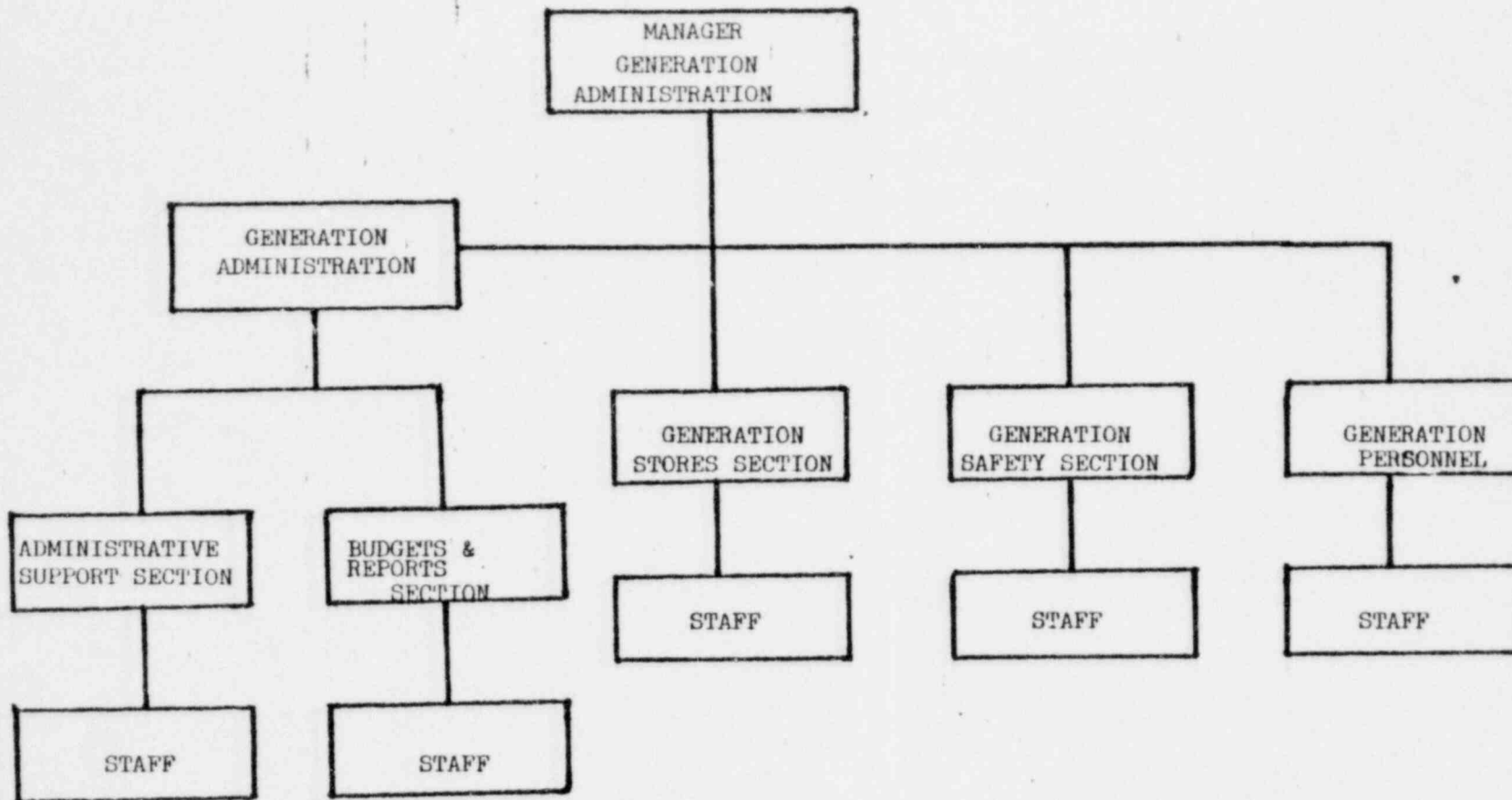


61

Organization of Generation  
Engineering Staff  
Three Mile Island Nuclear  
Station  
Figure 4



Organization of Generation Maintenance Staff  
Three Mile Island Nuclear Station



Organization of Generation Administration Staff, Three Mile Island Nuclear Station

Figure 6