PSE&G

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Nuclear Business Unit

JUN 1 8 1998

LR-N980309

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

REVISED REQUEST FOR CHANGES TO THE QUALITY ASSURANCE PROGRAM HOPE CREEK AND SALEM GENERATING STATIONS FACILITY OPERATING LICENSES DPR-70, DPR-75, AND NPF-57 DOCKET NOS. 50-272, 50-311, AND 50-354

This letter revises the request to change the Quality Assurance (QA) Program for the Hope Creek and Salem Generating Stations that was submitted by Public Service Electric and Gas Company (PSE&G) on February 13, 1998. The revisions are in response to questions posed in the NRC's April 8, 1998 request for additional information and during subsequent discussions with the NRC staff. Details concerning the revised proposal and responses to the NRC staff's questions are contained in Attachment 1. Attachments 2 and 3 include revised UFSAR pages that replace the corresponding pages of the original submittal. The changes made since the February 13, 1998 submittal are identified in bold font.

If you have any questions regarding this submittal, please contact Mr. C. Manges at (609) 339-3234.

Sincerely,

J. F. McMahon
Director – Quality/Nuclear Training/
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A00001

Attachments (3)

A0041

JUN 18 1998

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General Manager - Hope Creek Operations (H07)
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Director - Licensing/Regulation & Fuels (N21)
Manager - Quality Assessment (X16)
Manager - CA/EP/IT (N37)
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Manager - Financial Control & Co-Owner Affairs (N07)
Program Manager - Nuclear Review Board (N38)
Manager - Hope Creek Licensing (N21)
Manager - Salem Licensing (N21)
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Records Management (N21)
Microfilm Copy
Files Nos. 1.2.1 (Hope Creek and Salem), 5.23

HOPE CREEK GENERATION STATION AND
SALEM GENERATING STATION UNIT NOS. 1 AND 2
FACILITY OPERATING LICENSES NPF-57, DPR-70, AND DPR-75
DOCKET NOS. 50-354, 50-272, AND 50-311
REQUEST FOR CHANGES TO THE QUALITY ASSURANCE PROGRAM

RESPONSES TO NRC STAFF QUESTIONS

The following provides PSE&G's response to the NRC's questions concerning the changes to the Hope Creek and Salem Quality Assurance Programs that were proposed in LR-N980031, dated February 13, 1998.

A. Procurement Organization Change

The following are issues concerning the proposed procurement organization change that are included in the NRC's April 8, 1998 request for additional information (RAI).

NRC RAI Concern 1:

"The review of the following activities can be performed by the [Nuclear Procurement and Materials Management] NP&MM organization provided that the review activities are audited by the QA organization:

a. Review of engineering documents such as equipment specifications for inclusion of QA requirements.

b. Review and approve specifications for Q-listed materials, equipment and services.

c. Review procurement documents for the inclusion of QA requirements".

PSE&G Response to NRC RAI Concern 1:

The responsibilities of the Manager - Quality Assessment have been modified to require audits of the Procurement Assessment (PA) review functions (Responsibility 19 for Hope Creek and Responsibility 21 for Salem). The above three functions are PA review functions that are covered within the scope of Responsibility 19 (Hope Creek) and Responsibility 21 (Salem).

NRC RAI Concerns 2 and 4:

"The responsibilities for the review of vendor QA programs and the auditing of the implementation of vendor QA programs, including the fuel fabricator, appear to be quality assurance functions that should remain within the QA organization."

"The approval of the QA program and its implementation for the Maplewood testing facility appears to be quality assurance functions that should be performed by the QA organization."

PSE&G Response to NRC RAI Concerns 2 and 4:

PSE&G concurs that the subject functions are quality assurance functions. PSE&G's basis for moving the subject QA functions out of the QA organization and into the NP&MM organization is based on providing adequate controls to ensure that the PA Group meets the organizational requirements of 10CFR50, Appendix B, Criterion I.

PSE&G's original proposal included several controls to ensure that the organizational freedom and independence from cost and schedule would be maintained for the PA Group. These controls included creating an indirect reporting relationship for the PA Manager to the Manager - QA and requiring monitoring of PA by QA.

In this revised proposal, PSE&G is proposing an additional action that involves changing the title of the PA Group supervisor from Group Head to Manager. This title change provides equal status with other direct reports in the NP&MM Organization. In addition, the monitoring of PA by QA is being strengthened to require audits with specific assessment guidance.

A summary of the justification for these changes is further discussed under the response to Discussion Issue 4 that is provided below.

NRC RAI Concern 3:

"The auditing of fuel installation activities appears to be a quality assurance function that should remain within the QA organization."

PSE&G Response to NRC RAI Concern 3:

The responsibility for auditing of fuel installation is being retained within the QA organization. The Manager - Quality Assessment will provide oversight.

The following are issues concerning the proposed procurement organization change that were discussed during subsequent conversations with the NRC staff.

Discussion Issue 1:

A description of the duties and responsibilities of the PA Manager should be included in Section 17.2 of the UFSAR.

Response to Discussion Issue 1:

The responsibilities that were listed under the Manager – NP&MM in Section 17.2 of the UFSARs are the responsibilities of the PA Manager. The introduction to these responsibilities has been modified to state that these are the responsibilities of the PA Manager, who reports to the Manager – NP&MM. Responsibilities and authorities that are discussed in other locations within Section 17.2 have been repeated in the proposed list of responsibilities to provide a consolidated list of responsibilities.

Discussion Issue 2:

More details should be provided in Section 17.2 to describe the QA audits of the PA organization.

Response to Discussion Issue 2:

Responsibility 19 (Hope Creek) and Responsibility 21 (Salem) under the Manager – Quality Assessment have been modified to provide details concerning the QA audits that will be performed to ensure that the PA Group has sufficient organizational freedom and independence from cost and schedule. Specific assessment guidance is provided and includes the following:

- conduct interviews, surveys, etc. of selected personnel who are involved in procurement or procurement assessment activities or who are in a position to observe these activities
- observe selected procurement and procurement assessment activities
- assess selected reviews, evaluations, surveys, audits, and surveillances conducted by PA personnel

Discussion Issue 3:

Information should be provided under the responsibilities of the PA Manager to discuss circumstances in which the Manager – NP&MM becomes consumed with his non-QA functions and cannot provide sufficient attention to the PA activities.

Response to Discussion Issue 3:

Information has been provided to state that the PA activities of the Manager – NP&MM will take precedence over his non-PA duties and that, in the event of a conflict, he will delegate all authority in the area of PA to the PA Manager, if necessary. The PA Manager can also use his access to the Manager – QA to raise concerns in this area.

Discussion Issue 4:

The information that supports the basis for compliance with 10CFR50, Appendix B, Criterion I should be consolidated.

Response to Discussion Issue 4:

A number of controls are proposed to ensure that the PA Group is able to meet the organizational requirements described in 10CFR50, Appendix B, Criterion I. These controls include the following:

The PA Manager will have the authority to stop work through issuance of a Stop Work Order when continuance of an activity would seriously compromise quality. The PA group will also have the authority and responsibility to escalate unresolved quality problems to the level of management necessary to effect resolution, up to and including the CNO.

The PA Manager will have direct access to the Manager-Quality Assessment for any issue under his responsibility. This access would be for resolution of any quality-related issues including assurance of adequate resources to perform the PA functions and adequate attention to PA activities by the Manager – NP&MM. In the event of a conflict concerning implementation of the QA program, the reporting line will be direct from the PA Manager to the Manager – Quality Assessment.

The PA activities of the Manager – NP&MM will take precedence over his non-PA activities. In the event of a conflict, he will delegate all authority in the area of PA to the PA Manager, if necessary.

The supervisor position in the PA Group will be upgraded to a manager position thus being on par with the other managers within the NP&MM organization.

The Quality Assessment Department will be responsible for independently assessing the performance of the PA group functions. This includes assessing the continued ability of the PA group to function independently. Quality Assessment will be better able to assess the procurement process without having any in line responsibilities.

Based on the above, the PA group will have sufficient authority and organizational freedom to identify quality problems, to initiate, recommend, or provide solutions; and to verify implementation of solutions. Additionally, through the tie to the Manager - Quality Assessment, PA will report to a management level such that they will have sufficient independence from cost and schedule; thereby, complying with 10CFR50, Appendix B, Criterion 1.

Discussion Issue 5:

Responsibilities that are listed for both QA and PA should be reviewed to ensure that the dual responsibility is appropriate.

Response to Discussion Issue 5:

The dual responsibilities have been reviewed with two changes identified as being appropriate. These changes are on Hope Creek and Salem Page 17.2-7k (approval of the Maplewood Testing Services QA Program) and on Hope Creek Page 17.2-24 and Salem Page 17.2-23 (review and/or approval of design specifications) and involve making the actions the responsibilities of PA rather than of PA and QA.

B. Qualified Specialist

The following concerns the proposed change to the review requirements for procedures for implementing the requirements of specifications that is included in the NRC's April 8, 1998 request for additional information (RAI).

NRC RAI Concern:

"The transfer of responsibility for the review of procedures for special processes from the QA organization and the GM to a qualified specialist in the subject discipline or special process appears to be adequate; however, the term "qualified specialists" is not defined. For example, for a given NDE special process, would the qualified specialist have to be a Level III in that NDE discipline? If not, what is the basis for being a qualified specialist? The proposed QA program change appears to provide no guidance for the qualification provisions of this specialist. What are the qualification provisions for these specialists and where is this identified in the QA Program?"

Response to NRC RAI Concern:

The term "qualified specialists" refers to personnel who have certified proficiency in the area of review. Personnel reviewing NDE procedures would be required to have Level III certification in the subject NDE discipline. Personnel reviewing other procedures or reports would be required to be qualified in accordance with the PSE&G Engineering Support Personnel Program that is based on INPO ACAD-91-017, Guidelines for Training & Qualification of Engineering Support Personnel. These definitions have been incorporated into Section 17.2.9 of the UFSARs.

C. Site Grading Audit Elimination

The following is an issue concerning the proposed elimination of site grading audits that is included in the NRC's April 8, 1998 request for additional information (RAI).

NRC RAI Concern:

"The staff would like PSE&G to discuss the basis for the deletion of the HCGS requirement to perform site grading modification audits. What was the basis for the original commitment to perform this audit (was it associated with flooding conditions)? Was this a commitment to an NRC inspection or audit finding or was it part of the licensing basis for HCGS? Is there something unique about the HCGS site when compared to the SNGS site that would require audits of grading activities?"

Response to NRC RAI Concern:

The requirement to perform site-grading audits was added during the licensing process for Hope Creek as a result of questions from NRC reviewers. PSE&G initially responded to the questions by including the following in the FSAR:

"Site grading is not Q-listed and is not a 'structure, system, or component' that should be included in Table 3.2-1. Site grading cannot adversely impact safety-related equipment, because of flood protection measures discussed in Section 3.4.1.1"

This was later changed to state the following:

"Modifications to site grading during the operations phase will be covered by the Operational QA Program (See Table 17.2-1)."

No information could be found that describes the reason for the FSAR change. In additions, there are no known differences between the Hope Creek and Salem site that would require audits of site grading at Hope Creek.

However, upon further review by PSE&G, the requirement to perform audits of site grading modifications is not overly burdensome and PSE&G is withdrawing the request to eliminate this audit requirement. The associated page is being submitted without this change.

PROPOSED HOPE CREEK UFSAR CHANGES

Quality Assurance (QA) policy statements are issued by key management representatives, including the Chairman and Chief Executive Officer and the Chief Nuclear Officer and President - Nuclear Business Unit (CNO/PNBU). These policy statements are mandatory throughout the Company for nuclear facilities.

Key policy elements, as they apply to nuclear safety, include the following:

1. Nuclear safety is of the highest priority and shall take precedence over matters concerning power production.

2. The public's health and safety is the prime consideration in the conduct and support of Public Service Electric and Gas Company's nuclear operations and shall not be compromised. All decisions which could affect the health and safety of the public shall be made conservatively.

3. The Operational Quality Assurance Program is an essential part of the PSE&G commitment to safe and reliable nuclear power operation. Applicable program requirements shall be strictly adhered to in the performance of activities covered by the Operational Quality Assurance Program.

PSE&G requires its suppliers and contractors to assume responsibility for establishing and implementing Quality Assurance/Quality Verification (QA/QV) programs, as applicable, to meet 10 CFR 50, Appendix B. However, responsibility for the overall QA program is retained and exercised by PSE&G. ~~QA~~ Procurement Assessment (PA) reviews those programs and conducts appropriate monitoring and auditing as required to assure that the suppliers are properly implementing their QA/QV programs. The Operational QA Program verifies that requirements necessary to assure quality are properly included or referenced in procurement documents. In addition, these suppliers' procurement documents include applicable PSE&G quality assurance requirements for items and services provided by their suppliers.

17.2.1.1.1 Quality Assurance

The Director - Quality, NT, and EP is responsible for defining, formulating, implementing, and coordinating the QA program. He has been delegated the authority and has the independence to interpret quality requirements, identify quality problems and trends, and provide recommendations or solutions to quality problems for all areas except those non-QA areas under his control. He is responsible for approval of the QA/NSR Department Manual used during the operations phase of the nuclear stations. He also is responsible for verifying compliance with established requirements for the QA program through document review, inspection, assessment, monitoring, and audits for all areas except those non-QA areas under his control. QA provides a centralized coordinating function for QA/QV activities applied to the operation phase.

The Director - Quality, NT, and EP has the authority and responsibility to stop work through the issuance of a stop work order, when significant conditions adverse to quality require such action.

The PSE&G policies and organization structure assure that the Director - Quality, NT, and EP has sufficient organizational freedom and independence to carry out his responsibilities.

The full attention of the Director will be in support of QA activities and will take precedence over his non-QA activities. In the event of a conflict, he will delegate all QA authority to the Manager - Quality Assessment if necessary. The Manager - Quality Assessment has the authority to report directory to the CNO/PNBU for these matters.

The ~~Director - Quality, NT, and EP~~ **Procurement Assessment (PA) Manager, who reports to the Manager - Nuclear Procurement and Material Management (NP&MM),** is ~~also~~ responsible for the Quality Services activities provided by the ~~Material & Supplier Plant Support~~ PA group~~, which includes:~~ **The PA activities of the Manager - MP&MM will take precedence over his non-PA activities. In the event of a conflict, he will delegate all authority in the area of PA to the PA Manager if necessary.**

Responsibilities and authorities of the PA Manager include the following:

1. **The authority and responsibility to stop work, through the issuance of a Stop Work Order, when significant conditions adverse to quality requires such action.**

2. **The freedom and authority to directly access the Manager - Quality Assurance if the need for such access exists for any issue under his responsibility. In the event of a conflict concerning the implementation of the QA program between NP&MM and PA, the reporting line will be direct from PA to the Manager - Quality Assessment.**

~~1~~ 3. Review of engineering documents such as equipment specifications for inclusion of QA requirements.

~~2~~ 4. Review and approve specifications for Q-listed materials, equipment, and services.

~~3~~ 5. Review of procurement documents for insertion of QA requirements.

~~4~~ 6. Conduct of supplier surveys, audits and surveillances.

~~5~~ 7. Evaluation of prospective and existing Supplier QA Programs.

~~6~~ 8. Monitoring/auditing of nuclear fuel fabrication ~~and installation~~.

~~7~~ 9. Review of NBU fuel specifications for inclusion of QA requirements.

~~8~~ 10. Perform material evaluation activities on items subject to the QA Program.

Responsibilities of the Manager - Corrective Action, Emergency Preparedness, and Instructional Technology (Manager - CA, EP & IT) include the following:

1. Administration of the Corrective Action Program.

2. Management direction and control of all collection and trending of Corrective Action reports.

3. Performing statistical analysis trend reports for management.

The Manager's responsibilities relative to Emergency Preparedness and Instructional Technology are described in Section 13.1.1.2.1.4.2.

Responsibilities and authorities of the Manager - Quality Assessment include the following:

1. The authority and responsibility to stop work, through the issuance of a Stop Work Order, when significant conditions adverse to quality requires such action.

2. The freedom and authority to directly access the CNO/PNBU if the need for such access exists for any issue under his responsibility, including those related to non-QA areas under the control of the Director - Quality, NT, and EP.

3. The responsibility and authority for verifying complance with established requirements of the QA program through document reviews, inspections, assessments and audits of non-QA areas under the control of the Director - Quality, NT, and EP. This includes the authority to interpret QA program requirements during conduct of the above activities.

4. Development and implementation of the QA Audit and Assessment Program.

5. Performing assessments of contractor activities and evaluation of emergent contractor programs and procedures.

6. Planning and scheduling of surveillances conducted within the Nuclear Business Unit.

7. Performing selected station procedure reviews and concurrence.

8. Preparation and maintenance of the QA/NSR Department Manual, the QA program description in the UFSAR, and the Operational QA Program description in the Nuclear Administrative Procedures Manual.

9. Review of the Nuclear Administrative Procedures Manual for compliance with the Operational QA Program.

10. Performing assessments of PSE&G Program administrative and implementing procedures (as necessary, these assessments may also include station administrative and implementing procedures).

11. Conducting QA Program orientation for NBU personnel and administering the training and certification program for QA personnel involved in inspection, assessments, and auditing activities, maintaining the QA training plan, and maintaining QA training records.

12. Review of new regulatory requirements for QA program impact.

13. Coordination of the commitment verification program on a selected basis.

14. Perform Code related inspections, test performance, and review of weld procedures for inclusion of QA requirements.

15. Perform design change package pre-implementation review and closure review for compliance with Inspection Hold Points (IHPs).

16. Performing performance based inspections.

17. Implementation of the onsite independent review.

18. Monitoring/auditing of nuclear fuel installation.

19. Monitor the ability of the PA group to continuously function independently as delineated under the responsibilities of the **PA Manager and perform periodic audits of PA review functions. The following provides guidance on the conduct and content of the subject audits:**

- **conduct interviews, surveys, etc. of selected personnel who are involved in procurement or procurement assessment activities or who are in a position to observe these activities**

- **observe selected procurement and procurement assessment activities**

- assess selected reviews, evaluations, surveys, audits, and surveillances conducted by PA personnel.

At least fifty percent (50%) of the personnel performing the onsite independent review shall have a Bachelor Degree in Engineering or a related field. For the discipline of Operations, a senior reactor operator license or certification may be used as an alternative qualification instead of a Bachelor Degree in Engineering or a related field.

Personnel performing the onsite independent review function shall possess knowledge of nuclear power plant operation and knowledge of the discipline or activity in the assigned area of review. A single individual may be qualified to perform reviews in more than one discipline. The requisite experience may have been gained concurrently in related disciplines.

The Director - Quality, NT, and EP will approve and document the qualifications of those personnel performing the onsite independent review who are qualified based on at least eight (8) years related experience.

17.2.1.2 Maplewood Testing Services

The Manager - Maplewood Testing Services reports to the Director - Service Company (Servco) in the PSE&G Fossil Generation Business Unit.

Maplewood Testing Services performs calibrations, analyses, and evaluations on systems, equipment, and materials, as requested by NBU departments, and maintains compliance with its quality assurance program as approved by NBU PA ~~or QA~~.

17.2.1.3 Deleted

approved by the department manager. Nuclear Administrative Procedures (NAPs) and Station APs and all subsequent revisions thereto are reviewed by QA and SORC and are approved by the Station General Manager. Procedures cannot be implemented unless the review/approval process is accomplished. The Nuclear Administrative Procedures Manual provide a means to accommodate on-the-spot changes to subtier implementing procedures. The routine practice for revising a procedure is to repeat the original review and approval sequence.

Implementation of the QA program is verified by means of independent inspections, assessments, monitoring, and audits conducted by QA.

QA and PA reviews and analyzes problems affecting quality that occur during the operational phase. Items subject to review include:

1. Documented nonconformances occurring at the supplier's facility and those identified during receiving, storage, installation, test, and operation, e.g., Deficiency Reports, Nonconformance Reports, Work Orders, Licensee Event Reports, etc.

2. Documented corrective actions taken on conditions adverse to quality and actions to prevent recurrence on significant conditions adverse to quality.

3. NRC inspection findings, notifications, bulletins, etc.

The Director - Quality, NT, and EP, and the Manager - Quality Assessment, and the PA Manager, or their designees, have the authority to stop work through the issuance of a Stop Work Order where continuance of an activity would seriously compromise quality or constitute a persistent and deliberate failure to correct a significant condition adverse to quality.

QA and PA reports significant conditions adverse to quality affecting the quality assurance program to respective management along with:

1. Measures taken to improve QA program controls

2. Appropriate recommendations to achieve compliance with applicable requirements.

Management administrative procedures provide all personnel with awareness and direction for reporting of defects and noncompliance pursuant to 10CFR21.

The QA program requires that safety-related activities and activities affecting the fire protection of safety-related areas, be accomplished under suitably controlled conditions. The program takes into consideration the need for procedures, special controls, cleanliness, special processes, test equipment, tools, and skills to obtain the required quality and the verification of quality by inspection, test, examination, monitoring, assessments and independent review and audit. These activities include, but are not limited to, designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, reworking, repairing, refueling, and modifying.

Personnel who have the responsibility to implement the QA program also have the responsibility and authority to escalate unresolved quality problems to the level of management necessary to effect resolution. Escalation is applied by QA or PA personnel to increasingly higher levels of management, up to the CNO/PNBU, as required.

Personnel performing Q,F, and R-designated activities are trained or indoctrinated as necessary to assure that suitable proficiency is achieved and maintained. Personnel outside the QA organization who perform inspections and tests are trained and qualified in QA concepts and practices.

1. Criteria are provided to specify when verification should be by test.

2. Where applicable, prototype, component or feature testing will be performed prior to installation of plant equipment. In those cases where this cannot be met, the testing will be deferred but not beyond the point when the installation would be irreversible.

3. Tests will be performed under conditions that simulate the most adverse design conditions, as determined by analysis.

New drawings or revisions to existing drawings are prepared for inclusion into a design/configuration change by, or under the supervision of a designer from information received from the responsible engineer, manufacturer's drawings, etc. After implementation, approved design/configuration change information is transferred onto permanent drawings by a designer or drafter and peer reviewed and initialed as being checked by another designer or responsible design supervisor. New drawings or revisions to existing drawings receive final approval by the responsible design supervisor or authorized designee.

Specifications and changes thereto for items covered by the QA program are prepared by Nuclear Engineering and are reviewed by PA ~~Supplier Assessment~~ for QA content.

~~QA~~ PA review assures that the documents are prepared, reviewed, and approved in accordance with company procedures and that the documents contain the necessary QA requirements such as inspection and test requirements, acceptance requirements, and the extent of documenting inspection and test results .

The Station Operations Review Committee (SORC) reviews proposed changes affecting nuclear safety and makes recommendations concerning implementation of the change to the station general manager. The design change process provides for sign-off of the design change by the appropriate department head for the purpose of identifying required procedure change. If the proposed modification involves a Technical Specification change, or is considered by the SORC to involve an unreviewed safety question (10CFR50.59), the

matter is submitted to the Nuclear Review Board (NRB) for a determination of its safety implication before a license change request is submitted for NRC approval.

During the preparation of design changes, Nuclear Business Support assigns a project manager, as necessary. The project team consists of members of various organizations, both internal and external to Nuclear Engineering. The project team members are responsible for providing technical and administrative input to the entire design change process, which consists of design, installation, testing, and closeout phases. The technical and administrative input is guided by the requirements of those organizations which comprise the project team. The project manager ensures that the specific requirements of each organization on the project team are considered to ensure the overall quality of the product.

For design changes important to safety, the QA representative on the project team provides input and assures that design changes include quality assurance requirements such as inspection and test requirements, acceptance requirements, test result documentation, and project team compliance with company procedures during preparation, review, and approval of design changes.

Updating of records, including drawings, blueprints, instructions and technical manuals, and specifications resulting from design changes, is the responsibility of the Senior Vice President - Nuclear Engineering. Design change procedures provide for the timely update of affected drawings following design change implementation to reflect as-built configuration.

17.2.4 Procurement Document Control

Procurement documents and changes thereto for the purchase of Q, F, and R-designated material, equipment, or services are reviewed and approved by ~~QA~~ PA prior to issuance by the Purchasing Department to the prospective supplier. ~~QA~~ PA review assures that spare and replacement parts are procured using controls which are commensurate with current QA program requirements.

The review also assures that procurement documents adequately and correctly:

1. Identify applicable QA program requirements

2. Reference applicable regulatory requirements, codes, and standards

3. Provide right of access for source surveillance and audit by ~~QA~~ PA or its agents

4. Provide for required supplier documentation to be submitted to PSE&G or maintained by the supplier, as appropriate

5. Provide for PSE&G review and approval of critical procedures prior to fabrication, as appropriate.

Procurement documents require suppliers and contractors of other than commercial grade items to provide services or components in accordance with a QA program that complies with applicable parts of 10CFR50, Appendix B. The requirement for notifying PSE&G of procurement requirements that have not been met is conveyed to the supplier through the standard warranty provision contained in each purchase order. In addition, where 10CFR21 is imposed, suppliers are required to comply with applicable reporting requirements.

17.2.5 Instructions, Procedures, and Drawings

Organizations engaged in Q, F, and R-designated activities are required to perform these activities in accordance with written and approved procedures, instructions, or drawings, as appropriate.

Simple routine activities that can be performed by qualified personnel with normal skills do not require a detailed written procedure. Complex activities require detailed procedures. The designation of those activities requiring detailed procedures is

17.2.6 Document Control

Instructions, procedures, drawings, and changes thereto are reviewed for the inclusion of appropriate QA requirements approved by appropriate levels of management of the PSE&G organizations producing such documents, and distributed on a timely basis to using locations. Measures are provided for the timely removal of obsolete or superseded documents from the using location. Supplier documents are controlled according to contractual agreements with suppliers.

The following is a generic listing of key documents for the operational phase, showing minimum organization responsibility for review and/or approval, including changes thereto:

1. Design specification - Nuclear Engineering, ~~QA~~ PA.

2. Design modification, manufacturing, construction, and installation drawings - Nuclear Engineering, Nuclear Maintenance, station operations

3. Procurement documents - initiating Nuclear Business Unit Organization, Nuclear Business Support, ~~QA~~ PA

4. Nuclear Administrative Procedures Manual - Nuclear Business Unit organizations responsible for implementation, QA

5. Nuclear Business Unit second tier manuals, including station administrative procedures - cognizant department head, QA

6. Maintenance, modification, and calibration procedures for Q, F, and R designated station work activities - Nuclear Maintenance

7. Operating procedures - station operations

Revision control of procedures and instructions is accomplished through the control of computerized databases. Controls of software affecting nuclear safety are identified in the Nuclear Administrative Procedures Manual. These controls are based on applicable guidelines provided by the NRC and include software review and approval as well as access controls to prevent unauthorized software changes.

17.2.7 Control of Purchased Material, Equipment, and Services

~~QA~~ PA maintains an up-to-date listing of approved suppliers of material, equipment, and services covered by the QA program. This list identifies suppliers and contractors who have demonstrated the ability to supply acceptable material, equipment, or services. The list includes manufacturers of commercial grade items. All QA program procurements are made from approved suppliers.

The responsible engineer and ~~QA~~ PA personnel select and evaluate prospective bidders and suppliers. The responsible engineer determines the technical competence of the supplier, while ~~QA~~ PA evaluates the prospective supplier's QA program for the capability of meeting applicable requirements of 10CFR50, Appendix B, and for extending applicable program requirements to subtier suppliers.

Qualified ~~QA~~ PA personnel evaluate the prospective supplier's QA capability using one or more techniques, including but not necessarily limited to:

1. Evaluation of supplier's or contractor's procedures or manuals and changes thereto

2. ASME code stamp approval

3. Nuclear Utility Procurement Issues Council (NUPIC) or Nuclear Fuel Users Forum (NFUF) Audits.

4. Satisfactory past history of providing similar items

5. Survey of supplier's facility

The evaluations of the prospective suppliers are conducted using standard checklist form designed to include the 18 quality criteria of 10CFR50, Appendix B, as appropriate.

Surveys of suppliers' capabilities include evaluation of management systems, manufacturing processes and adherence to QA/QV procedures. The results of supplier evaluations are documented by the appropriate checklist form and filed.

Supplier control is maintained through a planned inspection, monitoring, and audit program by ~~QA~~ PA.

~~QA~~ PA and the responsible engineer conduct a review of the manufacturing process for complex manufactured items, such as pumps, valves, heat exchangers, vessels, electrical panels, etc. This review establishes critical inspection points and establishes a notification point program for the identified inspection or surveillance activities. The established inspection or surveillance activities are implemented by qualified ~~QA~~ PA personnel or ~~QA~~ PA agents. Commercial Grade Items are dedicated in accordance with recognized industry standards, e.g. EPRI NP 5652.

Monitoring of suppliers/contractors during fabrication, installation, modification, rework, repair, inspection, testing, and shipment of Q, F, and R-designated materials, equipment, and services, is conducted by qualified ~~QA~~ PA personnel or ~~QA~~ PA agents at the supplier's/contractor's facility or at the generating station. Surveillances are conducted in accordance with written procedures and are designed to assure conformance with procurement requirements, in accordance with the safety significance of the item or service.

identification is directly marked on the item, or on records traceable to the item. The data review conducted at receiving assures that proper documentation of received items is available. Materials and items received without proper identification are tagged or segregated until satisfactory documentation and identification is obtained.

Procedures require Q, F, and R-designated materials, parts, and components to be marked or otherwise identified, and require that such identity be maintained either on the item or on records traceable to it throughout receipt, storage, installation, and use. Protection against use of incorrect or defective items is also provided.

Material identification and traceability is maintained for rework, repairs, and modifications throughout operation.

Identification and control of materials, parts, and components are the responsibility of Nuclear Maintenance, Nuclear Engineering, and Nuclear Business Support. Procurement document controls are the responsibility of ~~Quality Assurance~~ PA. Receipt, storage, installation, inspection and test activities are the responsibility of Nuclear Business Support, QA, PA, and Nuclear Maintenance.

17.2.9 Control of Special Processes

Special process controls provide for the use of qualified procedures, equipment, personnel, and documentation of satisfactory completion of an activity. Special processes are generally those processes where direct inspection is impossible or disadvantageous.

Procedures have been established for special processes such as welding, brazing, soldering, concreting, protective coating, cleaning, heat treating, and nondestructive examination (NDE) to assure compliance with codes and design specifications. The Senior Vice President - Nuclear Engineering is

responsible for preparing special process procedures such as concreting, protective coating and cleaning, while the General Manager - Nuclear Maintenance is responsible for preparing specifications for processes such as welding, brazing, soldering and heat treating. Nuclear Engineering is responsible for preparing specifications for non-destructive examination (NDE). These specifications are reviewed and approved by the Nuclear Maintenance Code Assurance Specialist for necessary QA program requirements. QA monitoring assessments and audits assure that qualification of special processes, equipment and personnel have been satisfactorily performed.

Procedures for implementing the requirements of the specifications are prepared either by the Nuclear Business Unit or by supplier personnel, and are reviewed by a qualified specialist ~~QA and the appropriate general manager or their designees,~~ with the exception of special process procedures prepared by code suppliers holding a valid certificate of authorization. **A qualified specialist is a person who has certified proficiency in the area of review (e.g., personnel reviewing NDE procedures are required to have Level III certification in the subject NDE area, and personnel reviewing other procedures or reports are required to be qualified in accordance with PSE&G's Engineering Support Personnel Program).**

Qualification records of procedures, equipment, and personnel associated with special processes are retained as stated in Section 17.2.17.

17.2.10 Inspection

A planned inspection program is conducted and documented by personnel appropriately qualified in accordance with Section 17.2.2. The inspection program verifies conformance to the established procedure, code, or standard, consistent with the item's or activity's importance to safety.

The inspection program for maintenance and modification activities is based upon the following three important levels of inspection:

1. Worker Checks - Quality cannot be achieved unless the worker performs the activity in a quality manner. The worker is the individual best able to control the quality of work performed. Work steps that contain

or components is inspected or retested or both in accordance with specified test and inspection requirements established by the responsible engineering representative, based on applicable requirements. QA or PA shall verify the satisfactory completion of the disposition of nonconformances.

QA and other organizations in the Nuclear Business Unit review nonconformance reports for quality problems, including adverse quality trends, and initiate reports to higher management, identifying significant quality problems with recommendations for appropriate action.

17.2.16 Corrective Action

Organizations involved in activities covered by the QA program are required to implement corrective action for significant conditions adverse to quality (SCAQ) and conditions adverse to quality identified within their scope of activity. Such conditions are documented and controlled by issuance of an action request. The QA Corrective Action Group reviews responses to action requests for adequacy and monitors these action requests through periodic summary and status reports to management.

Responses to action requests are based on the four elements of corrective action, which are:

1. Identification of cause of deficiency

2. Action to correct deficiency and results achieved to date

3. Action taken or to be taken to prevent recurrence

4. Date when full compliance was or will be achieved.

For significant conditions adverse to quality, such as LERs and NRC/INPO/CMAP findings, the QA Corrective Action Group is involved in the review of such conditions and provides oversight to assure timely

17.2.17 Quality Assurance Records

Records necessary to demonstrate that activities important to quality have been performed in accordance with applicable requirements are identified and maintained in accordance with Regulatory Guide 1.88, as noted in Section 17.2.2. Records shall be considered valid only when authenticated by authorized personnel. Record types as a minimum, comply with applicable technical specification requirements and include operating logs, maintenance and modification procedures and related inspection results and reportable occurrences.

The Nuclear Business Unit is responsible for the permanent storage of station records. The retention period for records; permanent storage location; and methods of control, identification, and retrieval are specified by administrative procedure. Individual station department heads are responsible for submitting applicable department records to the designated location for retention.

17.2.18 Audits

Audits of PSE&G and supplier organizations that implement the QA program are preformed by QA and PA to verify compliance with the applicable portions of the program, through personnel interview, observation of activities in process, and review of applicable documents and records as required. Performance based assessment should be an integral part of the auditing program and should evaluate activities on the basis of their effect on the safe and reliable operation of the facility. An annual audit schedule is developed to identify the audits to be performed and their frequency. A dominant factor in audit schedule development is performance in the subject area. Audit schedules are revised so that weak or declining areas receive increased audit coverage and strong areas receive less consistent with the audit schedule frequency requirements of the Code of Federal Regulations and the UFSAR. Audits of the selected aspects of operational phase activities are performed with a frequency commensurate with safety significance and in a manner to assure that at least biennial (2 years) audits of safety related activities are performed. A list of operational phase activities subject to the audit program is provided in section 17.2.1.1.2.3 and in Table 17.2-1.

Audits are conducted by audit teams comprised of a certified lead auditor and certified auditors, and technical specialists (when deemed necessary).

B. Additional NRC requirements

1. Technical Specification Administrative Controls

   (a) Reportable occurrences.

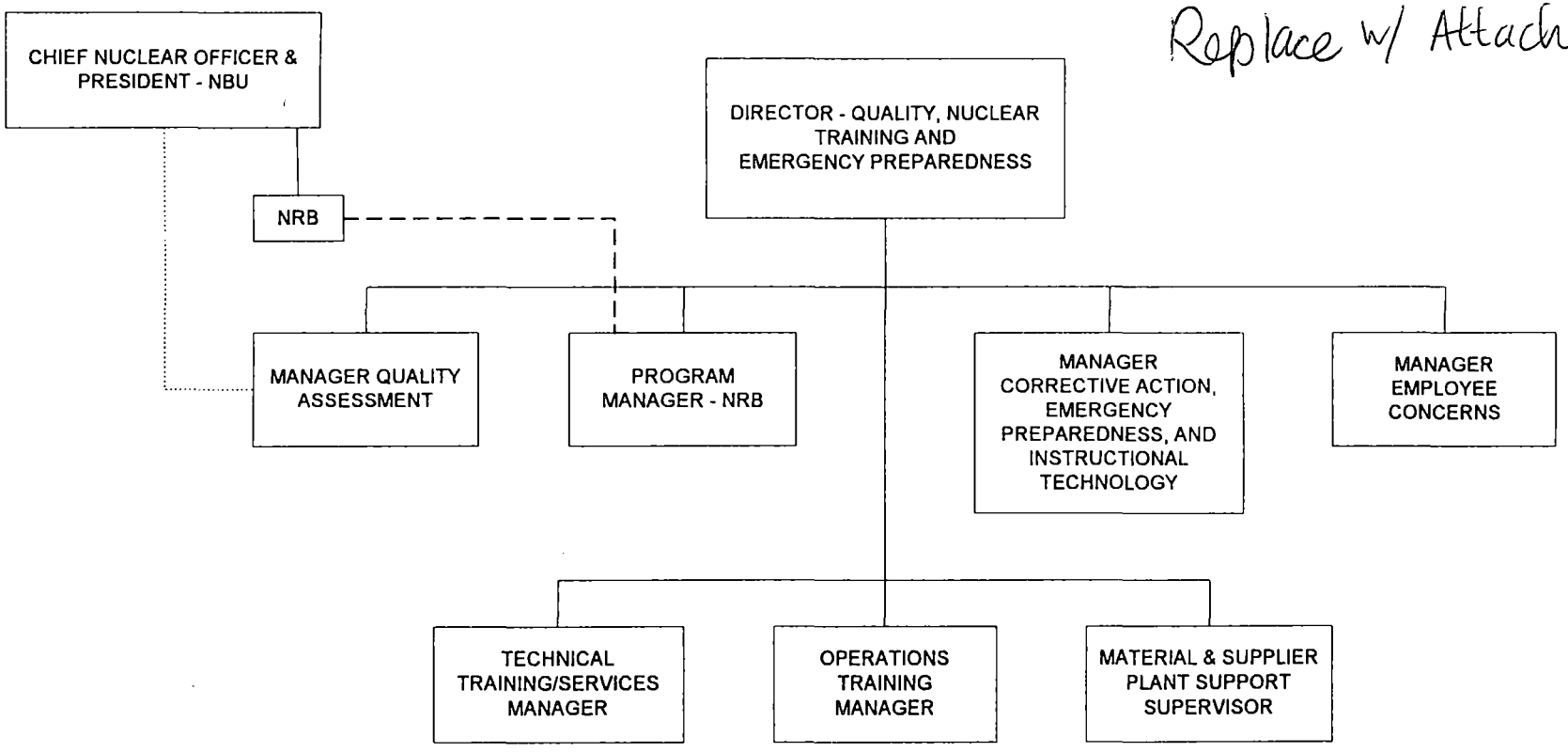
2. Inservice Inspection Plan

3. Reporting of Defects and Noncompliance.

4. **Modifications to Site Grading.**

QUALITY, NUCLEAR TRAINING & EMERGENCY PREPAREDNESS

Replace w/ Attached



LEGEND:

..... REPORTS TO CNO/PNBU ON ISSUES INVOLVING NON-QA AREAS UNDER THE RESPONSIBILITY OF THE DIRECTOR

– – – – – – COORDINATION

PUBLIC SERVICE ELECTRIC AND GAS COMPANY HOPE CREEK GENERATING STATION
QUALITY, NUCLEAR TRAINING & EMERGENCY PREPAREDNESS
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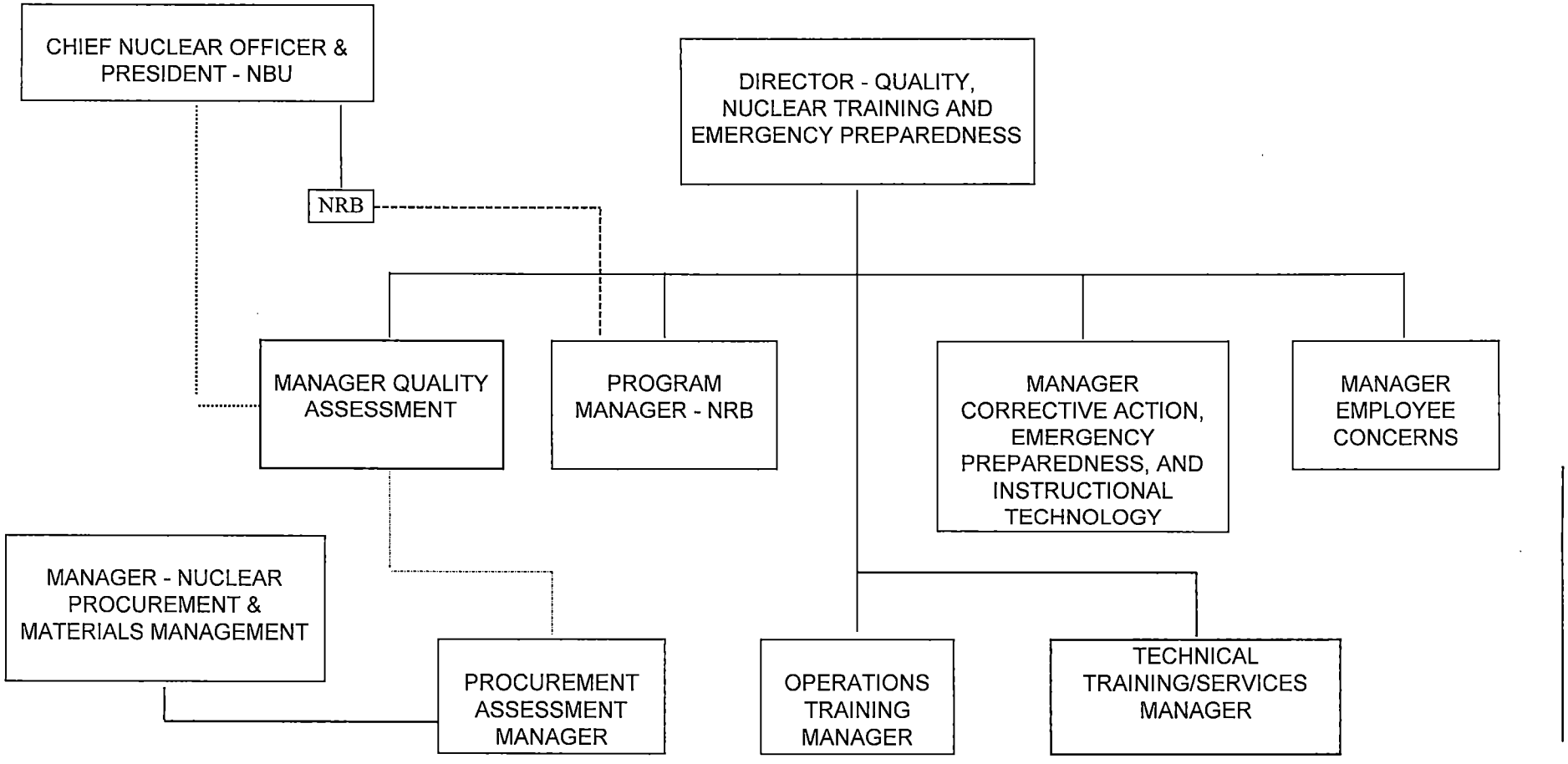
QUALITY, NUCLEAR TRAINING & EMERGENCY PREPAREDNESS



LEGEND:

..... REPORTS TO CNO/PNBU ON ISSUES INVOLVING NON-QA AREAS UNDER THE RESPONSIBILITY OF THE DIRECTOR.

---------- COORDINATION

..... THE PROCUREMENT ASSESSMENT DOTTED LINE RELATIONSHIP WITH QA WILL BECOME SOLID WITH CONFLICTS CONCERNING QA ISSUES.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
HOPE CREEK NUCLEAR GENERATING STATION

QUALITY, NUCLEAR TRAINING & EMERGENCY PREPAREDNESS

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Figure 17.2-1
Sheet 1 of 1

PROPOSED SALEM CHANGES

Assurance Program, independent auditors from outside the company audit the program every 2 years for compliance with 10CFR50, Appendix B, and other regulatory commitments. Reports of such audits are made directly to upper management.

Quality Assurance (QA) policy statements are issued by key management representatives, including the Chairman and Chief Executive Officer and the Chief Nuclear Officer and President - Nuclear Business Unit (CNO/PNBU). These policy statements are mandatory throughout the Company for nuclear facilities.

Key policy elements, as they apply to nuclear safety, include the following:

1. Nuclear safety is of the highest priority and shall take precedence over matters concerning power production.

2. The public's health and safety is the prime consideration in the conduct and support of PSE&G's nuclear operations and shall not be compromised. All decisions which could affect the health and safety of the public shall be made conservatively.

3. The Operational Quality Assurance Program is an essential part of the PSE&G commitment to safe and reliable nuclear power operation. Applicable program requirements shall be strictly adhered to in the performance of activities covered by the Operational Quality Assurance Program.

PSE&G requires its suppliers and contractors to assume responsibility for establishing and implementing Quality Assurance/Quality Verification (QA/QV) programs, as applicable, to meet 10CFR50, Appendix B. However, responsibility for the overall QA program is retained and exercised by PSE&G. ~~QA~~ Procurement Assessment (PA) reviews those programs and conducts appropriate monitoring and auditing as required to assure that the suppliers are properly implementing

2. An annual assessment of the QA program that is preplanned and documented. This assessment addresses the scope, status, and adequacy of the QA program. Corrective action is identified and tracked.

17.2.1.1.1 Quality Assurance

The Director - Quality, NT and EP is responsible for defining, formulating, implementing, and coordinating the QA program. The Director has been delegated the authority and has the independence to interpret quality requirements, identify quality problems and trends, and provide recommendations or solutions to quality problems for all areas except those non-QA areas under his control. The Director is responsible for approval of the QA/NSR Department Manual used during the operations phase of the nuclear stations. The Director also is responsible for verifying compliance with established requirements for the QA program through document review, inspection, monitoring, assessments and audits for all areas except those non-QA areas under his control. QA provides a centralized coordinating function for QA/QV activities applied to the operations phase.

The Director - Quality, NT and EP has the authority and responsibility to stop work, through the issuance of a Stop Work Order, when significant conditions adverse to quality require such action.

The PSE&G policies and organization structure assure that the Director - Quality, NT and EP has sufficient organizational freedom and independence to carry out his responsibilities.

The full attention of the Director will be in support of QA activities and will take precedence over his non-QA activities. In the event of a conflict, the Director will delegate all QA authority to the Manager - Quality Assurance, if necessary. The Manager - Quality Assessment has the authority to report directly to the CNO/PNBU for these matters.

The ~~Director - Quality, NT, and EP~~ **Procurement Assessment (PA) Manager, who reports to the Manager - Nuclear Procurement and Material Management (NP&MM),** is ~~also~~ responsible for the Quality Services activities provided by the ~~Material & Supplier Plant Support~~ **PA** group**.**~~, which includes:~~ **The PA activities of the Manager - MP&MM will take precedence over his non-PA activities. In the event of a conflict, he will delegate all authority in the area of PA to the PA Manager if necessary.**

1. The authority and responsibility to stop work, through the issuance of a Stop Work Order, when significant conditions adverse to quality requires such action.

2. The freedom and authority to directly access the Manager - Quality

Assurance if the need for such access exists for any issue under his responsibility. In the event of a conflict concerning the implementation of the QA program between NP&MM and PA, the reporting line will be direct from PA to the Manager - Quality Assessment.

~~1~~ 3. Review of engineering documents such as equipment specifications for inclusion of QA requirements.

~~2~~ 4. Review and approve specifications for Q-listed materials, equipment, and services.

~~3~~ 5. Review of procurement documents for insertion of QA requirements.

~~4~~ 6. Conduct of supplier surveys, audits and surveillances.

~~5~~ 7. Evaluation of prospective and existing Supplier QA Programs.

~~6~~ 8. Monitoring/auditing of nuclear fuel fabrication ~~and installation~~.

~~7~~ 9. Review of NBU fuel specifications for inclusion of QA requirements.

~~8~~ 10. Perform material evaluation activities on items subject to the QA Program.

Responsibilities of the Manager - Corrective Action, Emergency Preparedness and Instructional Technology (Manager - CA, EP & IT) include the following:

1. Administration of the Corrective Action program.

2. Management direction and control of all collection and trending of Corrective Action reports.

3. Performing statistical analysis trends for management.

The Manager's responsibilities relative to Emergency Preparedness and Instructional Technology are described in Section 13.1.1.2.1.4.2.

8. Preparation and maintenance of the QA/NSR Department Manual, the QA Program description in the UFSAR, and the Operational QA Program description in the Nuclear Administrative Procedures Manual.

9. Review of the Nuclear Administrative Procedures Manual for compliance with the Operational QA Program.

10. Performing assessments of PSE&G Program administrative and implementing procedures (as necessary, these assessment may also include station administrative and implementing procedures).

11. Conducting QA Program orientation for NBU personnel administering the training and certification program for QA personnel involved in inspection, assessments and auditing activities, maintaining the QA training plan, and maintaining QA training records.

12. Review of new regulatory requirements for QA Program impact.

13. Coordination of the commitment verification program on a selected basis.

14. Performing Code related inspections, test performance, and review of weld procedures for inclusion of QA requirements.

15. Performing design change package pre-implementation review and closure review for compliance with Inspection Hold Point (IHP)requirements.

16. Performing Performance Based Inspections.

17. Implementation of the onsite independent review.

18. Random assessments are performed on the cable system to ensure that they have been installed as specified per procedure.

19. Quality verifications are performed on field installed cables to ensure that the cables are properly installed, identified and routed as specified per procedure.

18. Monitoring/auditing of nuclear fuel installation.

19. Monitor the ability of the PA group to continuously function independently as delineated under the responsibilities of the PA Manager and perform periodic audits of PA review functions. The following provides guidance on the conduct and content of the subject audits:

- **conduct interviews, surveys, etc. of selected personnel who are involved in procurement or procurement assessment activities or who are in a position to observe these activities**

- observe selected procurement and procurement assessment activities

- assess selected reviews, evaluations, surveys, audits, and surveillances conducted by PA personnel.

b. Review of selected facility features, equipment, and systems.

c. Review of selected procedures and plant activities including maintenance, modification, operational problems, and operational analysis.

d. Surveillance of selected plant operations and maintenance activities to provide independent verification that they are performed correctly and that human errors are reduced to as low as reasonably achievable.

The personnel performing the onsite independent review shall have: 1) at least three (3) years related experience of which at least two (2) years are nuclear related, and a Bachelor Degree in Engineering or a related field; or 2) at least eight (8) years related experience, of which at least five (5) years are nuclear related. At least fifty percent (50%) of the personnel performing the onsite independent review shall have a Bachelor Degree in Engineering or a related field. For the discipline of Operations, a senior reactor operator license or certification may be used as an alternative qualification instead of a Bachelor Degree in Engineering or a related field.

Personnel performing the onsite independent review function shall possess knowledge of nuclear power plant operation and knowledge of the discipline or activity in the assigned area of review. A single individual may be qualified to perform reviews in more than one discipline. The requisite experience may have been gained concurrently in related disciplines.

The Director-Quality, NT and EP will approve and document the qualifications of those personnel performing the onsite independent review who are qualified based on at least eight (8) years related experience.

17.2.1.2 Maplewood Testing Services

The Manager Maplewood Testing Services reports to the Director-Service Company (Servco) in the PSE&G Fossil Generation Business Unit.

Maplewood Testing Services performs calibrations, analyses, and evaluations on systems, equipment, and materials, as requested by NBU departments, and maintains compliance with its quality assurance program as approved by NBU PA ~~or QA~~.

The station General Manager has instituted and will maintain a station administrative procedures (SAP) manual.

Regulatory Guide 1.33 requires that plant activities affecting quality-related items and services be conducted in accordance with written administrative controls prepared by management. The procedures and instructions by which plant activities are performed are prepared by the responsible organization as required by the Nuclear Administrative Procedures Manual, reviewed by the organization responsible for the activity, reviewed as required by QA and SORC, and approved by the department manager. Nuclear Administrative Procedures (NAPs) and station APs and all subsequent revisions thereto are reviewed by QA and SORC and are approved by the station General Manager. Procedures cannot be implemented unless the review/approval process is accomplished. The Nuclear Administrative Procedures Manual provides a means to accommodate on-the-spot changes to subtier implementing procedures. The routine practice for revising a procedure is to repeat the original review and approval sequence.

Implementation of the QA program is verified by means of independent inspections, assessments, monitoring, and audits conducted by QA.

QA and PA reviews and analyzes problems affecting quality that occur during the operational phase. Items subject to review include:

1. Documented nonconformances occurring at the supplier's facility and those identified during receiving, storage, installation, test, and operation, e.g., Deficiency Reports, Nonconformance Reports, Work Orders, Licensee Event Reports, etc.

2. Documented corrective actions taken on conditions adverse to quality and actions to prevent recurrence on significant conditions adverse to quality.

3. NRC inspection findings, notifications, bulletins, etc.

testing will be deferred, but not beyond the point when the installation would be irreversible.

3. Tests will be performed under conditions that simulate the most adverse design conditions, as determined by analysis.

New drawings or revisions to existing drawings are prepared for inclusion into a design/configuration change by, or under the supervision of, a designer from information received from the responsible engineer, manufacturer's drawings, etc. After implementation, approved design/configuration change information is transferred onto permanent drawings by a designer or drafter and peer reviewed and initialed as being checked by another designer, drafter or responsible design supervisor. New drawings or revisions to existing drawings receive final approval by the responsible design supervisor or authorized designee.

Specifications and changes thereto for items covered by the QA program are prepared by Nuclear Engineering, and are reviewed by PA ~~Supplier Assessment~~ for QA content.

~~QA~~ PA review assures that the documents are prepared, reviewed, and approved in accordance with company procedures and that the documents contain the necessary QA requirements, such as inspection and test requirements, acceptance requirements, and the extent of documenting inspection and test results .

The Station Operations Review Committee (SORC) reviews proposed changes affecting nuclear safety and makes recommendations concerning implementation of the change to the station general manager. The design change process provides for signoff of the design change by the appropriate department head for the purpose of identifying required procedure change. If the proposed modification involves a Technical Specification change or is considered by the SORC to involve an unreviewed safety question (10CFR50.59), the matter is submitted to the Nuclear Review Board (NRB) for a determination of its safety implication before a license change request is submitted for NRC approval.

During the preparation of design changes, Nuclear Business Support assigns a project manager, as necessary. The project manager leads a project team. The project team consists of members of various

5. Survey of supplier's facility.

The evaluations of the prospective suppliers are conducted using standard checklist form designed to include the 18 quality criteria of 10CFR50, Appendix B, as appropriate.

Surveys of suppliers' capabilities include evaluation of management systems, manufacturing processes, and adherence to QA/QV procedures. The results of supplier evaluations are documented by the appropriate checklist form and filed.

Supplier control is maintained through a planned inspection, monitoring, and audit program by ~~QA~~ PA.

~~QA~~ PA and the responsible engineer conduct a review of the manufacturing process for complex manufactured items, such as pumps, valves, heat exchangers, vessels, electrical panels, etc. This review establishes critical inspection points and establishes a notification point program for the identified inspection or surveillance activities. The established inspection or surveillance activities are implemented by qualified ~~QA~~ PA personnel or ~~QA~~ PA agents. Commercial grade items are dedicated in accordance with recognized industry standards, e.g. EPRI NP-5652.

Monitoring of suppliers/contractors during fabrication, installation, modification, rework, repair, inspection, testing, and shipment of Q-Listed materials, equipment, and services is conducted by qualified ~~QA~~ PA personnel or ~~QA~~ PA agents at the supplier's/ contractor's facility or at the generating station. Surveillances are conducted in accordance with written procedures and are designed to assure conformance with procurement requirements, in accordance with the safety significance of the item or service.

Periodic evaluations of the supplier/contractor quality program are also conducted, consistent with the importance or complexity of the

parts, and components received can be properly identified. The identification is directly marked on the item or on records traceable to the item. The data review conducted at receiving assures that proper documentation of received items is available. Materials and items received without proper identification are tagged or segregated until satisfactory documentation and identification is obtained.

Procedures require that Q-Listed materials, parts, and components be marked or otherwise identified and that such identity be maintained either on the item or on records traceable to it throughout receipt, storage, installation, and use. Protection against use of incorrect or defective items also is provided.

Material identification and traceability is maintained for rework, repairs, and modifications throughout operation.

Identification and control of materials, parts and components are the responsibility of Nuclear Maintenance, Nuclear Engineering and Nuclear Business Support. Procurement document controls are the responsibility of ~~Quality Assurance~~ PA. Receipt, storage, installation, inspection and test activities are the responsibility of Nuclear Business Support, QA, PA and Nuclear Maintenance.

17.2.9 Control of Special Processes

Special process controls provide for the use of qualified procedures, equipment, personnel, and documentation of satisfactory completion of an activity. Special processes are generally those processes where direct inspection is impossible or disadvantageous.

Procedures have been established for special processes such as welding, brazing, soldering, concreting, protective coating, cleaning, heat treating, and nondestructive examination (NDE) to assure compliance with codes and design specifications. The Senior Vice President - Nuclear Engineering is responsible for preparing special process procedures such as concreting, protective coating and cleaning, while the

organizations, both internal and external to Nuclear Engineering. The project team members are responsible for providing technical and administrative input to the entire design change process, which consists of design, installation, testing, and closeout phases. The technical and administrative input is guided by the requirements of those organizations which comprise the project team. The project manager ensures that the specific requirements of each organization on the project team are considered to ensure the overall quality of the product.

For design changes important to safety, the QA representative on the project team provides input and assures that design changes include quality assurance requirements such as inspection and test requirements, acceptance requirements, test result documentation, and project team compliance with company procedures during preparation, review, and approval of design changes.

Updating of records, including drawings, blueprints, instructions technical manuals, and specifications resulting from design changes, is the responsibility of the Senior Vice President - Nuclear Engineering. Design change procedures provide for the timely update of affected drawings following design change implementation to reflect as-built configuration.

17.2.4 Procurement Document Control

Procurement documents and changes thereto for the purchase of Q-Listed material, equipment, or services are reviewed and approved by ~~QA~~ PA prior to issuance by the Purchasing Department to the prospective supplier. ~~QA~~ PA review assures that spare and replacement parts are procured using controls which are commensurate with current QA program requirements.

The review also assures that procurement documents adequately and correctly:

1. Identify applicable QA program requirements.

2. Reference applicable regulatory requirements, codes, and standards.

3. Provide right of access for source surveillance and audit by ~~QA~~ PA or its agents.

4. Provide for required supplier documentation to be submitted to PSE&G or maintained by the supplier, as appropriate.

5. Provide for PSE&G review and approval of critical procedures prior to fabrication, as appropriate.

Procurement documents require suppliers and contractors of other than commercial-grade items to provide services or components in accordance with a QA program that complies with applicable parts of 10CFR50, Appendix B. The requirement for notifying PSE&G of procurement requirements that have not been met is conveyed to the supplier through the standard warranty provision contained in each purchase order. In addition, where 10CFR21 is imposed, suppliers are required to comply with applicable reporting requirements.

17.2.5 Instructions, Procedures, and Drawings

Organizations engaged in Q-Listed activities are required to perform these activities in accordance with written and approved procedures, instructions, or drawings, as appropriate.

Simple, routine activities that can be performed by qualified

17.2.6 Document Control

Instructions, procedures, drawings, and changes thereto are reviewed for the inclusion of appropriate QA requirements, approved by appropriate levels of management of the PSE&G organizations producing such documents, and distributed on a timely basis to using locations. Measures are provided for the timely removal of obsolete or superseded documents from the using location. Supplier documents are controlled according to contractual agreements with suppliers.

The following is a generic listing of key documents for the operational phase, showing minimum organization responsibility for review and/or approval, including changes thereto:

1. Design specification - Nuclear Engineering, ~~QA~~ PA.

2. Design modification, manufacturing, construction, and installation drawings - Nuclear Engineering, Nuclear Maintenance, station operations.

3. Procurement documents - Initiating NBU organization, Nuclear Business Support, ~~QA~~ PA.

4. Nuclear Administrative Procedures Manual - NBU organizations responsible for implementation, QA.

5. NBU second-tier manuals, including station administrative procedures - Cognizant department head, QA.

6. Maintenance, modification, and calibration procedures for Q-Listed designated station work activities - Nuclear Maintenance.

7. Operating procedures - Station operations.

Controls of software affecting nuclear safety are identified in the Nuclear Administrative Procedures Manual. These controls are based on applicable guidelines provided by the NRC and include software review and approval as well as access controls to prevent unauthorized software changes.

17.2.7 Control of Purchased Material, Equipment, and Services

~~QA~~ PA maintains an up-to-date listing of approved suppliers of material, equipment, and services covered by the QA program. This list identifies suppliers and contractors that have demonstrated the ability to supply acceptable material, equipment, or services. The list includes manufacturers of commercial-grade items. All QA program procurements are made from approved suppliers.

The responsible engineer and ~~QA~~ PA personnel select and evaluate prospective bidders and suppliers. The responsible engineer determines the technical competence of the supplier, while ~~QA~~ PA evaluates the prospective supplier's QA program for the capability of meeting applicable requirements of 10CFR50, Appendix B, and for extending applicable program requirements to subtier suppliers.

Qualified ~~QA~~ PA personnel evaluate the prospective supplier's QA capability using one or more techniques, including but not necessarily limited to:

1. Evaluation of supplier's or contractor's procedures or manuals and changes thereto.

2. ASME code stamp approval.

3. Nuclear Utility Procurement Issues Council (NUPIC) or Nuclear Fuel Users Forum (NFUF) Audits.

4. Satisfactory past history of providing similar items.

General Manager - Nuclear Maintenance is responsible for preparing specifications for processes such as welding, brazing, soldering, and heat treating. Nuclear Engineering is responsible for preparing specifications for nondestructive examination (NDE). These specifications are reviewed and approved by the Nuclear Maintenance Code Assurance Code Specialist for necessary QA program requirements. QA monitoring assessments and audits assure that qualification of special processes, equipment, and personnel have been satisfactorily performed.

Procedures for implementing the requirements of the specifications are prepared either by the NBU or by supplier personnel and are reviewed by a qualified specialist ~~QA and the appropriate general manager, or their designee,~~ with the exception of special process procedures prepared by code suppliers holding a valid certificate of authorization. **A qualified specialist is a person who has certified proficiency in the area of review (e.g., personnel reviewing NDE procedures are required to have Level III certification in the subject NDE area, and personnel reviewing other procedures or reports are required to be qualified in accordance with PSE&G's Engineering Support Personnel Program).**

Qualification records of procedures, equipment, and personnel associated with special processes are retained as stated in Section 17.2.17.

17.2.10 Inspection

A planned inspection program is conducted and documented by personnel appropriately qualified in accordance with Section 17.2.2. The inspection program verifies conformance to the established procedure, code, or standard, consistent with the item's or activity's importance to safety.

The inspection program for maintenance and modification activities is based upon the following three important levels of inspection:

1. Worker Checks - Quality cannot be achieved unless the worker performs the activity in a quality manner. The worker is the individual best able to control the quality of work being performed. Work steps that contain elements impacting plant equipment or systems have provisions for signoff by the worker. This worker signoff establishes accountability for the activity and is

procedures control the application and removal of tags and are designed to prevent operation of valves and/or switches that could result in personnel hazard or equipment damage.

Valve and equipment status boards or logs are maintained to indicate status.

17.2.15 Nonconforming Materials, Parts, or Components

Organizations involved in material receipt, installation, test, design modification, and other operating activities are responsible for identifying and documenting nonconformances. Nonconforming materials, where practical, are segregated to prevent installation or use until proper approvals are obtained. Materials, parts, or components that have failed in service are identified and, where practical, segregated. Procedures control the application and removal of tags.

Documentation of the nonconformance includes a description of the nonconformance, review by Operations Superintendent/Control Room Supervisor OS/CRS for Limiting Condition for Operation (LCO) applicability when appropriate and the disposition and inspection or retest requirements, as appropriate. The responsible Engineer dispositions each nonconformance report. Dispositions for repair or "use-as-is" are required to be reviewed and approved by QA prior to implementation. Rework or repair of nonconforming material, parts, or components is inspected or retested, or both, in accordance with specified test and inspection requirements established by the responsible engineering representative, based on applicable requirements. QA or PA shall verify the satisfactory completion of the disposition of nonconformances.

QA and other organizations in the NBU review nonconformance reports for quality problems, including adverse quality trends, and initiate reports to management

The NBU is responsible for the permanent storage of station records. The retention period for records; permanent storage location; and methods of control, identification, and retrieval are specified by administrative procedure. Individual station department heads are responsible for submitting applicable department records to the designated location for retention.

17.2.18 Audits

Audits of PSE&G and supplier organizations that implement the QA program are performed by QA and PA to verify compliance with the applicable portions of the program, through personnel interview, observation of activities in process, and review of applicable documents and records as required. Performance based assessment should be an integral part of the auditing program and should evaluate activities on the basis of their effect on the safe and reliable operation of the facility. An annual audit schedule is developed to identify the audits to be performed and their frequency. A dominant factor in audit schedule development is performance in the subject area. Audit schedules are revised so that weak or declining areas receive increased audit coverage and strong areas receive less consistent with the audit schedule frequency requirements of the Code of Federal Regulations and the UFSAR. Audits of the selected aspects of operational phase activities are performed with a frequency commensurate with safety significance and in a manner to assure that at least biennial (2 year) audits of safety related activities are performed. A list of operational phase activities subject to the audit program is provided in Section 17.2.1.1.2.3 and in Table 17.2-1.

Audits are conducted by audit teams comprised of a certified lead auditor, certified auditors, and technical specialists (when deemed necessary).

Audits are conducted using preestablished written procedures and checklists. Areas of deficiency revealed by audits are reviewed with management and are corrected in a timely manner. Required corrective action is documented and verified. Followup action, including reaudit of deficient areas, is performed.

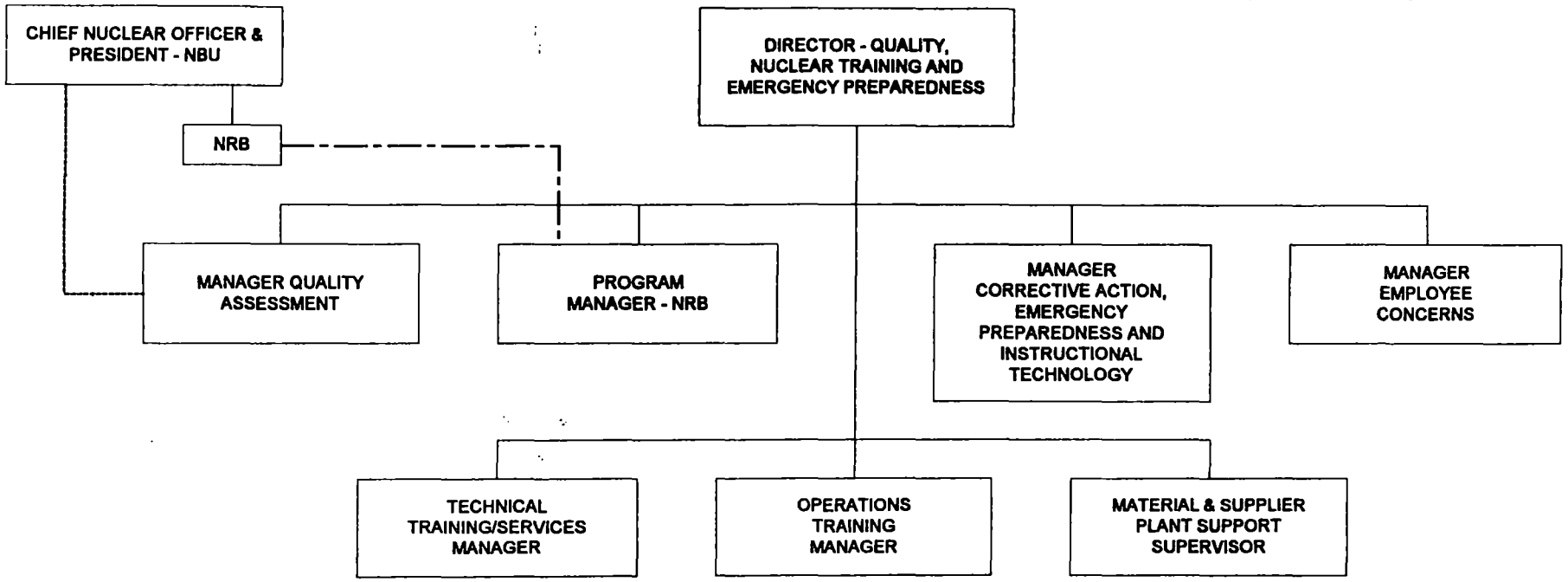
The audit program conducted by QA includes, but is not limited to, the following activities covered by the QA program:

1. Operation, maintenance, and modification.

2. Preparation, review, approval, and control of design, specifications, procurement and requisition documents, instructions, procedures, and drawings.

QUALITY, NUCLEAR TRAINI. , & EMERGENCY PREPAREDNESS

97-039, 97-051, 97-103, 97-122



Replace w/ attached

LEGEND:

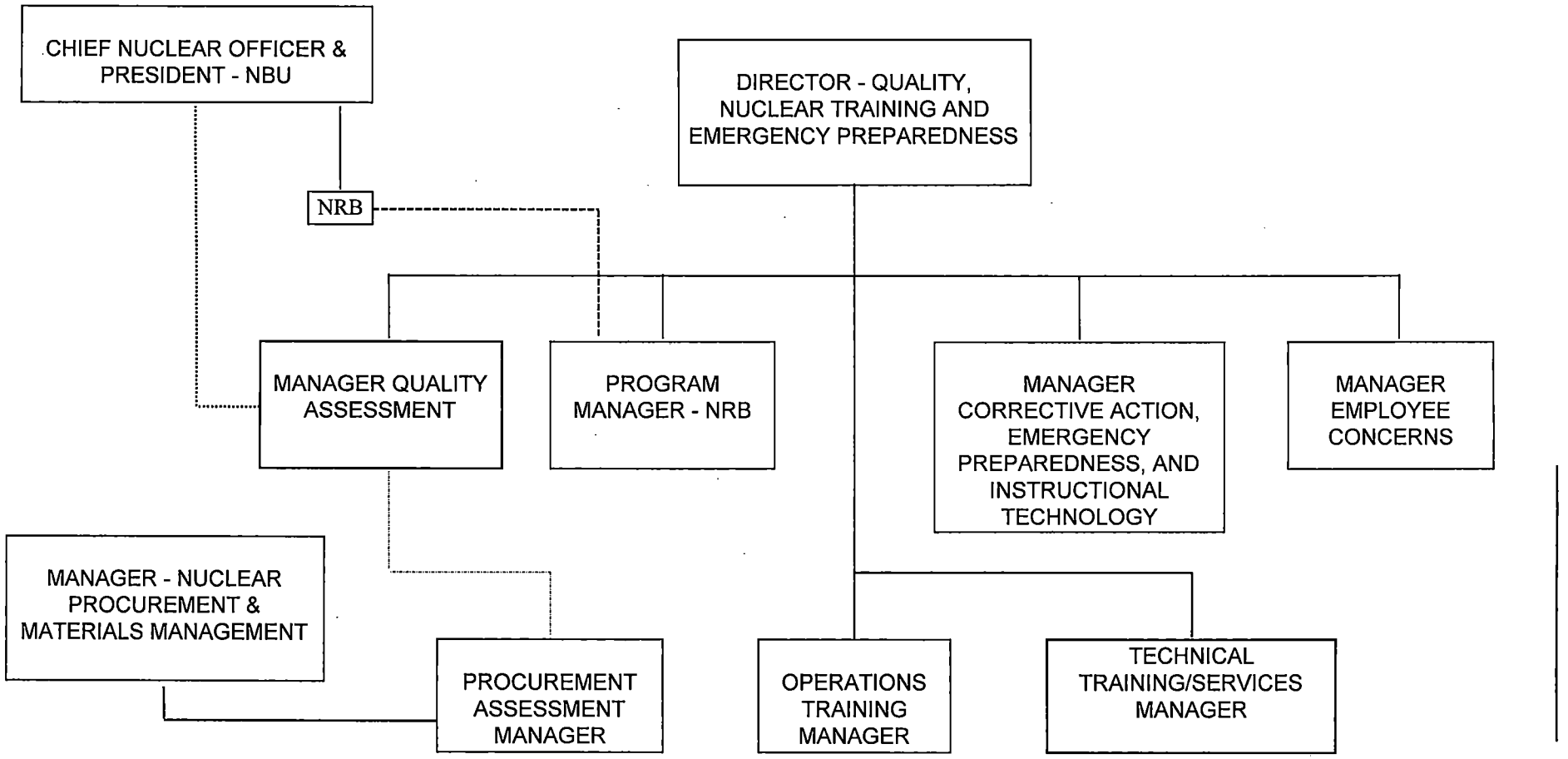
---------- REPORTS TO CNO/PNBU ON ISSUES INVOLVING NON-QA AREAS UNDER THE RESPONSIBILITY OF THE DIRECTOR

— - — COORDINATION

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
SALEM NUCLEAR GENERATING STATION

QUALITY, NUCLEAR TRAINING
& EMERGENCY PREPAREDNESS
UNITS 1 & 2

QUALITY, NUCLEAR TRAINING & EMERGENCY PREPAREDNESS



LEGEND:

..... REPORTS TO CNO/PNBU ON ISSUES INVOLVING NON-QA AREAS UNDER THE RESPONSIBILITY OF THE DIRECTOR.

---------- COORDINATION

..... THE PROCUREMENT ASSESSMENT DOTTED LINE RELATIONSHIP WITH QA WILL BECOME SOLID WITH CONFLICTS CONCERNING QA ISSUES.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY SALEM NUCLEAR GENERATING STATION	
QUALITY, NUCLEAR TRAINING & EMERGENCY PREPAREDNESS	
Updated FSAR Revision 15	Figure 17.2-1 Sheet 1 of 1