50.59 DETERMINATION

☒ Document LDCN 2482 Rev. 1

Document No.: LDCN 2482 Revision: 1

Subject: FSAR Chapter 13.4 and FSAR Chapter 17.2 changes to support ITS implementation.

A 50.59 Determination evaluates the identified document versus the SAR and determines whether or not a Safety Evaluation for the identified document is necessary. The Safety Analysis Report (SAR) is composed of the following documents: the Final Safety Analysis Report (FSAR), the Technical Requirements, the Technical Specifications, the Emergency Plan, the OPS QA Program, any Safety Evaluation Report (SER) by NRC that supports a license amendment of any kind, including special submittals such as the Design Assessment Report (DAR), the Fire Protection Review Report, the Security Plan, and the Offsite Dose Calculation Manual (ODCM) (see NDAP-QA-0726, Rev. 2, para. 5.5). If the document DOES involve any of the following perform a written safety evaluation in accordance with NDAP-QA-0726.

This document:

	(Circle One)	
1. ☐ Does	☒ Does Not	Constitute a change to the Facility as described in the SAR.
2. ☐ Does	☒ Does Not	Constitute a change to the procedures as described in the SAR.
3. ☐ Does	☒ Does Not	Perform a test or experiment not described in the SAR on systems described in the SAR.

See attached justification Summary.

Operational or function test will not normally require a Safety Evaluation

Preparer Charles R. Whirl Date 4/20/98

Responsible Supervisor Michael B. Sellman Date 4/21/98

SUPPORTING INFORMATION

Per PP&L Nuclear Department Administrative Procedure NDAP-QA-0731, the change proposed in LDCN 2482, Rev. 1 is held as draft until NRC approval of PP&L's ITS submittal. Once ITS is approved, the Licensing engineer responsible for the TS change conducts an additional review to confirm that the LDCN is supported by the SER and that any additional impacts of the SER on the draft LDCN are implemented. Following any necessary modifications to the draft LDCN, it is distributed for final Department review. Upon resolution of any additional review comments, the LDCN is submitted to the Supervisor - Licensing. Once approved by the Supervisor - Licensing, the LDCN can be incorporated into the FSAR.

SECTION	JUSTIFICATION
13.4 and 17.2	Editorial change to provide a tie to 10 CFR 50.54a evaluation for any changes to Chapter 13.4, as a result of rolling FSAR Chapter 13.4 into QA Program with ITS.
13.4.1	Editorial change to make consistent with current Technical Specification Section 6.5.1.1 regarding PORC Function, in relocation to QA Program (FSAR) with conversion to Improved Technical Specifications.
13.4.1.3	Editorial change to make FSAR consistent with ITS Section 5.4, Procedures, in relocation of current Technical Specifications 6.5.1.6 and 6.8.1 to QA Program (FSAR).
13.4.1.4.1	Change that transferred current Technical Specification 6.5.3, Technical Review and Control, and 6.8.2 to FSAR as provided for in NRC Administrative Letter 95-06, Relocation of Technical Specifications Administrative Controls Related To QA, as a result of converting to Improved Technical Specifications (ITS).
13.4.1.4.3	Editorial change to make consistent with current Technical Specification Section 6.5.1.7, PORC Authority, in relocation to QA Program (FSAR) with the conversion to ITS.

13.4.2, 13.4.3	Editorial changes to make consistent with current Technical Specifications 6.5.2.6, 6.5.2.2, 6.5.2.3, 6.5.2.4, 6.5.2.9, and 6.5.2.10 a, b & c, respectively, in relocation to QA Program (FSAR) with conversion to ITS.
17.2.1	Expanded discussion of Review Committees by adding PORC. Additionally, added tie to FSAR Section 13.4, Review and Audit, for further discussion of these committees that is being necessitated with conversion to ITS. Current Technical Specifications Section 6.5, Review and Audit, is being relocated to QA Program (FSAR).
17.2.1.20	Editorial change to account for required relocation of current Technical Specification 6.2.3, Nuclear Safety Assessment Group, into QA Program (FSAR) with the conversion to ITS.
17.2.2	Editorial changes to clarify that FSAR Chapter 13.4, Review and Audit, require the same levels of review and approval as applied to the OQA Program. Editorial correction of ANSI/ASN standard that establishes the qualifications individuals performing technical reviews to be consistent with current Technical Specification 6.5.3 in conversion to ITS.
17.2.5 and 17.2.6	Editorial change to provide tie between FSAR Subsections 17.2.5, Instructions, Procedures and Drawings, and 17.2.6, Document Control, and FSAR Subsection 13.4.1.4.1, Review of Procedures, Changes To Procedures and Systems, in order to provide needed tie between QA Program and technical review and control of procedures as a result of the relocation of current Technical Specifications 6.5.3, 6.8.1, and 6.8.2 into FSAR with the conversion to ITS.
17.2.17	Expanded contents to account for required relocation of current Technical Specification 6.10, Record Retention, into QA Program (FSAR) with the conversion to ITS.

17.2.18	Editorial change to clarify that Audit areas are now described in FSAR Subsection 13.4.2.9 in lieu of current Technical Specifications 6.5.2.8 upon conversion to Improved Technical Specifications.

These changes reflect transfer of current Technical Specifications to the FSAR/QA Program in accordance with NRC Administrative Letters 95-06 and 96-04 and the NRC Request for Additional Information on PP&L's ITS submittal, as well as the NRC RAI on revision 0 of draft LDCN 2482 (submitted for NRC review via PLA-4862). This revision 1 of LDCN 2482 is submitted for NRC review via PLA 4893.

Insert 'A-1'

13.4 REVIEW AND AUDIT

13.4.1 PLANT OPERATIONS REVIEW COMMITTEE

General

The Plant Operations Review Committee (PORC) will be functional throughout the life of the plant, to advise the ~~Plant~~ Manager-Susquehanna SES on all matters related to nuclear safety as described in Section 13.4.1.3.

13.4.1.1 Organization

Membership of the PORC shall consist of but not be limited to the following:

Chairman: General ~~Plant~~ Manager - Susquehanna SES

Members:
- Manager - Nuclear Operations
- Manager - Nuclear Maintenance
- Manager - Nuclear Plant Services
- Manager - Nuclear Systems Engineering
- Supervisor – Health Physics ~~Supervisor~~
- Supervisor - Chemistry
- Supervisor - Effluents Management
- Supervisor - Quality Control Services
- Supervisor - Site Modification Group
- Shift Supervisor or Unit Supervisor
- Supervisor - Reactor Engineering and STA Programs

Alternates

All alternate members shall be appointed in writing by the PORC Chairman to serve on a temporary basis; however, no more than three alternates shall participate as voting members in PORC activities at any one time.

Insert 'A-2'

Quorum

A quorum of the PORC shall consist of the PORC Chairman or his designated alternate and five members including alternates.

13.4.1.2 Meetings

General

Insert 'A-3'

Meetings will be held at least once per calendar month and as convened by the PORC Chairman or his designated alternate. ~~Minutes of all formal meetings shall be maintained.~~ Copies of minutes from PORC meetings are sent to the ~~Plant~~ Manager-Susquehanna SES, the Vice President-Nuclear Operations, the Senior Vice President-~~Nuclear~~ and to the Susquehanna Review Committee (SRC).

Generation & Chief Nuclear Officer

Insert 'A-1'

Note: Implementation of the Improved Technical Specifications has placed the information contained in this FSAR Chapter into the scope of the Operational Quality Assurance Program. Therefore, any changes to this FSAR Chapter require evaluations under 10 CFR 50.54(a).

Insert 'A-2'

necessary for the performance of the PORC responsibility and authority provisions of FSAR subsections 13.4.1.3 and 13.4.1.4.3

Insert 'A-3'

The PORC shall maintain written minutes of each PORC meeting that, as a minimum, document the results of all PORC activities performed under the responsibility and authority provisions of Subsections 13.4.1.3 and 13.4.1.4.3.

13.4.1.3 Responsibility

The PORC is responsible for the duties listed below:

1. Review of all ~~administrative~~ procedures and changes thereto covering the following activities:

Insert 'A-4'

2. Review of all proposed tests and experiments that affect nuclear safety.

3. Review of all proposed changes to Appendix A, Technical Specifications.

4. Review of all proposed changes or modifications to unit systems or equipment that affect nuclear safety.

5. Review of the safety evaluations for procedures and changes thereto completed under the provisions of 10 CFR 50.59.

6. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Vice President-Nuclear Operations, ~~Plant~~ Manager-Susquehanna SES, the Sr. Vice President-~~Nuclear~~ and to the Chairman of the Susquehanna Review Committee.

General

General Manager & Chief Nuclear Officer

7. Review of events requiring notification to the NRC under 10CFR50.73.

8. Review of unit operations to detect potential nuclear safety hazards.

9. Performance of special reviews, investigations or analyses and reports thereon as requested by the Vice President-Nuclear Operations, the ~~Plant~~ General Manager-Susquehanna SES, or the Chairman of the Susquehanna Review Committee.

10. Review of the Security Plan and shall submit recommended changes to the Chairman of the Susquehanna Review Committee.

11. Review of the Emergency Plan and shall submit recommended changes to the Chairman of the Susquehanna Review Committee.

12. Review of every unplanned onsite release of radioactive material to the environs including the preparation and

Insert 'A-4'

a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978;

b. The emergency operating procedures required to implement the requirements of NUREG-0737 and NUREG-0737, Supplement 1, as stated in Generic Letter 82-33;

c. Quality Assurance for effluents and environmental;

d. Fire Protection Program implementation; and

e. All programs specified in Technical Specifications 5.5.

forwarding of reports covering evaluation, recommendations and disposition of the correction action to prevent recurrence to the Vice President-Nuclear Operations, the ~~Plant~~ Manager-Susquehanna SES, the Senior Vice President, ~~Nuclear~~ and to the Chairman of the Susquehanna Review Committee.

General

General Manager Chief Nuclear Officer

13. Review of changes to the PROCESS CONTROL PROGRAM OFFSITE DOSE CALCULATION MANUAL, and radwaste treatment systems.

13.4.1.4 Procedure

13.4.1.4.1 Review of Procedures, Changes to Procedures and Systems, and Proposed Tests or Experiments

Insert 'B'

~~Procedures discussed in Subsection 13.4.1.3 produced for the first time or changes made to these procedures will be reviewed in accordance with the Technical Specifications~~.

When changes to systems are necessary or tests and/or experiments are to be performed which could affect nuclear safety, they shall also be submitted to PORC for review.

The PORC shall review the above items and recommend either approval or disapproval of the contents. The actions taken by PORC shall be recorded in the minutes of the meetings.

General

Those items recommended for approval by PORC will be forwarded to the ~~Plant~~ Manager - Susquehanna SES (or other appropriate authority) for final approval. Those items not recommended by PORC shall be returned to the originator with appropriate comments and recommended changes.

Temporary changes to procedures ~~subject~~ pursuant to ~~PORC review~~ FSAR 13.4.1.3 may be made providing the intent of the original procedure is not altered, the change is approved by two members of the unit management staff, at least one of whom holds a Senior Reactor Operators License on the unit affected, and the change is documented, ~~reviewed by PORC~~ and approved by the ~~Plant~~ Manager - Susquehanna SES witnin 14 days of implementation.

in accordance with the above requirements

General

13.4.1.4.2 Review of Unplanned Events that have Nuclear Safety Significance

The PORC will review all 10CFR50.73 violations of Technical Specifications and any other unplanned events that may have nuclear safety significance. The conclusions and recommendations reached by the PORC, including any determinations of unreviewed safety questions, shall be

Insert 'B'

Procedures and programs required in Subsection 13.4.1.3 and other procedures which affect plant nuclear safety, as determined by the General Manager - Susquehanna, and changes thereto, other than editorial or typographical changes, shall be reviewed as follows:

a. Each such procedure, program, or procedure change shall be independently reviewed by an individual knowledgeable in the area affected other than the individual who prepared the procedure, program, or procedure change. The General Manager - Susquehanna shall approve all plant procedures, programs, and changes thereto.

b. Individuals responsible for reviews performed in accordance with Subsection 13.4.1.4.1.a, above, shall be members of the plant staff previously designated by the General Manager - Susquenanna. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by the review personnel of the appropriate discipline.

   Individuals performing these reviews shall meet or exceed the qualifications stated in Section 4.4 of ANSI N18.1 - 1971 for the appropriate discipline.

c. When required by 10 CFR 50.59, a safety evaluation to determine whether or not an unreviewed safety question is involved shall be included in the procedure review. Pursuant to 10 CFR 50.59, NRC approval of items involving unreviewed safety questions shall be obtained prior to General Manager - Susquehanna approval for implementation

d. Written records of reviews performed in accordance with Subsection 13.4.1.4.1.a, above, including recommendations for approval or disapproval, shall be prepared and maintained.

All items not reviewed in accordance with Subsection 13.4.1.4.1.a, above, shall be reviewed by PORC.

Each procedure of Subsection 13.4.1.3 above, and changes thereto, shall be reviewed in accordance with Subsection 13.4.1.3 or Subsection 13.4.1.4.1, as appropriate, and approved by the General Manager - Susquehanna SES prior to implementation and shall be reviewed periodically as set forth in administrative procedures.

Each procedure of 13.4.1.3 above, and changes thereto, that is established to implement those portions of the radiological effluent and environmental monitoring programs and those portions of the ODCM that are the responsibility of Nuclear Technology shall be approved by the Manager - Nuclear Technology.

recorded in the minutes of the meeting and forwarded to the ~~Plant~~ Manager - Susquehanna SES, the Vice President - Nuclear Operations, the Sr. Vice President - ~~Nuclear~~ and the Susquehanna Review Committee. If the PORC finds it necessary, they may call upon other organizations within PP&L or outside consultants for additional technical expertise relating to these matters.

13.4.1.4.3 Authority

The PORC shall:

- Recommend in writing to the ~~Plant~~ Manager - Susquehanna SES, approval or disapproval, of items 1 through ~~8~~ 4 considered under Subsection 13.4.1.3.

- Render determinations in writing with regard to whether or not each item considered under Subsection 13.4.1.3, items ~~1, 2, 4 and 5~~ constitutes an unreviewed nuclear safety question.

- Provide written notification within 24 hours to the ~~Plant~~ Manager - Susquehanna SES, the Vice President - Nuclear Operations and the Susquehanna Review Committee of any disagreement between the PORC and the ~~Plant~~ Manager - Susquehanna SES; however, the ~~Plant~~ Manager - Susquehanna SES shall have responsibility for resolution of such disagreements.

13.4.2 Susquehanna Review Committee

The Susquehanna Review Committee (SRC) ~~shall be~~ was established and functional prior to initial fuel loading of Unit 1. This Committee shall verify that the operation of Susquehanna SES is performed in a safe manner consistent with PP&L policy and rules, approved operating procedures, and license provisions.

The SRC shall be chartered and shall review such areas as changes in the Technical Specifications, unreviewed safety questions as defined in 10CFR50.59, and events that have been reported to the Nuclear Regulatory Commission (NRC) under 10CFR50.73. The SRC shall be watchful for trends that are not obvious to the day to day observer.

13.4.2.1 Charter

The SRC shall be controlled by a Charter which describes the membership, responsibilities, reporting requirements and areas to be reviewed . The Charter and any revisions shall be approved by the Senior Vice President - ~~Nuclear~~ Generation and ONC.

13.4.2.2 Membership

Insert 'C-1'

The Chairman, Vice Chairman, and all members shall be appointed in writing by the Senior Vice-President-~~Nuclear~~. Alternate members shall be appointed in writing by the SRC Chairman. The alternate shall only be involved during legitimate absences of the principal members. No more than two alternates may participate as voting members at any one time. to serve on a temporary basis

The membership shall collectively possess experience and competence to review the following areas: Susquehanna SES plant operations, nuclear engineering, chemistry and radiochemistry, metallurgy, instrumentation and control, radiological safety, mechanical and electrical engineering, administrative controls and quality assurance, plus any other unique areas of Susquehanna SES that involve nuclear safety.

The SRC membership shall have access to all aspects of Susquehanna SES operation, including files and personnel, to ensure its ability to independently review operational aspects of the plant. The SRC membership shall be kept current on the happenings within areas of its responsibility, either through activities of its members or by reviewing reports submitted to the Chairman.

13.4.2.3 Sub-Committees

Sub-committees may be used by the SRC when required, to assist in review of technical or detailed matters. Establishment,

duties, and membership of subcommittees shall be described in the SRC Charter. Individuals functioning as subcommittee Chairman shall meet or exceed the requirements of ANSI/ANS 3.1-1981, Section 4.7.

13.4.2.4 Consultants

~~Consultants may be used by the SRC, when required, to supplement expertise of the SRC membership.~~

Consultants shall be used as determined by the SRC Chairman to provide expert advice to the SRC.

Insert 'C-1'

The Susquehanna Review Committee shall be comprised of at least eight, but not more than twelve, individuals who shall meet or exceed the requirements of ANSI 3.1-1981, Section 4.7.

13.4.2.5 Meeting Frequency

The SRC shall meet at least once per calendar quarter during the initial year of each Unit operation following fuel loading and at least once per six month thereafter.

Insert 'C-2'

13.4.2.6 Quorum

A quorum, consisting of the following members, shall be present for all formal meetings:

a. The Chairman or his designated alternate

b. At least four members or their approved alternates

No more than a minority shall have line responsibility for the operation of Susquehanna SES.

13.4.2.7 ~~Meeting~~ Records

Insert 'C-3'

Minutes of all meetings shall be taken and shall identify all documents reviewed, decisions and recommendations made, and all actions taken by the committee during the meeting. The minutes shall be disseminated promptly to committee members and the Senior Vice President-Nuclear.

13.4.2.8 Responsibility

The SRC shall be responsible for the review of: ~~the following subjects and shall be observant for problems and shall ensure corrective action is initiated.~~

a. The safety evaluations for 1) changes to procedures, equipment or systems and 2) tests or experiments completed under the provision of 10CFR50.59 to verify that such actions did not constitute an unreviewed safety question.

b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in 10CFR50.59.

c. Proposed tests or experiments which involve an unreviewed safety question as defined in 10CFR50.59.

d. Proposed changes to Technical Specifications or the Operating License.

Insert 'C-2"

The quorum of the SRC necessary for the performance of the SRC review and audit functions pursuant to Subsection 13.4.2.8 and Subsection 13.4.2.9 shall consist of not less than a majority of all members, or designated alternates, and shall be subject to the following constraints: the Chairman or his designated alternate shall be present for all formal meetings and no more than a minority of the quorum shall have line responsibility for operation of the unit.

Insert 'C-3'

Records of SRC activities shall be prepared, approved and distributed as indicated below:

a. Minutes of each SRC meeting shall be prepared, approved and forwarded to the Senior Vice President - Generation and CNO within 14 days following each meeting.

b. Reports of reviews encompassed by subsection 13.4.2.8 below, shall be prepared, approved and forwarded to the Senior Vice President - Generation and CNO within 14 days following completion of the review.

c. Audit reports encompassed by subsection 13.4.2.9 below, shall be forwarded to the Senior Vice President - Generation and CNO and to the management positions responsible for the areas audited within 30 Days after completion of the audit by the auditing organization.

e. Violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.

f. Significant operating abnormalities or deviations from normal and expected performance of unit equipment that affect nuclear safety.

g. Events requiring notification to the Commission under 10CFR50.73.

h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety.

i. Reports and meetings minutes of the PORC.

13.4.2.9 SRC Audit Program

below or

Audits of facility activities shall be performed under the cognizance of the SRC, and at a frequency as described in Section 13.4.3. These audits shall encompass:

a. The conformance of unit operation to provisions contained within the Technical Specifications and applicable license conditions.

b. The performance, training and qualifications of the entire facility staff.

c. The results of actions taken to correct deficiencies occurring in facility equipment, structures, systems or method of operation that affect nuclear safety.

d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix "B", 10CFR50.

e. Any other area of unit operation considered appropriate by the SRC or the Senior Vice President - ~~Nuclear~~ Generation and CNO.

f. The Fire Protection Program and implementing procedures at least once per 24 months.

g. An independent fire protection and loss prevention inspection and audit shall be performed at least once per 12 months utilizing either qualified offsite licensee personnel or an outside fire protection firm.

h. An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 36 months.

i. The radiological environmental monitoring program and the results thereof.

j. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures.

k. The PROCESS CONTROL PROGRAM and implementing procedures for solidification of radioactive wastes.

l. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 4.15, December, 1977.

13.4.2.10 Authority

The SRC reports to and advises the Senior Vice President-~~Nuclear~~ Generation and ONO on those areas of responsibility specified in 13.4.2.8 and 13.4.2.9.

13.4.3 Audit Program

A comprehensive system of planned and documented audits shall be carried out during the operational phase of the Susquehanna SES to verify compliance with PP&L policy and rules, approved operating procedures, license provisions and administrative controls as included in the Operational Quality Assurance Program.

FSAR subsection 13.4.2.9 2nd

The frequency of the above mentioned audits shall be in accordance with the requirements of OQA Program documents and shall consider the safety significance of the area being audited. This may cause specific time requirements to be placed on the audit frequency of selected areas, however, all areas shall be audited at least once every two years.

Generation and ONO

The audits shall be conducted, in accordance with written procedures, by personnel not having direct responsibility for the area being audited, under the authority of the Senior Vice President - ~~Nuclear~~ and at the direction of the Manager NAS. Reaudits of areas found to have deficiencies (deficient areas) shall be conducted to ensure that corrective action is initiated in a timely manner.

Insert 'D-1'

A more detailed description of the PP&L Audit Program for the operational phase of Susquehanna SES is contained in Section 17.2.

Insert 'D-2'

Insert 'D-1'

Audit reports encompassed by Subsection 13.4.2.9 above, shall be forwarded to the Senior Vice President - Generation and Chief Nuclear Officer and to the management positions responsible for the areas audited within 30 days after completion of the audit by the auditing organization.

Insert 'D-2'

13.4.4 Process Control Program (PCP)

The PCP shall be approved by the Commission prior to implementation.

Licensee initiated changes to the PCP:

1. Shall be submitted to the Commission in the Annual Radiological Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

   a. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information;

   b. A determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and

   c. Documentation of the fact that the change has been reviewed and found acceptable by the PORC.

2. Shall become effective upon review and acceptance by the PORC.

Insert 'F'

17.2 QUALITY ASSURANCE DURING THE OPERATIONS PHASE

17.2.0 INTRODUCTION

PP&L is fully responsible for testing, operating, maintaining, refueling and modifying the Susquehanna SES in compliance with Federal, State, and local laws and the plant operating license requirements. These activities are also performed in response to required codes and specified QA related NRC regulatory guides. These regulatory guides and associated ANSI standards are listed in Table 17.2-1.

To assure compliance with 10CFR50, Appendix B requirements, PP&L has established and implemented a management control plan for assuring the quality of safety-related activities during the operations phase. The plan consists of a) this Operational Quality Assurance (OQA) Program which contains PP&L's quality assurance commitments to the Nuclear Regulatory Commission; b) the OQA Manual which contains Operational Policy Statements (OPS) and defines PP&L's policies for meeting these commitments; and c) Nuclear Department Administrative Procedures (NDAPs) and functional unit procedures which contain the detailed information necessary for a functional unit to comply with the OQA Program requirements. The relationships between these documents are shown in Figure 17.2-1.

In implementing the OQA Program, PP&L assures that its activities comply with Federal Regulations which are designed to protect the health and safety of the public.

The OQA policies, goals and objectives of PP&L are stated in the following Nuclear Quality Philosophy and Intent statement:

> For the Susquehanna Steam Electric Station, Pennsylvania Power & Light Company will comply with the requirements of 10CFR50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants and other applicable federal regulations with respect to all safety-related activities which include engineering, design, procurement, construction, preoperational testing, power testing, operation, maintenance, refueling, repairing, modification and in-service inspection. PP&L is also committed to be responsive to the applicable Regulatory Guides, Industry Codes and Standards, or parts thereof, as specifically noted in controlling documents. The applicability of these Guides, Codes, and Standards, or parts thereof shall be determined by the responsible managers. If Guides, Codes, or Standards are nonexistent or

Insert 'F'

Note: Implementation of the Improved Technical Specifications has placed the information contained in FSAR Chapter 13.4, Review and Audit, into the scope of the Operational Quality Assurance Program. Therefore, any changes to FSAR Chapter 13.4 require an evaluation under 10 CFR 50.54(a).

inadequate, PP&L shall develop the required practices and procedures with the controls necessary for their implementation.

17.2.1 ORGANIZATION

PP&L has established the Nuclear Department in order to provide a cohesive management team with the primary objective of providing long term technical and management support for Susquehanna SES. In addition to the resources within the Nuclear Department, corporate support is provided by the Construction Manager and the Manager - Purchasing and Contracts. The key management positions responsible for the performance of safety-related activities are listed below and are described in the following subsections. Figure 17.2-2 shows the organizational structure and lines of responsibility for the groups that provide technical and management support for Susquehanna SES.

Senior Managers:

Senior Vice President-~~Nuclear~~ General Manager and Chief Nuclear Officer
Vice President-Nuclear Operations
~~Plant~~ Manager-Susquehanna SES
~~Manager~~-Nuclear Engineering

Functional Unit Managers:

Manager-Nuclear Assessment Services
Manager-Nuclear Information Services
Manager-Nuclear Department Support
Manager-Nuclear Business Improvement
Manager-Nuclear Training
Manager-Nuclear Operations
Manager-Nuclear Maintenance
Manager-Nuclear Plant Services
Manager-Nuclear Outages
Manager-Nuclear Modifications
Manager-Nuclear Technology
Manager-Nuclear Fuels
Manager-Nuclear Systems Engineering
Supervisor-Nuclear Licensing
Supervisor-Nuclear Emergency Planning

Corporate Support:

Vice President-Mobile Work Force
Manager-Purchasing and Contracts

Insert 'E'

In addition to the ~~above individuals~~, the Susquehanna Review Committee (SRC) ~~is~~ established as a review, audit and advisory group, comprised of at least five ~~key~~ Nuclear ~~Department~~

managers, whose function is to verify independently that the Susquehanna SES is being tested, operated and maintained in accordance with all safety-related, ALARA and environmental requirements. The SRC will perform the independent review mandated by ANSI N18.7.

17.2.1.1 Senior Vice President - ~~Nuclear~~

The Senior VP-~~Nuclear~~ has overall authority and responsibility for the Susquehanna OQA Program and, as a result, he:

(a) Requires the performance of an annual, preplanned and documented assessment of the OQA Program in which corrective action is identified and tracked.

(b) Sets OQA Policies, goals and objectives for safe operation of Susquehanna SES.

(c) Commits PP&L to an OQA Program designed to assure compliance with regulatory requirements.

(d) Requires compliance with the provisions of the OQA Program and causes periodic assessments of PP&L commitments and established practices for safe plant operation.

In order to maintain a continuing involvement in QA matters, the Senior VP-~~Nuclear~~ receives periodic reports on the status and adequacy of the OQA Program from the Manager-NAS and reviews and approves the Operational Policy Statements contained in the OQA Manual prior to their issuance.

The Senior VP-~~Nuclear~~ delegates the responsibilities for attaining specified quality levels to the VP-Nuclear Operations and to other managers (e.g., Manager-Nuclear Training). The Senior VP-~~Nuclear~~ delegates the responsibility for verifying that those quality levels have been met to the Manager-Nuclear Assessment Services.

The Senior VP-~~Nuclear~~ delegates to the Manager-~~Nuclear Assessment Services~~ the responsibility for performing the on-site Independent Safety Engineering Group (ISEG) function mandated by NUREG-0737.

The reporting relationships are shown in Figure 17.2-2. In addition, the Senior VP-~~Nuclear~~ has overall corporate responsibility for Susquehanna SES activities related to engineering and operations.

Insert 'E'

In addition to the above individuals, the following committees are established:

The Plant Operations Review Committee (PORC) is established as a review group whose function is to advise the General Manager - Susquehanna on matters related to nuclear safety; and

The Susquehanna Review Committee (SRC) is established as a review, audit and advisory group whose function is to verify, independently, that the Susquehanna SES is being tested, operated and maintained in accordance with all safety-related, ALARA and environmental requirements. The SRC will perform the independent review mandated by ANSI N18.7.

FSAR Chapter 13.4, Review and Audit, provides discussions regarding the make-up and responsibilities of these committees.

Implementation of Improved Technical Specifications (ITS) has added FSAR Chapter 13.4, Review and Audit, within the scope of the Operational Quality Assurance Program and therefore the criterion of 10 CFR 50.54(a) must be applied to any changes to FSAR Chapter 13.4.

17.2.1.2 Vice President-Nuclear Operations

The Vice President-Nuclear Operations is responsible for the safe operation of Susquehanna SES and related engineering activities. The Vice President-Nuclear Operations ensures that plant operations overall plant design are conducted and maintained in accordance with the plant operating license, technical specifications, the FSAR, and the OQA Program with its implementing documents. The Vice President-Nuclear Operations delegates responsibility for performing activities related to operations and engineering to:

- ~~Plant~~ General Manager - Susquehanna SES
- Manager - Nuclear Engineering
- Manager - Nuclear Department Support
- Supervisor-Emergency Planning
- Supervisor-Licensing

17.2.1.3 ~~Plant~~ General Manager - Susquehanna SES

The ~~Plant~~ General Manager-Susquehanna SES has overall responsibility for the execution of the administrative controls at the plant to assure safety. ~~The Plant~~ Manager-Susquehanna SES ensures that plant operations are conducted in accordance with the plant operating license, technical specifications, the FSAR, and OQA Program with its implementing documents. The Plant Manager-Susquehanna SES delegates authority for performing activities related to operation of the plant to the Manager-Nuclear Operations, Manager-Nuclear Maintenance, Manager-Nuclear Plant Services, Manager-Outages.

17.2.1.4 General Manager - Nuclear Engineering

The ~~Manager~~ General Manager - Nuclear Engineering is responsible for engineering activities and their quality management. These activities include a) design and design verification related to plant modifications, b) establishing the technical requirements for the procurement of systems, components, and spare parts, c) engineering support for outage activities, and d) the procurement of Nuclear Fuel. The Manager-Nuclear Engineering is directly responsible for the following functional units:

- Nuclear Modifications
- Nuclear Technology
- Nuclear Fuels
- Nuclear Systems Engineering

maintaining the nondestructive examination (NDE) Program and functions of all corporate NDE-Level III, and apply technological advances that offer an opportunity for improvement in operation, maintenance, or design.

17.2.1.16 Manager - Nuclear Fuels

The Manager-Nuclear Fuels is responsible for managing the nuclear fuel cycle from core design and fuel procurement through ultimate fuel disposal.

17.2.1.17 Manager - Nuclear Systems Engineering

The Manager-Nuclear Systems Engineering is responsible for providing the engineering necessary to support operations and maintenance at SSES. The mission of Nuclear Systems Engineering is to optimize plant systems performance throughout the life of the units. This is accomplished by monitoring system performance; anticipating, defining and preventing problems; identifying and implementing improvements; and resolving unexpected problems.

17.2.1.18 Supervisor-Nuclear Licensing

The Supervisor-Nuclear Licensing is responsible for managing the interfaces between the Department and the principle state and federal nuclear regulatory agencies; directing the licensing aspects of SSES including updating the FSAR; and coordinating the preparation and issuance of correspondence to the NRC.

17.2.1.19 Supervisor-Nuclear Emergency Planning

The Supervisor-Nuclear Emergency Planning is responsible for maintaining the Nuclear Department's Emergency Plan, including the conduct of drills; and managing interfaces with state and local governmental and emergency agencies in the area of the plant site in regard to emergency planning.

Insert 'H'

17.2.1.~~20~~ 21 Vice President - Mobile Work Force

The Vice President - Mobile Work Force is responsible for providing the necessary organization, trained personnel, and equipment for the performance of modifications, repairs and/or additions to the operating plant and for outages. These operations will encompass projects/tasks assigned by the

Insert 'H'

17.2.1.20 Manager - Independent Safety Engineering Group (ISEG) is responsible to examine unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of plant design and operating experience information, including plants of similar design, which may indicate areas for improving plant safety. ISEG is responsible for maintaining surveillance of unit activities to provide independent verification that these activities are performed correctly and that human errors are reduced as much as practical.

The ISEG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving unit safety to the Senior Vice President Generation and Chief Nuclear Officer.

The ISEG shall be composed of at least five dedicated, full-time engineers with at least three located onsite, each with a bachelor's degree in engineering or related science and at least two years professional level experience in his field, at least one year of which experience shall be in the nuclear field.

on-site organization. Activities will be defined in procedures developed in accordance with OQA Program requirements.

17.2.1.~~2~~22 Manager - Purchasing and Contracts

The Manager-Purchasing and Contracts is responsible for the purchase of equipment, spare parts, materials and services as requisitioned through the Manager-Nuclear Procurement. Purchasing and Contracts is responsible to procure materials and services that conform to all applicable technical specifications and from approved suppliers. Procedures shall define how the procurement process is controlled in accordance with OQA Program requirements.

17.2.2 QUALITY ASSURANCE PROGRAM

The Operational Quality Assurance (OQA) Program is applied to all safety-related Susquehanna SES structures, systems, components, and activities.

Safety Related is a generic term applied to:

1. Those systems, structures, and components that meet one or more of the following requirements:

   (a) Maintain the integrity of the Reactor Coolant System pressure boundary.

   (b) Assure their capability to prevent or mitigate the consequences of accidents that could cause the release of radioactivity in excess of 10CFR100 limits.

   (c) Preclude failures which could cause or increase the severity of postulated accidents or could cause undue risk to the health and safety of the public due to the release of radioactive material.

   (d) Provide for safe reactor shutdown and immediate or long term post accident control.

2. Those activities that affect the systems, structures and components discussed in Item 1 above such as their design, procurement, construction, operation, refueling, maintenance, modification and testing.

The ~~Vice President~~ General Manager - Nuclear Engineering is responsible for maintaining a list designating those structures, systems, and

activities. Each functional unit manager is responsible for assuring that safety-related activities performed by that functional unit meet the requirements of the OQA Program. The Manager - NAS is responsible for the audit, review, inspection and verification of activities both on site and offsite to assure that they are accomplished according to the OQA Program requirements. QC activities shall be performed in compliance with the OQA Program requirements.

Disagreements between NAS and other department personnel (such as Engineering, Construction, Plant Staff, and Procurement) concerning the OQA Program and related activities will be resolved between the Manager-NAS and the affected department's supervisor or manager. Disagreements not resolved at these levels will be referred to the Senior Vice President - Nuclear for resolution.

The content and list of recipients of the OQA Manual is controlled by the NAS organization and controlled distribution is provided by Nuclear Records. All managers responsible for the performance of safety-related activities will be issued controlled copies of the OQA Manual.

Generation and CNO

The Manager - NAS is responsible for obtaining appropriate review and approval of the content and changes to the OQA Program and Manual. Any group performing activities governed by the OQA Program and Manual may propose changes to these documents. All OQA Program (FSAR Section 17.2) changes shall be reviewed by the Manager-NAS and the VP-Nuclear Operations and approved by the Senior VP-~~Nuclear~~. All OQA Manual changes shall be reviewed by the VP-Nuclear Operations and functional unit managers affected by the change and reviewed and approved by the Manager-NAS and Senior VP-~~Nuclear~~. Nuclear Department Administrative Procedures (NDAPs) which implement the OQA Program shall be reviewed to ensure that appropriate QA provisions have been incorporated and approved by the appropriate senior manager. Responsible functional unit managers shall ensure the proper review and approval of the functional unit procedures under their jurisdiction. Control of supplier QA programs is addressed in Subsection 17.2.7.

2nd Review and Audit (FSAR Section 13.4)

Individuals performing inspection, examination and testing functions associated with normal operations of the plant, such as surveillance testing, routine maintenance and certain technical reviews normally assigned to the on-site operation organization shall ~~be qualified to ANSI/ANS 3.1-1978~~. N18.1-19 Personnel whose qualifications are not required to meet those specified in ANSI~~/ANS 3.1-1978~~ and who are performing inspection, examination and testing activities during the operational phase of the plant shall be qualified to ANSI N45.2.6-1978, except that the QA experience cited for Levels I,

Meet or exceed the qualifications of

N18.1-1971

procurement documents shall have been prepared, reviewed and approved in accordance with OQA Program requirements. The procurement document review and approval is documented and filed as described in Subsection 17.2.17.

When procurement documents are revised, they are subject to the same or equivalent review and approval as the original document. Procurement documents for safety-related spare or replacement parts for structures, systems and components are subject to controls the same as or equivalent to those used for the original equipment. All activities described in this subsection are to be performed by personnel qualified to perform the activity.

17.2.5 INSTRUCTIONS, PROCEDURES AND DRAWINGS

Activities shall be accomplished in accordance with documented instructions, procedures or drawings. This subsection applies to internal PP&L instructions, procedures and drawings. Such requirements for contractors and vendors are included in procurement documents as discussed in Subsection 17.2.4.

There are three general levels of OQA Program documents which are used to implement the OQA Program. The first document level is comprised of Operational Policy Statements (OPS) which describe PP&L's policies for complying with 10CFR50, Appendix B and OQA Program requirements. These OPS delineate the requirements for preparing, reviewing, approving, and controlling instructions, procedures, and drawings.

The second level of documents used to implement the OQA Program consists of Nuclear Department Administrative Procedures (NDAPs). These documents describe inter- and intra-department interfaces and may provide detailed instructions for implementing the OQA Program requirements. The third level of documents consists of functional unit procedures, which detail the specific instructions required to implement the OQA Program requirements. These documents require that instructions, procedures or drawings specify the methods utilized in complying with OPS requirements. Instructions, procedures and drawings within the scope of the OQA Program shall include quantitative (such as dimensions, tolerances, and operating limits) and qualitative (such as workmanship samples) acceptance criteria for use in determining that important activities have been satisfactorily accomplished.

in accordance with FSAR 13.4.1.3 and FSAR 13.4.1.4.1, as applicable,

The functional unit manager shall prepare, obtain the appropriate reviews, approve, issue, and revise the NDAPs and the functional unit procedures which control the activities of that group. These procedures are reviewed for accuracy and

workability as well as for compliance with OQA Program requirements. Inspection plans; test, calibration, special process, maintenance, modification and repair procedures; drawings and specifications; and changes thereto are subject to audit for their compliance with OQA Program requirements.

17.2.6 DOCUMENT CONTROL

The document control system described in OQA Program documents requires that, prior to their release, documents and changes thereto are reviewed for their adequacy and approved and released by authorized personnel and distributed for use at the location where the prescribed activity is to be performed. The documents controlled under this subsection as a minimum include:

(a) Design Specifications
(b) Procurement Documents
(c) Test Procedures
(d) Design, Manufacturing, Construction and Installation Drawings
(e) Manufacturing, Inspection, and Testing Instructions
(f) Final Safety Analysis Report
(g) OQA Program Documents
(h) Maintenance and Modification Procedures
(i) Non-conformance Reports

The NAS Organization or other qualified individuals delegated by NAS, but other than the person who generated the document, shall review and concur with the document and changes thereto, with regard to QA-related aspects prior to implementation.

In addition to the above QA document review, FSAR Subsection 13.4.1.4.1 defines minimum reviews of Procedures affecting Nuclear safety.

Each manager who is responsible for issuing a document is also responsible for obtaining the proper review and approval of that document. Changes to documents are reviewed and approved by the same organizations that performed the original review and approval unless specifically delegated to other qualified organizations. This review will be completed prior to issuing the document except for temporary procedures/instructions issued by the Susquehanna SES Plant Staff. This special case is described in ~~Section 6 of the Technical Specifications~~ and the Susquehanna Plant Administrative Procedures. FSAR Subsection 13.4.1.4.1

Each functional unit manager is responsible for preparing and periodically issuing distribution lists and/or revision status lists, where necessary, for the control of quality documents issued by that functional unit. These lists identify the additions and changes made to documents since the previous report period and assist recipients in maintaining up-to-date files. Each recipient is responsible for reviewing the latest

Nonconformances are periodically analyzed for quality trends, and the results are reported to management for review and assessment.

17.2.16 CORRECTIVE ACTION

PP&L's OQA Program establishes the requirements for controlling conditions adverse to quality (such as nonconformances, failures, malfunctions, deficiencies, deviations, and defective material and equipment).

Conditions adverse to quality are promptly identified, reported, evaluated, corrected and documented. OQA Program documents identify the methods used and personnel responsible for these activities.

Conditions adverse to quality are identified and reported to the appropriate levels of management of the affected organizations. The responsible organization evaluates the conditions to determine if they are significant conditions adverse to quality and to determine the corrective action required.

If significant conditions adverse to quality are detected, the cause of the condition and the corrective action taken are reported to the appropriate management levels of affected home office organizations, plant staff and quality assurance for review and assessment.

The corrective action for conditions adverse to quality shall correct the specific conditions. For conditions determined to be significant, the corrective action provides measures to correct specific conditions and preclude recurrence.

The responsible organization shall implement the corrective action and document the details of the conditions including their resolution.

Follow-up action is conducted to determine that the required corrective action has been completed and that the corrective action documentation has been closed out.

17.2.17 QUALITY ASSURANCE RECORDS

Consistent with ANSI N45.2.9-1974, is

A QA record system, detailed in OQA Program documents, and has been established by PP&L which assures that records are identifiable, retrievable and that sufficient records are maintained to provide documentary evidence of the quality of items and services. The system assures that requirements and

responsibilities for record transmittal, retention (such as duration, location, fire protection and assigned responsibilities) and maintenance, subsequent to completion of work, are consistent with applicable codes, standards and procurement documents. QA records include:

(a) Plant Historical Records

(b) Operating Logs

(c) Principle Maintenance and Modification Activities

(d) Reportable Occurrences

(e) Results of Independent Reviews, (e.g., Plant Operations Review Committee or Susquehanna Review Committee), Inspections, Tests, Audits and Materials Analysis

(f) Monitoring of Work Performance

(g) Qualification of Personnel, Procedures and Equipment

These records also include other documentation such as drawings, specifications, procurement documents, calibration procedures and reports, nonconformance reports, and corrective action reports.

Insert 'G'

Each manager is responsible for developing procedures which control the origination and transmittal of QA records within that functional unit. Each manager is responsible for transmitting QA records to the storage location designated for that record.

PP&L record storage facilities are constructed, located, and secured to prevent destruction of the records by fire, flooding, theft, and deterioration by environmental conditions such as temperature or humidity.

17.2.18 AUDITS

Subsection 13.4.29

The PP&L audit program requires the planning, performing, documenting, and evaluating of audits. It assures compliance with license commitments, QQA Program requirements, ~~Technical Specifications~~ FSAR, and other applicable requirements. It also assures that corrective measures are taken in response to audit findings to resolve the original problem and minimize the probability of its recurrence.

Audits of selected operational phase activities are performed by NAS. These audits include areas which require

Insert 'G'

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

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

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

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

c. All reportable events.

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

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

f. Records of radioactive shipments.

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

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

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

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

b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.

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

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

e. Records of transient or operational cycles for those unit components identified in FSAR Table 3.9-1 and Technical Specification 5.5.5.

f. Records of reactor tests and experiments.

g. Records of training and qualification for current members of the unit staff.

h. Records of inservice inspections and tests performed pursuant to Technical Specifications 5.5.6 and Inservice Inspection (ISI) Program.

I. Records of Quality Assurance activities required by the Operational Quality Assurance Manual.

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

k. Records of meetings of the PORC and the SRC and records of reviews conducted in accordance with FSAR Subsection 13.4.1 and FSAR Subsection 13.4.2.

l. Records of service lives of all snubbers required by Inservice Inspection (ISI) Program including the date at which the service life commences and associated installation and maintenance records.

m. Records of analyses required by the Radiological Environmental Monitoring Program

implementation of 10CFR50, Appendix B. These areas include activities associated with:

(a) Plant Operation, Maintenance and Modification.

(b) The Preparation, Review, Approval and Control of Designs, Specifications, Procurement Documents, Instructions, Procedures and Drawings.

(c) Receiving and Plant Inspections.

(d) Indoctrination and Training Programs.

(e) The Implementation of Operating and Test Procedures.

(f) Calibration of Measuring and Testing Equipment.

FSAR Subsection 13.4.2.9 →

Audits are regularly scheduled based on the status and safety importance of the activity. Audits are also scheduled according to the requirements of ~~Section 6 of the Technical Specification~~. The audit schedule assures proper coverage of all applicable activities. Additionally, the audit program provides for scheduling audits which can be conducted on short notice to respond to specific quality problems.

Audits are structured with a sufficiently defined scope to permit objective evaluation of the activity observed. Quality-related practices, procedures, and instructions are audited to measure both the effectiveness of their implementation and their conformance to OQA Program requirements.

The audit process is conducted according to procedures which require that a written audit plan be prepared. The audit plan ensures the proper scope, team preparation, and depth of coverage. The audit process includes, as applicable, an evaluation of work areas, activities, processes, and items. Audits include a review of associated documents and records.

Audit teams consist of trained personnel, not directly responsible for the areas audited. Each team shall have a designated leader who is responsible for the planning, conduct, and reporting of the audit.

The auditor qualification program ensures that audit team members are qualified to perform their assigned tasks.

Audit results are documented in a formal audit report which is transmitted to the responsible levels of management.

ATTACHMENT 3 TO PLA-4893

ADDITIONAL REFERENCES:
PENDING CHANGES TO ISES (CURRENTLY UNDER NRC REVIEW)
CURRENT FSAR SECTIONS 13.4 AND 17.2

PENDING CHANGES TO ISES

17.2.1.X Independent Safety Engineering Group

The Independent Safety Engineering Group (ISEG) is responsible for independently evaluating PP&L's nuclear activities, with particular emphasis on assessing the nuclear safety aspects of Susquehanna SES operation. The Manager-ISEG reports directly to and advises the Senior Corporate Nuclear Officer.

The ISEG shall be composed of at least five dedicated, full-time members with at least three located onsite. Each member shall have a bachelor's degree in engineering or related science, or documented equivalent qualifications per Section 4.1 of ANS/ANSI-3.1-1981. In addition, each member shall have at least two years professional level experience in his field, at least one year of which experience shall be in the nuclear field.

The Independent Safety Engineering Group shall:

- Provide systematic and independent assessment of plant activities and advise the Senior Corporate Nuclear Officer on the overall effectiveness and safety of the company's nuclear operation.

- Perform independent reviews of plant activities including operations, maintenance, outages, plant incidents and other activities that may impact nuclear safety.

- Maintain surveillance of plant operations and maintenance activities to provide independent confirmation that these activities are performed correctly and safely.

- Make recommendations to the Senior Corporate Nuclear Officer for improving nuclear operations. These recommendations may be in the areas of procedures, equipment modifications, maintenance activities, operations activities, or any other appropriate area for improving nuclear safety and (or) plant performance.

- Maintain cognizance of industry nuclear safety related issues and their applicability to Susquehanna SES. Utilize this information as appropriate to indicate areas for enhancing nuclear safety and (or) plant performance and as a basis for assessing plant performance.

The above activities satisfy the requirements for Independent Safety Engineering Group functions mandated by NUREG-0737.

18.1.7.3 Statement of Response

The functions of the Independent Safety Engineering Group (ISEG), which satisfy this requirement, are now contained in FSAR Section 17.2.1.X, Independent Safety Engineering Group.

CURRENT FSAR SECTIONS 13.4 AND 17.2

Insert 'A-1'

13.4 REVIEW AND AUDIT

13.4.1 PLANT OPERATIONS REVIEW COMMITTEE

General

The Plant Operations Review Committee (PORC) will be functional throughout the life of the plant, to advise the ~~Plant~~ Manager-Susquehanna SES on all matters related to nuclear safety as described in Section 13.4.1.3

13.4.1.1 Organization

Membership of the PORC shall consist of but not be limited to the following:

Chairman: General ~~Plant~~ Manager - Susquehanna SES

Members:
- Manager - Nuclear Operations
- Manager - Nuclear Maintenance
- Manager - Nuclear Plant Services
- Manager - Nuclear Systems Engineering
- Supervisor – Health Physics ~~Supervisor~~
- Supervisor - Chemistry
- Supervisor - Effluents Management
- Supervisor - Quality Control Services
- Supervisor - Site Modification Group
- Shift Supervisor or Unit Supervisor
- Supervisor - Reactor Engineering and STA Programs

Alternates

All alternate members shall be appointed in writing by the PORC Chairman to serve on a temporary basis; however, no more than three alternates shall participate as voting members in PORC activities at any one time.

Quorum

A quorum of the PORC shall consist of the PORC Chairman or his designated alternate and five members including alternates.

13.4.1.2 Meetings

General

Meetings will be held at least once per calendar month and as convened by the PORC Chairman or his designated alternate. Minutes of all formal meetings shall be maintained. Copies of minutes from PORC meetings are sent to the ~~Plant~~ Manager-Susquehanna SES, the Vice President-Nuclear Operations, the Senior Vice President-~~Nuclear~~ Generation & Chief Nuclear Officer and to the Susquehanna Review Committee (SRC).

Insert 'A-1'

Note: Implementation of the Improved Technical Specifications has placed the information contained in this FSAR Chapter into the scope of the Operational Quality Assurance Program. Therefore, any changes to this FSARChapter require evaluations identical to that applied to FSAR Chapter 17.2 under 10 CFR 50.54(a).

13.4.1.3 Responsibility

The PORC is responsible for the duties listed below:

1. Review of all ~~administrative~~ procedures and changes thereto covering the following activities: (Insert 'A-2')
2. Review of all proposed tests and experiments that affect nuclear safety.
3. Review of all proposed changes to Appendix A, Technical Specifications.
4. Review of all proposed changes or modifications to unit systems or equipment that affect nuclear safety.
5. Review of the safety evaluations for procedures and changes thereto completed under the provisions of 10 CFR 50.59.
6. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Vice President-Nuclear Operations, ~~Plant~~ Manager-Susquehanna SES, the Sr. Vice President-~~Nuclear~~ and to the Chairman of the Susquehanna Review Committee. (General; General Manager & Chief Nuclear Officer)
7. Review of events requiring notification to the NRC under 10CFR50.73.
8. Review of unit operations to detect potential nuclear safety hazards.
9. Performance of special reviews, investigations or analyses and reports thereon as requested by the Vice President-Nuclear Operations, the ~~Plant~~General Manager-Susquehanna SES, or the Chairman of the Susquehanna Review Committee.
10. Review of the Security Plan and shall submit recommended changes to the Chairman of the Susquehanna Review Committee.
11. Review of the Emergency Plan and shall submit recommended changes to the Chairman of the Susquehanna Review Committee.
12. Review of every unplanned onsite release of radioactive material to the environs including the preparation and

Insert 'A2'

a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978;

b. The emergency operating procedures required to implement the requirements of NUREG-0737 and NUREG-0737, Supplement 1, as stated in Generic Letter 82-33;

c. Quality Assurance for effluents and environmental;

d. Fire Protection Program implementation;

e. All programs specified in Technical Specifications 5.5;

f. Security Program implementation; and

g. Emergency Plan implementation.

forwarding of reports covering evaluation, recommendations and disposition of the correction action to prevent recurrence to the Vice President-Nuclear Operations, the ~~Plant~~ Manager-Susquehanna SES, the Senior Vice President, ~~Nuclear~~ and to the Chairman of the Susquehanna Review Committee.

General

General & Ch. of Nuclear Cmte

13. Review of changes to the PROCESS CONTROL PROGRAM OFFSITE DOSE CALCULATION MANUAL, and radwaste treatment systems.

13.4.1.4 Procedure

13.4.1.4.1 Review of Procedures, Changes to Procedures and Systems, and Proposed Tests or Experiments

Insert 'B'

~~Procedures discussed in Subsection 13.4.1.3 produced for the first time or changes made to these procedures will be reviewed in accordance with the Technical Specifications~~.

When changes to systems are necessary or tests and/or experiments are to be performed which could affect nuclear safety, they shall also be submitted to PORC for review.

The PORC shall review the above items and recommend either approval or disapproval of the contents. The actions taken by PORC shall be recorded in the minutes of the meetings.

General

Those items recommended for approval by PORC will be forwarded to the ~~Plant~~ Manager - Susquehanna SES (or other appropriate authority) for final approval. Those items not recommended by PORC shall be returned to the originator with appropriate comments and recommended changes.

Temporary changes to procedures ~~subject~~ pursuant to ~~PORC review~~ FSAR 13.4.1.3 may be made providing the intent of the original procedure is not altered, the change is approved by two members of the unit management staff, at least one of whom holds a Senior Reactor Operators License on the unit affected, and the change is documented, reviewed ~~by PORC~~ and approved by the ~~Plant~~ Manager - Susquehanna SES within 14 days of implementation.

in accordance with the above requirements

General

13.4.1.4.2 Review of Unplanned Events that have Nuclear Safety Significance

The PORC will review all 10CFR50.73 violations of Technical Specifications and any other unplanned events that may have nuclear safety significance. The conclusions and recommendations reached by the PORC, including any determinations of unreviewed safety questions, shall be

Insert 'B'

Procedures and programs required in Subsection 13.4.1.3 and other procedures which affect plant nuclear safety, as determined by the General Manager - Susquehanna, and changes thereto, other than editorial or typographical changes, shall be reviewed as follows:

a. Each such procedure, program, or procedure change shall be independently reviewed by an individual knowledgeable in the area affected other than the individual who prepared the procedure, program, or procedure change. The General Manager - Susquehanna shall approve all plant procedures, programs, and changes thereto.

b. Individuals responsible for reviews performed in accordance with Subsection 13.4.1.4.1.a, above, shall be members of the plant staff previously designated by the General Manager - Susquehanna. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by the review personnel of the appropriate discipline.

   Individuals performing these reviews shall meet or exceed the qualifications stated in Section 4.4 of ANSI N18.1 - 1971 for the appropriate discipline.

c. When required by 10 CFR 50.59, a safety evaluation to determine whether or not an unreviewed safety question is involved shall be included in the procedure review. Pursuant to 10 CFR 50.59, NRC approval of items involving unreviewed safety questions shall be obtained prior to General Manager - Susquehanna approval for implementation.

d. Written records of reviews performed in accordance with Subsection 13.4.1.4.1.a, above, including recommendations for approval or disapproval, shall be prepared and maintained.

All items not reviewed in accordance with Subsection 13.4.1.4.1.a, above, shall be reviewed by PORC.

Each procedure of 13.4.1.3 above, and changes thereto, that is established to implement those portions of the radiological effluent and environmental monitoring programs and those portions of the ODCM that are the responsibility of Nuclear Technology shall be approved by the Manager - Nuclear Technology.

recorded in the minutes of the meeting and forwarded to the ~~Plant~~ Manager - Susquehanna SES, the Vice President - Nuclear Operations, the Sr. Vice President-~~Nuclear~~ and the Susquehanna Review Committee. If the PORC finds it necessary, they may call upon other organizations within PP&L or outside consultants for additional technical expertise relating to these matters.

13.4.1.4.3 Authority

The PORC shall:

- Recommend in writing to the ~~Plant~~ Manager - Susquehanna SES, approval or disapproval, of items 1 through ~~8~~ considered under Subsection 13.4.1.3.

- Render determinations in writing with regard to whether or not each item considered under Subsection 13.4.1.3, items ~~1, 2, 4 and 5~~ constitutes an unreviewed nuclear safety question.

- Provide written notification within 24 hours to the ~~Plant~~ Manager - Susquehanna SES, the Vice President - Nuclear Operations and the Susquehanna Review Committee of any disagreement between the PORC and the ~~Plant~~ Manager - Susquehanna SES; however, the ~~Plant~~ Manager - Susquehanna SES shall have responsibility for resolution of such disagreements.

13.4.2 Susquehanna Review Committee

The Susquehanna Review Committee (SRC) ~~shall be~~ was established and functional prior to initial fuel loading of Unit 1. This Committee shall verify that the operation of Susquehanna SES is performed in a safe manner consistent with PP&L policy and rules, approved operating procedures, and license provisions.

The SRC shall be chartered and shall review such areas as changes in the Technical Specifications, unreviewed safety questions as defined in 10CFR50.59, and events that have been reported to the Nuclear Regulatory Commission (NRC) under 10CFR50.73. The SRC shall be watchful for trends that are not obvious to the day to day observer.

13.4.2.1 Charter

The SRC shall be controlled by a Charter which describes the membership, responsibilities, reporting requirements and areas to be reviewed . The Charter and any revisions shall be approved by the Senio. Vice President - ~~Nuclear~~.

Insert 'C-1'

13.4.2.2 Membership

Generation and ONC

to serve on a temporary basis

The Chairman, Vice Chairman, and all members shall be appointed in writing by the Senior Vice-President-~~Nuclear~~. Alternate members shall be appointed in writing by the SRC Chairman. The alternate shall only be involved during legitimate absences of the principal members. No more than two alternates may participate as voting members at any one time.

The membership shall collectively possess experience and competence to review the following areas: Susquehanna SES plant operations, nuclear engineering, chemistry and radiochemistry, metallurgy, instrumentation and control, radiological safety, mechanical and electrical engineering, administrative controls and quality assurance, plus any other unique areas of Susquehanna SES that involve nuclear safety.

The SRC membership shall have access to all aspects of Susquehanna SES operation, including files and personnel, to ensure its ability to independently review operational aspects of the plant. The SRC membership shall be kept current on the happenings within areas of its responsibility, either through activities of its members or by reviewing reports submitted to the Chairman.

13.4.2.3 Sub-Committees

Sub-committees may be used by the SRC when required, to assist in review of technical or detailed matters. Establishment,

duties, and membership of subcommittees shall be described in the SRC Charter. Individuals functioning as subcommittee chairman shall meet or exceed the requirements of ANSI/ANS 3.1-1981, Section 4.7.

13.4.2.4 Consultants

~~Consultants may be used by the SRC, when required, to supplement expertise of the SRC membership.~~

Consultants shall be used as determined by the SRC Chairman to provide expert advice to the SRC.

Insert 'C-1'

The Susquehanna Review Committee shall be comprised of at least eight, but not more than twelve, individuals who shall meet or exceed the requirements of ANSI 3.1-1981, Section 4.7.

13.4.2.5 Meeting Frequency

The SRC shall meet at least once per calendar quarter during the initial year of each Unit operation following fuel loading and at least once per six month thereafter.

Insert 'C-2'

13.4.2.6 Quorum

A quorum, consisting of the following members, shall be present for all formal meetings:

a. The Chairman or his designated alternate

b At least four members or their approved alternates

No more than a minority shall have line responsibility for the operation of Susquehanna SES.

13.4.2.7 ~~Meeting~~ Records

Insert 'C-3'

Minutes of all meetings shall be taken and shall identify all documents reviewed, decisions and recommendations made, and all actions taken by the committee during the meeting. The minutes shall be disseminated promptly to committee members and the Senior Vice President-Nuclear.

13.4.2.8 Responsibility

The SRC shall be responsible for the review of: ~~the following subjects and shall be observant for problems and shall ensure corrective action is initiated:~~

a. The safety evaluations for 1) changes to procedures, equipment or systems and 2) tests or experiments completed under the provision of 10CFR50.59 to verify that such actions did not constitute an unreviewed safety question.

b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in 10CFR50.59.

c. Proposed tests or experiments which involve an unreviewed safety question as defined in 10CFR50.59.

d. Proposed changes to Technical Specifications or the Operating License.

Insert 'C-2"

The quorum of the SRC necessary for the performance of the SRC review and audit functions pursuant to Subsection 13.4.2.8 and Subsection 13.4.2.9 shall consist of not less than a majority of all members, or designated alternates, and shall be subject to the following constraints: the Chairman or his designated alternate shall be present for all formal meetings and no more than a minority of the quorum shall have line responsibility for operation of the unit.

Insert 'C-3'

Records of SRC activities shall be prepared, approved and distributed as indicated below:

a. Minutes of each SRC meeting shall be prepared, approved and forwarded to the Senior Vice President - Generation and CNO within 14 days following each meeting.

b. Reports of reviews encompassed by subsection 13.4.2.8 below, shall be prepared, approved and forwarded to the Senior Vice President - Generation and CNO within 14 days following completion of the review.

c. Audit reports encompassed by subsection 13.4.2.9 below, shall be forwarded to the Senior Vice President - Generation and CNO and to the management positions responsible for the areas audited within 30 Days after completion of the audit by the auditing organization.

e. Violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.

f. Significant operating abnormalities or deviations from normal and expected performance of unit equipment that affect nuclear safety.

g. Events requiring notification to the Commission under 10CFR50.73.

h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety.

i. Reports and meetings minutes of the PORC.

13.4.2.9 SRC Audit Program

below or

Audits of facility activities shall be performed under the cognizance of the SRC, and at a frequency as described in Section 13.4.3. These audits shall encompass:

a. The conformance of unit operation to provisions contained within the Technical Specifications and applicable license conditions.

b. The performance, training and qualifications of the entire facility staff.

c. The results of actions taken to correct deficiencies occurring in facility equipment, structures, systems or method of operation that affect nuclear safety.

d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix "B", 10CFR50.

e. Any other area of unit operation considered appropriate by the SRC or the Senior Vice President - ~~Nuclear~~ Generation and CNO.

f. The Fire Protection Program and implementing procedures at least once per 24 months.

g. An independent fire protection and loss prevention inspection and audit shall be performed at least once per 12 months utilizing either qualified offsite licensee personnel or an outside fire protection firm.

h. An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 36 months.

i. The radiological environmental monitoring program and the results thereof.

j. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures.

k. The PROCESS CONTROL PROGRAM and implementing procedures for solidification of radioactive wastes.

l. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 4.15, December, 1977.

13.4.2.10 Authority

The SRC reports to and advises the Senior Vice President-~~Nuclear~~. Generation and ONO on those areas of responsibility specified in 13.4.2.8 and 13.4.2.9.

13.4.3 Audit Program

A comprehensive system of planned and documented audits shall be carried out during the operational phase of the Susquehanna SES to verify compliance with PP&L policy and rules, approved operating procedures, license provisions and administrative controls as included in the Operational Quality Assurance Program.

FSAR section 13.4.2.9 2nd

The frequency of the above mentioned audits shall be in accordance with the requirements of OQA Program documents and shall consider the safety significance of the area being audited. This may cause specific time requirements to be placed on the audit frequency of selected areas, however, all areas shall be audited at least once every two years.

Generation and ONO

The audits shall be conducted, in accordance with written procedures, by personnel not having direct responsibility for the area being audited, under the authority of the Senior Vice President - ~~Nuclear~~ and at the direction of the Manager NAS. Reaudits of areas found to have deficiencies (deficient areas) shall be conducted to ensure that corrective action is initiated in a timely manner.

Insert 'D'

A more detailed description of the PP&L Audit Program for the operational phase of Susquehanna SES is contained in Section 17.2.

Insert 'D'

Audit reports encompassed by Subsection 13.4.2.9 above, shall be forwarded to the Senior Vice President - Generation and Chief Nuclear Officer and to the management positions responsible for the areas audited within 30 days after completion of the audit by the auditing organization.

Insert 'F'

17.2 QUALITY ASSURANCE DURING THE OPERATIONS PHASE

17.2.0 INTRODUCTION

PP&L is fully responsible for testing, operating, maintaining, refueling and modifying the Susquehanna SES in compliance with Federal, State, and local laws and the plant operating license requirements. These activities are also performed in response to required codes and specified QA related NRC regulatory guides. These regulatory guides and associated ANSI standards are listed in Table 17.2-1.

To assure compliance with 10CFR50, Appendix B requirements, PP&L has established and implemented a management control plan for assuring the quality of safety-related activities during the operations phase. The plan consists of a) this Operational Quality Assurance (OQA) Program which contains PP&L's quality assurance commitments to the Nuclear Regulatory Commission; b) the OQA Manual which contains Operational Policy Statements (OPS) and defines PP&L's policies for meeting these commitments; and c) Nuclear Department Administrative Procedures (NDAPs) and functional unit procedures which contain the detailed information necessary for a functional unit to comply with the OQA Program requirements. The relationships between these documents are shown in Figure 17.2-1.

In implementing the OQA Program, PP&L assures that its activities comply with Federal Regulations which are designed to protect the health and safety of the public.

The OQA policies, goals and objectives of PP&L are stated in the following Nuclear Quality Philosophy and Intent statement:

> For the Susquehanna Steam Electric Station, Pennsylvania Power & Light Company will comply with the requirements of 10CFR50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants and other applicable federal regulations with respect to all safety-related activities which include engineering, design, procurement, construction, preoperational testing, power testing, operation, maintenance, refueling, repairing, modification and in-service inspection. PP&L is also committed to be responsive to the applicable Regulatory Guides, Industry Codes and Standards, or parts thereof, as specifically noted in controlling documents. The applicability of these Guides, Codes, and Standards, or parts thereof shall be determined by the responsible managers. If Guides, Codes, or Standards are nonexistent or

Insert 'F'

Note: Implementation of the Improved Technical Specifications has placed the information contained in FSAR Chapter 13.4, Review and Audit, into the scope of the Operational Quality Assurance Program. Therefore, any changes to FSAR Chapter 13.4 require an evaluation identical to that applied to FSAR Chapter 17.2 under 10 CFR 50.54(a).

inadequate, PP&L shall develop the required practices and procedures with the controls necessary for their implementation.

17.2.1 ORGANIZATION

PP&L has established the Nuclear Department in order to provide a cohesive management team with the primary objective of providing long term technical and management support for Susquehanna SES. In addition to the resources within the Nuclear Department, corporate support is provided by the Construction Manager and the Manager - Purchasing and Contracts. The key management positions responsible for the performance of safety-related activities are listed below and are described in the following subsections. Figure 17.2-2 shows the organizational structure and lines of responsibility for the groups that provide technical and management support for Susquehanna SES.

Senior Managers:

Senior Vice President-~~Nuclear~~ General Manager and Chief Nuclear Officer
Vice President-Nuclear Operations
~~Plant~~ Manager-Susquehanna SES
~~Manager~~-Nuclear Engineering

Functional Unit Managers:

Manager-Nuclear Assessment Services
Manager-Nuclear Information Services
Manager-Nuclear Department Support
Manager-Nuclear Business Improvement
Manager-Nuclear Training
Manager-Nuclear Operations
Manager-Nuclear Maintenance
Manager-Nuclear Plant Services
Manager-Nuclear Outages
Manager-Nuclear Modifications
Manager-Nuclear Technology
Manager-Nuclear Fuels
Manager-Nuclear Systems Engineering
Supervisor-Nuclear Licensing
Supervisor-Nuclear Emergency Planning

Corporate Support:

Vice President-Mobile Work Force
Manager-Purchasing and Contracts

Insert 'E'

In addition to the ~~above individuals~~, the ~~Susquehanna Review Committee (SRC) is established as a review, audit and advisory group, comprised of at least five key Nuclear Department~~

managers, whose function is to verify independently that the Susquehanna SES is being tested, operated and maintained in accordance with all safety-related, ALARA and environmental requirements. The SRC will perform the independent review mandated by ANSI N18.7.

17.2.1.1 Senior Vice President - ~~Nuclear~~

The Senior VP-~~Nuclear~~ has overall authority and responsibility for the Susquehanna OQA Program and, as a result, he:

(a) Requires the performance of an annual, preplanned and documented assessment of the OQA Program in which corrective action is identified and tracked.

(b) Sets OQA Policies, goals and objectives for safe operation of Susquehanna SES.

(c) Commits PP&L to an OQA Program designed to assure compliance with regulatory requirements.

(d) Requires compliance with the provisions of the OQA Program and causes periodic assessments of PP&L commitments and established practices for safe plant operation.

In order to maintain a continuing involvement in QA matters, the Senior VP-~~Nuclear~~ receives periodic reports on the status and adequacy of the OQA Program from the Manager-NAS and reviews and approves the Operational Policy Statements contained in the OQA Manual prior to their issuance.

The Senior VP-~~Nuclear~~ delegates the responsibilities for attaining specified quality levels to the VP-Nuclear Operations and to other managers (e.g., Manager-Nuclear Training). The Senior VP-~~Nuclear~~ delegates the responsibility for verifying that those quality levels have been met to the Manager-Nuclear Assessment Services.

The Senior VP-~~Nuclear~~ delegates to the Manager-~~Nuclear Assessment Services~~ the responsibility for performing the on-site Independent Safety Engineering Group (ISEG) function mandated by NUREG-0737.

The reporting relationships are shown in Figure 17.2-2. In addition, the Senior VP-~~Nuclear~~ has overall corporate responsibility for Susquehanna SES activities related to engineering and operations.

Insert 'E'

In addition to the above individuals, the following committees are established:

The Plant Operations Review Committee (PORC) is established as a review group whose function is to advise the General Manager - Susquehanna on matters related to nuclear safety; and

The Susquehanna Review Committee (SRC) is established as a review, audit and advisory group whose function is to verify, independently, that the Susquehanna SES is being tested, operated and maintained in accordance with all safety-related, ALARA and environmental requirements. The SRC will perform the independent review mandated by ANSI N18.7.

FSAR Chapter 13.4, Review and Audit, provides discussions regarding the make-up and responsibilities of these committees.

Implementation of Improved Technical Specifications (ITS) has added FSAR Chapter 13.4, Review and Audit, within the scope of the Operational Quality Assurance Program and therefore the criterion of 10 CFR 50.54(a) must be applied to any changes to FSAR Chapter 13.4.

17.2.1.2 Vice President-Nuclear Operations

The Vice President-Nuclear Operations is responsible for the safe operation of Susquehanna SES and related engineering activities. The Vice President-Nuclear Operations ensures that plant operations overall plant design are conducted and maintained in accordance with the plant operating license, technical specifications, the FSAR, and the OQA Program with its implementing documents. The Vice President-Nuclear Operations delegates responsibility for performing activities related to operations and engineering to:

- ~~Plant~~ General Manager - Susquehanna SES
- Manager - Nuclear Engineering
- Manager - Nuclear Department Support
- Supervisor-Emergency Planning
- Supervisor-Licensing

17.2.1.3 ~~Plant~~ General Manager - Susquehanna SES

The ~~Plant~~ General Manager-Susquehanna SES has overall responsibility for the execution of the administrative controls at the plant to assure safety. ~~The Plant~~ Manager-Susquehanna SES ensures that plant operations are conducted in accordance with the plant operating license, technical specifications, the FSAR, and OQA Program with its implementing documents. The Plant Manager-Susquehanna SES delegates authority for performing activities related to operation of the plant to the Manager-Nuclear Operations, Manager-Nuclear Maintenance, Manager-Nuclear Plant Services, Manager-Outages.

17.2.1.4 General Manager - Nuclear Engineering

The ~~Manager~~ General Manager - Nuclear Engineering is responsible for engineering activities and their quality management. These activities include a) design and design verification related to plant modifications, b) establishing the technical requirements for the procurement of systems, components, and spare parts, c) engineering support for outage activities, and d) the procurement of Nuclear Fuel. The Manager-Nuclear Engineering is directly responsible for the following functional units:

- Nuclear Modifications
- Nuclear Technology
- Nuclear Fuels
- Nuclear Systems Engineering

17.2.1.5 Manager - Nuclear Assessment Services

The Manager-NAS is responsible for:

(a) Directing and coordinating the development and updating of PP&L's OQA Program and the NAS Functional Unit Procedures.

(b) Interpreting the OQA Program, subject to the approval of the Senior Vice President-Nuclear.

(c) Auditing, assessing, inspecting, witnessing, and performing surveillances as necessary, of contractor, vendor and PP&L activities which fall within the scope of the OQA Program (e.g., Safety-related, Fire Protection, Environmental Protection Plan, Packaging and Transporting of Radioactive Material) to determine the degree of compliance with the requirements of the OQA Program and/or procurement documents, and reporting the results of these activities to responsible management. Further definition and qualification of the scope of the above activities is provided in this FSAR Section 17.2 and the PP&L Operational Policy Statements.

(d) Providing for the Quality Assurance review of Nuclear Department procedures to ensure compliance with the OQA Program.

(e) Providing training assistance in OQA Program requirements.

(f) Implementing the QA and site QC activities identified in the OQA Program.

(g) Performing the on-site Independent Safety Engineering functions mandated by NUREG-0737.

(h) Evaluating the QA program of potential suppliers of material, equipment and services to determine the program's adequacy for providing quality products or services.

The Manager-NAS is responsible for taking action (including work stoppage), as necessary to correct conditions adverse to quality. The Manager-NAS is responsible for informing the Vice President - Nuclear Operations when it is determined that safety-related components or the activities performed on these components fail to comply with approved specifications, plans, or procedures. The Vice President - Nuclear Operations retains

the responsibility for the evaluation of conditions adverse to quality with regard to plant operation and is responsible for determining when an operating unit(s) is to be shut down. PP&L requires the Manager-NAS to have qualifications commensurate with the responsibilities of that position. The minimum qualification requirements for the Manager-NAS are stated in FSAR Subsection 13.1.1.

The Manager-NAS and the NAS Staff are independent of organizations responsible for performing safety-related activities. NAS has sufficient authority and organizational freedom to identify quality problems, to initiate, recommend or provide solutions through designated channels, and to verify implementation of solutions.

To fulfill the organizational responsibilities, NAS is structured as functional groups. Figure 17.2-3 diagrams the reporting relationships of these groups and their functional responsibilities are described below:

A. Auditing Services

1. Audits

(a) Schedule, scope, and perform audits of PP&L organizations.

(b) Perform audits requested by the Susquehanna Review Committee.

(c) Interface with third party auditors (e.g., CMAP, INPO) for resolution of items which are identified in audit findings or issues involving NAS activities.

(d) Review/accept vendor QA Programs/Manuals.

(e) Evaluation of suppliers' QA Programs for adequacy in providing quality products or services and Commercial Grade Items (CGIs).

(f) Provide the PP&L interface with the Nuclear Procurement Issues Committee (NUPIC), Nuclear Fuels Users Forum (NFUF), Nuclear Software Management Group (NUSMG), and Nuclear Energy Institute (NEI).

2. Source Verification

(a) Develop inspection criteria and plans.

(b) Provide liaison with plant and engineering groups to specify scope of source verification for inclusion into procurement documents.

(c) Perform inspections of in-process activities at supplier facilities.

3. Provide for the indoctrination and training/retraining of Auditing Services personnel.

4. Perform NAS's verification of corrective action and commitments made in correspondence to the NRC.

5. Perform document reviews as required or requested.

6. Coordinate development and maintenance of PP&L's OQA Program and NAS Functional Unit Procedures.

B. Quality Control Services

1. Perform inspection planning.

2. Perform inspections utilizing trained personnel in the Electrical, I&C, Mechanical, Civil, and Radwaste disciplines.

3. Evaluate inspection results and recommend changes to inspection levels.

4. Provide QC inspector training and certification.

5. Provide for the indoctrination and training/ retraining of Quality Control personnel.

C. Assessment Process Services

The Nuclear Department has established the Assessment function as a program for achieving continuous process and productivity improvements. Its activities are not mandated by the provisions of 10CFR50 Appendix B.

D. Surveillance Services

1. Schedule, scope, and perform QA Surveillances of plant activities.

2. Perform document reviews as required or requested.

3. Provide support for the Plant Reliability Enhancement Program.

4. Perform, when requested, NAS verification of corrective actions and commitments described in Licensee Event Reports and other correspondence to the NRC.

5. Provide NAS Surveillance Observation Training/Retraining.

E. Independent Safety Evaluation Services

Independently evaluating PP&L's nuclear activities with particular emphasis on the effectiveness and quality of the Company's nuclear operations and related safety/environmental programs. This responsibility includes performing the on-site Independent Safety Engineering Group functions mandated by NUREG-0737.

F. Operating Experience Services

Administration of the Department's Condition Report and Operating Experience Program. This includes development and maintenance of trending, tracking and reporting activities associated with the program, and maintenance of program procedures.

17.2.1.6 Manager - Nuclear Information Services

The Manager-Nuclear Information Services is responsible for the ongoing planning, development, and maintenance of information services including hardware and software. The Manager-NIS is also responsible for providing procedural guidance on the implementation of the Software Quality Assurance Program.

17.2.1.7 Manager - Nuclear Department Support

The Manager-Nuclear Department Support is responsible for developing and implementing a records management/document

control system for SSES; providing procedural guidance for the Nuclear Department's implementation of the system; other administrative functions necessary to facilitate Nuclear Department operations.

17.2.1.8 Manager-Nuclear Business Improvement

The Manager-Nuclear Business Improvement is responsible for developing and maintaining the Department's Strategic and Business Plans, measuring and reporting business performance, and communicating key information about the Department.

17.2.1.9 Manager - Nuclear Training

The Manager-Nuclear Training is responsible for providing training to meet the needs of functional managers in their task of ensuring that subordinates are knowledgeable of the policies, programs, procedures, principles, skills, tools, equipment handling capabilities, and other information necessary to competently, safely, and efficiently accomplish their assigned tasks. He/she is responsible for most of the formal nuclear instruction conducted for Company personnel involved with SSES and for making sure all programs are current and, where appropriate, accredited. The Manager-Nuclear Training is also responsible for assessing the long-term training needs regarding Susquehanna SES and developing training programs commensurate with those needs.

17.2.1.10 Manager - Nuclear Operations

The Manager-Nuclear Operations is responsible for all plant operations during both normal and off-normal conditions. Subfunctions include:

- Shift Operations
- Reactor Engineering
- Operations Engineering
- Operations Technical Support
- Shift Technical Advisors
- Chemistry

17.2.1.11 Manager - Nuclear Maintenance

The Manager-Nuclear Maintenance is responsible for maintenance of the plant systems, components and structures. Subfunctions include:

- Maintenance Outage/Production
- Maintenance Production Services
- Instrument and Control
- Refuel Floor Management

17.2.1.12 Manager - Nuclear Plant Services

The Manager-Nuclear Plant Services is responsible for providing essential services to the operating plant in the areas of health physics, waste management, administrative support, safety and maintenance of buildings and grounds, industrial safety, procurement of materials and services, and materials management. The Manager-Nuclear Plant Services is directly responsible for the following functions:

- Effluents Management
- Site Services
- Health Physics
- Security
- Procurement

17.2.1.13 Manager - Nuclear Outages

The Manager-Outages is responsible for the overall outage planning process and for plant scheduling activities. The Manager-Outages monitors outage activities and reporting overall outage status.

17.2.1.14 Manager - Nuclear Modifications

The Manager-Nuclear Modifications is responsible for creating a responsive service organization capable of designing, installing, and testing all plant major and minor modifications, within the bounds of licensing and Operational Quality Assurance Program commitments.

17.2.1.15 Manager - Nuclear Technology

The Manager-Nuclear Technology is responsible for maintaining a sound technical basis for the plant design, and providing engineering support required to address plant problems,

maintaining the nondestructive examination (NDE) Program and functions of all corporate NDE-Level III, and apply technological advances that offer an opportunity for improvement in operation, maintenance, or design.

17.2.1.16 Manager - Nuclear Fuels

The Manager-Nuclear Fuels is responsible for managing the nuclear fuel cycle from core design and fuel procurement through ultimate fuel disposal.

17.2.1.17 Manager - Nuclear Systems Engineering

The Manager-Nuclear Systems Engineering is responsible for providing the engineering necessary to support operations and maintenance at SSES. The mission of Nuclear Systems Engineering is to optimize plant systems performance throughout the life of the units. This is accomplished by monitoring system performance; anticipating, defining and preventing problems; identifying and implementing improvements; and resolving unexpected problems.

17.2.1.18 Supervisor-Nuclear Licensing

The Supervisor-Nuclear Licensing is responsible for managing the interfaces between the Department and the principle state and federal nuclear regulatory agencies; directing the licensing aspects of SSES including updating the FSAR; and coordinating the preparation and issuance of correspondence to the NRC.

17.2.1.19 Supervisor-Nuclear Emergency Planning

The Supervisor-Nuclear Emergency Planning is responsible for maintaining the Nuclear Department's Emergency Plan, including the conduct of drills; and managing interfaces with state and local governmental and emergency agencies in the area of the plant site in regard to emergency planning.

Insert 'H'

17.2.1.~~X~~ 21 Vice President - Mobile Work Force

The Vice President - Mobile Work Force is responsible for providing the necessary organization, trained personnel, and equipment for the performance of modifications, repairs and/or additions to the operating plant and for outages. These operations will encompass projects/tasks assigned by the

on-site organization. Activities will be defined in procedures developed in accordance with OQA Program requirements.

17.2.1.21 Manager - Purchasing and Contracts

The Manager-Purchasing and Contracts is responsible for the purchase of equipment, spare parts, materials and services as requisitioned through the Manager-Nuclear Procurement. Purchasing and Contracts is responsible to procure materials and services that conform to all applicable technical specifications and from approved suppliers. Procedures shall define how the procurement process is controlled in accordance with OQA Program requirements.

17.2.2 QUALITY ASSURANCE PROGRAM

The Operational Quality Assurance (OQA) Program is applied to all safety-related Susquehanna SES structures, systems, components, and activities.

Safety Related is a generic term applied to:

1. Those systems, structures, and components that meet one or more of the following requirements:

   (a) Maintain the integrity of the Reactor Coolant System pressure boundary.

   (b) Assure their capability to prevent or mitigate the consequences of accidents that could cause the release of radioactivity in excess of 10CFR100 limits.

   (c) Preclude failures which could cause or increase the severity of postulated accidents or could cause undue risk to the health and safety of the public due to the release of radioactive material.

   (d) Provide for safe reactor shutdown and immediate or long term post accident control.

2. Those activities that affect the systems, structures and components discussed in Item 1 above such as their design, procurement, construction, operation, refueling, maintenance, modification and testing.

The ~~Vice President~~ General Manager - Nuclear Engineering is responsible for maintaining a list designating those structures, systems, and

Insert 'H'

17.2.1.20 Manager - Independent Safety Engineering Group (ISEG) is responsible to examine unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of plant design and operating experience information, including plants of similar design, which may indicate areas for improving plant safety. ISEG is responsible for maintaining surveillance of unit activities to provide independent verification that these activities are performed correctly and that human errors are reduced as much as possible.

The ISEG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving unit safety to the Senior Vice President Generation and Chief Nuclear Officer.

The ISEG shall be composed of at least five dedicated, full-time engineers with at least three located onsite, each with a bachelor's degree in engineering or related science and at least two years professional level experience in his field, at least one year of which experience shall be in the nuclear field.

components which are safety-related based upon the applicable portions of Table 3.2-1. The Senior Vice President - Nuclear has assigned to the Manager - Nuclear Assessment Services the responsibility for regularly assessing the scope, status, implementation, and effectiveness of the OQA Program. This will assure that the OQA Program is adequate and complies with 10CFR50, Appendix B.

The OQA Program requires that safety-related activities be performed by properly qualified personnel under suitably controlled conditions. Controlled conditions include: the use of appropriate tools and equipment, processes and procedures; suitable environmental conditions; and assurance that prerequisites have been satisfied. The OQA Program also addresses the need for verification of quality by inspection, examination, and test.

The Manager - NAS is responsible for establishing and maintaining the OQA Program and for ensuring that it provides adequate control of all activities. The Manager - NAS is responsible for assuring that functions delegated to principal contractors are being properly accomplished. Supplier QA programs are evaluated to determine that the requirements of 10CFR50 Appendix B will be implemented and this evaluation is documented.

The corporate OQA policies, goals, and objectives are transmitted to the persons performing activities which are required by the OQA Program and supporting documents. The commitments of the OQA Program are described in FSAR Section 17.2 which also assigns responsibilities for implementing OQA Program commitments. The OQA Manual contains Operational Policy Statements (OPS) which stipulate PP&L QA policies, goals and objectives for implementing the OQA Program commitments. These policies give generic direction for the performance of activities. A synopsis of the OPS and a matrix which cross-references them to each criterion of Appendix B to 10 CFR Part 50, is contained in Table 17.2-2.

The OQA Program is patterned after and fully complies with ANSI N18.7-1976 as modified by NRC Regulatory Guide 1.33, Revision 2 except for the review frequency of procedures. The review frequency for procedures will be established appropriate to the nature of the activities addressed by the procedures in accordance with NRC memorandum titled "Biennial Procedure Reviews" dated December 21, 1992, and plant procedure programs. The degree of compliance with other regulatory guides and associated ANSI Standards is listed in Table 17.2-1. Where guides, codes or standards are nonexistent or inadequate, PP&L will develop methods to provide the necessary control. The OQA Program requirements are mandatory for all safety-related

activities. Each functional unit manager is responsible for assuring that safety-related activities performed by that functional unit meet the requirements of the OQA Program. The Manager - NAS is responsible for the audit, review, inspection and verification of activities both on site and offsite to assure that they are accomplished according to the OQA Program requirements. QC activities shall be performed in compliance with the OQA Program requirements.

Disagreements between NAS and other department personnel (such as Engineering, Construction, Plant Staff, and Procurement) concerning the OQA Program and related activities will be resolved between the Manager-NAS and the affected department's supervisor or manager. Disagreements not resolved at these levels will be referred to the Senior Vice President - Nuclear for resolution.

The content and list of recipients of the OQA Manual is controlled by the NAS organization and controlled distribution is provided by Nuclear Records. All managers responsible for the performance of safety-related activities will be issued controlled copies of the OQA Manual.

Generation and CNO

The Manager - NAS is responsible for obtaining appropriate review and approval of the content and changes to the OQA Program and Manual. Any group performing activities governed by the OQA Program and Manual may propose changes to these documents. All OQA Program (FSAR Section 17.2) changes shall be reviewed by the Manager-NAS and the VP-Nuclear Operations and approved by the Senior VP-~~Nuclear~~. All OQA Manual changes shall be reviewed by the VP-Nuclear Operations and functional unit managers affected by the change and reviewed and approved by the Manager-NAS and Senior VP-~~Nuclear~~. Nuclear Department Administrative Procedures (NDAPs) which implement the OQA Program shall be reviewed to ensure that appropriate QA provisions have been incorporated and approved by the appropriate senior manager. Responsible functional unit managers shall ensure the proper review and approval of the functional unit procedures under their jurisdiction. Control of supplier QA programs is addressed in Subsection 17.2.7.

2nd Review and Audit (FSAR Section 13.4)

Individuals performing inspection, examination and testing functions associated with normal operations of the plant, such as surveillance testing, routine maintenance and certain technical reviews normally assigned to the on-site operation organization shall ~~be qualified to ANSI/ANS 3.1-1978~~. N18.1-19. Personnel whose qualifications are not required to meet those specified in ANSI~~/ANS 3.1-1978~~ and who are performing inspection, examination and testing activities during the operational phase of the plant shall be qualified to ANSI N45.2.6-1978, except that the QA experience cited for Levels I,

Meet or Exceed the qualifications of

N18.1-1971

II and III shall be interpreted to mean actual experience in carrying out the types of inspection, examination and testing activity being performed.

Managers are responsible for assuring that their personnel receive the indoctrination and training necessary to properly perform their activities. The indoctrination and training program shall be such that personnel performing activities are knowledgeable in procedures and requirements and proficient in implementing those procedures. The program assures that:

(a) Personnel responsible for performing activities are instructed as to the purpose, scope, and implementation of the safety-related manuals, instructions, and procedures which control their activities.

(b) Personnel performing activities are trained and qualified in the principles and techniques of the activity being performed.

(c) The scope, the objective, and the method of implementing the indoctrination and training program are documented.

(d) Proficiency of personnel performing activities is maintained by retraining. Re-examination and/or recertification will be utilized as applicable.

(e) Methods are provided for documenting training sessions, including a description of the content and results and a record of attendance.

In addition, certain provisions of the OQA Program are applied to fire protection. These provisions apply to those items within the scope of the Fire Protection Program (e.g., fire protection systems; emergency lighting, communication, and breathing apparatus) that are designed to protect safety-related areas and equipment. Specifically, the OQA Program shall be applied to implement the 10 quality assurance criteria listed in Appendix A to Branch Technical Position APCSB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed prior to July 1, 1976."

The OQA Program is also structured and implemented such that the requirements of subpart H-Quality Assurance, of 10CFR71, "Packaging and Transportation of Radioactive Material," are fulfilled.

17.2.3 DESIGN CONTROL

The OQA Program documents identify those managers responsible for performing design activities and describe their responsibilities and methods for meeting the OQA Program requirements.

The functional unit's procedures detail the steps necessary for its compliance with the requirements for its associated design activities. These procedures assure that design activities including changes in the design are carried out in a planned, controlled, and orderly manner.

Applicable design inputs such as regulatory requirements, codes and standards, and design bases shall be reflected in design output documents such as specifications, drawings, written procedures, and instructions. These design output documents shall specify the appropriate quality standards. Any deviations from these quality standards will be accomplished in accordance with OQA Program requirements.

The design control process shall include, but not be limited to, the following, where applicable:

(a) Reactor physics

(b) Seismic, stress, thermal, hydraulic, radiation, and accident analyses

(c) Material compatibility

(d) Accessibility of items for in-service inspection, maintenance, and repair

(e) Verification that the design characteristics can be controlled, inspected and tested

(f) Identification of inspection and test criteria

The design engineer shall evaluate and select suitable materials, parts, equipment, and processes for safety-related structures, systems, and components. This evaluation and selection shall include the use of appropriate industry standards and specifications. 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 in the intended application prior to use.

Internal and external interfaces between organizations performing work affecting quality of design shall be

identified. Procedures shall be established to control the flow of design information between organizations. These procedures shall include the review, approval, release, distribution, and revision of documents involving design interfaces with other organizations.

Designs shall be reviewed to assure that design characteristics can be verified and acceptance criteria are identified.

Designs shall be verified by reviewing, alternate calculations, or qualification testing. Design verification shall be performed by a qualified person or group other than the original designer or the designer's immediate supervisor. However, supervisors may perform design verification subject to the restrictions of Paragraph C.2 of Regulatory Guide 1.64, Revision 2 as modified by Table 17.2-1. Procedures for design verification shall identify the responsibility and authority of persons or groups performing design verifications. When a test program is used to verify the adequacy of a design, the test will be performed on a prototype unit or initial production unit and shall demonstrate adequacy of performance under the most adverse design conditions.

Changes to design output documents, including field changes, shall be subjected to design control measures the same as, or equivalent to, the original measures.

Responsible plant personnel are made aware of design changes/modifications which may affect the performance of their duties by:

(a) Plant Operations Review Committee review of all modification packages determined to constitute a change to the facility in accordance with 10 CFR 50.59 prior to installation.

(b) Installation of modifications are controlled by the plant work authorization system.

(c) Nuclear Engineering (or the originating group for Engineering Change Orders, ECO's) notifies plant supervisors of design changes to allow updating of procedures.

(d) Effects of modifications are incorporated into the plant training program.

Errors and deficiencies in the design or the design process that could adversely affect safety-related structures, systems, and components will be documented and corrective action will be

taken in accordance with Subsection 17.2.16. Design documents, including changes are filed as described in Subsection 17.2.17.

17.2.4 PROCUREMENT DOCUMENT CONTROL

OQA Program documents identify those managers responsible for activities related to the control of procurement documents and describe their responsibilities and methods for meeting the OQA Program requirements. Procedures detail the steps to be accomplished in the preparation, review, approval and control of procurement documents. Managers are responsible for establishing, maintaining and implementing procedures as required for their functional unit to comply with OQA Program requirements.

Procurement documents shall contain or reference as applicable:

(a) Design basis technical requirements including the applicable regulatory requirements.
(b) Component and material identification requirements.
(c) Drawings.
(d) Specifications.
(e) Codes and industry standards.
(f) Manufacturers' test and inspection requirements.
(g) Special process instructions.

Procurement documents shall identify: a) the applicable quality requirements which must be met and described in the supplier's QA program, b) the documentation (such as drawings, specifications, procedures, inspection and fabrication plans, inspection and test records, personnel and procedure qualifications, and material, chemical and physical test results) to be prepared, maintained and submitted to PP&L for review and approval, and c) those records which shall be retained, controlled, maintained or delivered to PP&L prior to use or installation of the purchased items. Procurement documents shall also contain provisions for PP&L or its agent, as applicable, to have the right of access to suppliers' and subtier suppliers' facilities and records for source verification and audits.

Procurement documents shall also require that the supplier submit, when required, its QA Program or portions thereof to PP&L for review and approval by qualified QA personnel prior to initiation of activities controlled by the Program.

Procurement documents shall be reviewed by qualified personnel for adequacy of quality requirements (such as acceptance and rejection criteria). Quality requirements shall be correctly stated, inspectable and controllable. Prior to their release,

procurement documents shall have been prepared, reviewed and approved in accordance with OQA Program requirements. The procurement document review and approval is documented and filed as described in Subsection 17.2.17.

When procurement documents are revised, they are subject to the same or equivalent review and approval as the original document. Procurement documents for safety-related spare or replacement parts for structures, systems and components are subject to controls the same as or equivalent to those used for the original equipment. All activities described in this subsection are to be performed by personnel qualified to perform the activity.

17.2.5 INSTRUCTIONS, PROCEDURES AND DRAWINGS

Activities shall be accomplished in accordance with documented instructions, procedures or drawings. This subsection applies to internal PP&L instructions, procedures and drawings. Such requirements for contractors and vendors are included in procurement documents as discussed in Subsection 17.2.4.

There are three general levels of OQA Program documents which are used to implement the OQA Program. The first document level is comprised of Operational Policy Statements (OPS) which describe PP&L's policies for complying with 10CFR50, Appendix B and OQA Program requirements. These OPS delineate the requirements for preparing, reviewing, approving, and controlling instructions, procedures, and drawings.

The second level of documents used to implement the OQA Program consists of Nuclear Department Administrative Procedures (NDAPs). These documents describe inter- and intra-department interfaces and may provide detailed instructions for implementing the OQA Program requirements. The third level of documents consists of functional unit procedures, which detail the specific instructions required to implement the OQA Program requirements. These documents require that instructions, procedures or drawings specify the methods utilized in complying with OPS requirements. Instructions, procedures and drawings within the scope of the OQA Program shall include quantitative (such as dimensions, tolerances, and operating limits) and qualitative (such as workmanship samples) acceptance criteria for use in determining that important activities have been satisfactorily accomplished.

in accordance with FSAR 13.4.1.3 and FSAR 13.4.1.4.1, as applicable,

The functional unit manager shall prepare, obtain the appropriate review, approve, issue, and revise the NDAPs and the functional unit procedures which control the activities of that group. These procedures are reviewed for accuracy and

workability as well as for compliance with OQA Program requirements. Inspection plans; test, calibration, special process, maintenance, modification and repair procedures; drawings and specifications; and changes thereto are subject to audit for their compliance with OQA Program requirements.

17.2.6 DOCUMENT CONTROL

The document control system described in OQA Program documents requires that, prior to their release, documents and changes thereto are reviewed for their adequacy and approved and released by authorized personnel and distributed for use at the location where the prescribed activity is to be performed. The documents controlled under this subsection as a minimum include:

(a) Design Specifications
(b) Procurement Documents
(c) Test Procedures
(d) Design, Manufacturing, Construction and Installation Drawings
(e) Manufacturing, Inspection, and Testing Instructions
(f) Final Safety Analysis Report
(g) OQA Program Documents
(h) Maintenance and Modification Procedures
(i) Non-conformance Reports

The NAS Organization or other qualified individuals delegated by NAS, but other than the person who generated the document, shall review and concur with the document and changes thereto, with regard to QA-related aspects prior to implementation.

In addition to the above QA document review FSAR Subsection 13.4.1.4.1 defines minimum reviews of Procedures affecting Nuclear safety.

Each manager who is responsible for issuing a document is also responsible for obtaining the proper review and approval of that document. Changes to documents are reviewed and approved by the same organizations that performed the original review and approval unless specifically delegated to other qualified organizations. This review will be completed prior to issuing the document except for temporary procedures/instructions issued by the Susquehanna SES Plant Staff. This special case is described in ~~Section 6 of the Technical Specifications~~ and the Susquehanna Plant Administrative Procedures. FSAR Subsection 13.4.1.4.1

Each functional unit manager is responsible for preparing and periodically issuing distribution lists and/or revision status lists, where necessary, for the control of quality documents issued by that functional unit. These lists identify the additions and changes made to documents since the previous report period and assist recipients in maintaining up-to-date files. Each recipient is responsible for reviewing the latest

list(s) to confirm that the current revision of each document is available. Prior to implementation, approved changes are included in instructions, procedures, drawings, or other documents by procedurally controlled change mechanisms.

It is the responsibility of each functional unit supervisor/manager to assure that the proper documents such as instructions, procedures, and drawings are available at the location where the prescribed activities are performed.

The issuing department is responsible for describing and implementing measures which provide controls to prevent the inadvertent use of obsolete or superseded documents.

Individuals or groups responsible for preparation, review, approval, issue and distribution of quality documents and their revisions are identified in the OQA Program documents.

17.2.7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT & SERVICES

PP&L OQA Program documents list those managers responsible for performing activities related to the control of purchased material, equipment and services; describe their responsibilities; and specify their methods for meeting the OQA requirements. Each functional unit's procedures detail the steps necessary for complying with these requirements for their activities.

PP&L's system for control is comprised of supplier evaluation, audits, source verification of the supplier during production, receipt inspection, and evaluation of supplier records. The extent and methods of control used assure compliance with applicable technical, manufacturing, and quality requirements.

Prior to the award of a purchase order or contract, PP&L evaluates the prospective supplier's ability to provide material, equipment, and services which comply with the technical, design, manufacturing and quality requirements.

The suppliers judged capable of meeting the requirements are considered approved suppliers for the specific article. The results of supplier evaluations are documented and the records maintained in accordance with Subsection 17.2.17.

The evaluation includes, as necessary, reviews of the records and performance of suppliers who have previously supplied similar articles, audits, and evaluations of their quality assurance programs and facilities to determine their ability to meet the design, manufacturing and quality requirements of the

procurement document. These quality requirements include the applicable elements of 10CFR50 Appendix B.

Suppliers' activities during the design, fabrication, inspection, testing, and preparation for shipment of material, equipment and components are subject to audits and source verifications to assure their compliance with the procurement document requirements.

Audits and source verifications of suppliers are planned and performed in accordance with written procedures These procedures provide for: specifying the characteristics or processes to be witnessed, inspected or verified, and accepted; the extent of documentation required; and those responsible for implementing these procedures. Audits and source verifications are performed to assure that the supplier complies with the quality requirements of the procurement documents. Audits and source verifications take into account the extent to which compliance can be determined by receipt inspection

For commercial "off-the-shelf" items where specific quality assurance controls appropriate for nuclear applications cannot be imposed in a practicable manner, special quality verification requirements that provide the necessary assurance of an item's acceptability shall be established.

As applicable, qualified personnel perform receipt inspection of material, equipment and services to assure that:

(a) The material, component or equipment is properly identified and corresponds with the receiving documentation.

(b) The material, component or equipment and its acceptance records are judged acceptable in accordance with pre-determined inspection instructions prior to installation or use.

(c) Inspection records or certificates of conformance attesting to the acceptability of material, components, and equipment are available at Susquehanna SES prior to its installation or use.

Upon completion of the receipt inspection, items accepted and released are identified as to their inspection status prior to forwarding them to a controlled storage area or releasing them for installation or further work.

Supplier-furnished records shall be reviewed and accepted by a qualified individual knowledgeable in quality assurance. These records shall, as a minimum, contain:

(a) Documentation that specifically identifies by purchase order number the purchased material or equipment and the specific procurement requirements, such as codes, standards, and specifications met by the items.

(b) Documentation that identifies any procurement requirements which have not been met together with a description of those nonconformances dispositioned "accept as is" or "repair."

The requirements of this subsection shall also be applied to the purchase of spare and replacement parts and shall assure that these parts have a level of quality consistent with their importance, complexity, and quantity.

Supplier certificates of conformance are periodically evaluated to verify their validity.

The effectiveness of the control of quality by suppliers is assessed by PP&L at intervals consistent with the importance, complexity, and quantity of an item.

17.2.8 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND AND COMPONENTS

OQA Program documents list those managers responsible for performing activities related to the identification and control of materials, parts and components, including partially fabricated subassemblies, describe their responsibilities, and specify the methods for meeting the OQA program requirements. Detailed steps necessary to comply with these requirements are specified in procedures.

Procurement documents specify the requirements that PP&L suppliers must comply with for the identification of material, parts, and components (including partially fabricated subassemblies).

Item identification is maintained either on the item or on records traceable to the item to prevent the use of incorrect or defective items throughout fabrication, erection, installation and use. The location, type, and application method of the identification shall not affect the fit, function, or quality of the item being identified.

Materials and parts, as required by their importance to plant safety and applicable codes, standards and regulatory requirements, shall be traceable to appropriate documentation such as drawings, specifications, purchase orders, manufacturing and inspection documents, deviation reports and physical and chemical mill test reports.

The correct identification of materials, parts, and components is verified and documented prior to release for fabrication, assembly, installation or shipping.

17.2.9 CONTROL OF SPECIAL PROCESSES

Special processes are those that require interim in-process controls in addition to final inspection to assure quality. OQA Program documents identify those managers responsible for the writing, qualifying, approving and issuing of procedures for special processes. Procedures for special processes are prepared in accordance with applicable codes, standards, specifications, criteria, and other special requirements to control processes such as welding, heat treating, nondestructive examination (NDE), and chemical cleaning. Personnel performing special processes and the procedures and equipment used for this activity are qualified in accordance with applicable codes, standards and specifications. The procedures for special processes specify the requirements for their control, the parameters to be considered, the methods of documentation, and applicable codes, standards, specifications or supplementary requirements which govern their qualification. The special processes are accomplished in accordance with written process sheets, or equivalent, with recorded evidence of verification. When special processes are not covered by existing codes and standards, or when item quality requirements exceed the requirements of established codes or standards, the necessary qualifications for personnel, procedures or equipment are defined.

Records verifying the qualification of personnel to perform special processes are maintained in a current status.

Procurement documents specify contractor responsibility for controlling special processes and for maintaining records to verify that special processes are performed in accordance with established requirements.

17.2.10 INSPECTION

OQA Program documents identify those managers responsible for the preparation, approval, and issuance of inspection

procedures. The documents also identify those managers responsible for the performance of inspections. On site and offsite activities affecting quality are inspected in accordance with written controlled procedures to verify conformance with applicable procedures, design documents, codes and specifications for accomplishing the activity. Activities affecting quality are subject to inspections in areas such as:

(a) Special Processes as identified in Subsection 17.2.9.
(b) Modifications to the Plant.
(c) Receipt of Materials, Parts or Components.
(d) Plant Operations.
(e) Repairs or Replacement of Equipment.
(f) In service Inspection.

Inspection activities conform to the following requirements:

(a) Inspection personnel are qualified individuals other than those who performed or directly supervised the activity being inspected.

(b) Mandatory inspection hold points are identified in procedures and/or applicable work documents.

(c) Modifications, repairs and replacemen are inspected in accordance with the original design and inspection requirements or approved alternatives.

(d) Maintenance and modification procedures are reviewed by qualified personnel knowledgeable in quality assurance requirements to determine the need for (a) inspection, (b) identification of inspection personnel, and (c) documenting inspection results. The criteria for performing inspections are based upon an activity's complexity, uniqueness and impact on safety.

(e) If direct inspection of processed material or products is impossible or disadvantageous, indirect control by monitoring processing methods, equipment, and personnel is provided.

(f) Inspectors are trained and qualified in accordance with appropriate codes, standards, and company training programs and their qualifications and certifications are kept current.

(g) Inspection instrumentation is calibrated and has an uncertainty (error) equal to or less than the tolerance stated in the acceptance criteria.

(h) Inspection of activities is accomplished according to approved procedures, instructions, and check lists. These inspection documents contain the following:

(1) Identification of the items or activities to be inspected.

(2) Identification of the characteristics of the items or activities inspected.

(3) Identification of the individuals or groups responsible for performing the inspection.

(4) Identification of acceptance and rejection criteria.

(5) A description of the method of inspection including necessary measuring and test equipment.

(6) Evidence of completion and verification of a manufacturing inspection, or test.

(7) A record of the inspector, or data record the date and results of the inspection.

(i) Inspection procedures or instructions contain or reference necessary procedures, drawings and specifications to be used when performing inspection operations.

(j) Provisions for inspection results to be documented, evaluated and their acceptability determined by a responsible individual or group.

17.2.11 TEST CONTROL

The OQA Program documents identify those managers responsible for testing structures, systems and components during the operation of Susquehanna SES. The test program described herein and further detailed in Operational Policy Statements is designed to assure that structures, systems and components will perform satisfactorily in service. Modifications, repairs and replacements are tested in accordance with the original design and testing requirements or by approved alternates.

Testing is established, documented and accomplished in accordance with written controlled procedures. These procedures contain or reference:

(a) The requirements and acceptance limits specified in the applicable design and procurement documents.

(b) The instructions for performing the test.

(c) The test prerequisites such as:

(1) That test instrumentation is calibrated and has an uncertainty (error) equal to or less than the tolerance stated in the acceptance criteria.

(2) That testing equipment is adequate and appropriate for the test.

(3) That personnel performing the test are properly trained, qualified and licensed or certified as required.

(4) That the item is sufficiently complete to be tested.

(5) That environmental conditions are suitable and controlled.

(6) That provisions are made for data collection and storage.

(d) The mandatory inspection hold points for witness by PP&L, their contractor or agent.

(e) The test acceptance and rejection criteria.

(f) The methods of documenting or recording the test data and test results.

Tests are required to be performed:

(a) Periodically to provide assurance that failures or substandard performance do not remain undetected and that the required reliability of safety-related systems is maintained.

(b) Following maintenance, modification or procedural changes to demonstrate satisfactory performance.

The test results are documented and evaluated to determine the acceptability of the test. The individuals or groups responsible for evaluating the test results shall be qualified to perform this evaluation.

When by evaluation of the test results, the structure, system or component is determined to be nonconforming, it shall be controlled in accordance with Subsection 17.2.15.

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

PP&L's OQA Program documents provide measures to assure that tools, gauges, instruments and other measuring and testing devices are controlled. Calibrations are scheduled with sufficient frequency to maintain required accuracy. The measuring and test equipment controls assure that:

(a) Procedures are used to control measuring and test equipment. These procedures describe the calibration technique and frequency, maintenance and method of control of measuring and test equipment (such as instruments, tools, gauges, fixtures, reference and transfer standards, and nondestructive examination equipment) which are used in the measurement, inspection, and monitoring of components, systems and structures.

(b) Measuring and test equipment is identified and traceable to the calibration test data.

(c) Measuring and test instruments are calibrated at specific intervals based on the required accuracy, purpose, degree of usage, stability characteristics and other conditions affecting the measurement.

(d) Measuring and test equipment is labeled or tagged to indicate the date of the calibration and the due date of the next calibration.

(e) When measuring or test equipment is found to be out of calibration, measures are taken and documented to determine the validity of previous inspections performed since the last valid calibration.

(f) Calibration standards have an uncertainty (error) of no more than 1/4 of the tolerance of the equipment being calibrated, unless limited by the "state-of-the-art."

(g) A complete status of all items under the calibration system is recorded and maintained.

(h) Reference and transfer standards are traceable to nationally recognized standards; or, where national standards do not exist, provisions are established to document the basis for calibration.

17.2.13 HANDLING, STORAGE, AND SHIPPING

OQA Program documents list those managers responsible for the handling, preserving, storing, cleaning, packaging and shipping of materials, parts and components; and, describes their authorities and methods for meeting the quality requirements.

Procedures control each functional unit's activities and assure compliance with the quality requirements contained in drawings, specifications and procurement documents. These requirements include those necessitated by the design, as outlined in the design output documents, and those submitted by the supplier. These procedures provide control to prevent damage and loss or deterioration by environmental conditions, such as temperature or humidity, and specify the personnel qualifications required to accomplish the activity satisfactorily.

Consumables such as chemicals, reagents, weld rod, lubricants, etc. shall be stored in accordance with manufacturer's instructions or other approved methods to prevent harmful deterioration of the item. Materials with an identified shelf life shall be controlled such that they are used or discarded prior to expiration date.

17.2.14 INSPECTION, TEST, AND OPERATING STATUS

OQA Program documents list those managers responsible for the development and implementation of procedures to assure that the inspection, test, and operating status of structures, systems, and components is properly identified and controlled.

These procedures incorporate the following provisions:

(a) The inspection, test, and operating status of structures, systems, and components is identified to the affected parties.

(b) Application and removal of inspection and welding stamps and status indicators, such as tags, markings, labels, and stamps are procedurally controlled.

(c) Methods for altering the sequence of required inspections, tests, and other critical operations are controlled through documented functional unit procedures.

(d) The status of nonconforming, inoperative, or malfunctioning structures, systems or components is identified to prevent their inadvertent use.

17.2.15 NONCONFORMING MATERIALS, PARTS OR COMPONENTS

OQA Program documents list those managers responsible and their methods for handling nonconforming materials, parts, components, or services. Procedures control the identification, documentation, segregation, review, disposition, and notification to affected organizations of nonconforming materials, parts, components, or services.

Materials, parts, components or services which do not meet established drawing, specification, or workmanship requirements, are identified as nonconforming and documented. Nonconforming items are identified as discrepant and segregated from acceptable items until they are properly dispositioned.

The manager of each functional unit is responsible for the review and disposition of nonconforming items which fall under the scope of responsibility of that manager. The manager is also responsible for notifying or obtaining input from other functional units who may have a specific interest in the nonconforming item.

Documentation related to the identification, disposition and correction of nonconformances is maintained in accordance with Subsection 17.2.17.

Documentation pertaining to nonconforming items or services shall include the details of the nonconformance, the disposition, and the approval signature(s).

Acceptability of rework or repair of materials, parts, components, systems, and structures is verified by re-inspecting and re-testing the item by a method which is the same as or comparable to the original inspection and test and in accordance with written procedures.

Inspection, testing, rework, and repair procedures are documented. Vendor nonconformance reports written against PP&L procurement requirements and dispositioned "accept as is" or "repair" are made part of the inspection records and forwarded with the hardware to PP&L for review and assessment.

Nonconformances are periodically analyzed for quality trends, and the results are reported to management for review and assessment.

17.2.16 CORRECTIVE ACTION

PP&L's OQA Program establishes the requirements for controlling conditions adverse to quality (such as nonconformances, failures, malfunctions, deficiencies, deviations, and defective material and equipment).

Conditions adverse to quality are promptly identified, reported, evaluated, corrected and documented. OQA Program documents identify the methods used and personnel responsible for these activities.

Conditions adverse to quality are identified and reported to the appropriate levels of management of the affected organizations. The responsible organization evaluates the conditions to determine if they are significant conditions adverse to quality and to determine the corrective action required.

If significant conditions adverse to quality are detected, the cause of the condition and the corrective action taken are reported to the appropriate management levels of affected home office organizations, plant staff and quality assurance for review and assessment.

The corrective action for conditions adverse to quality shall correct the specific conditions. For conditions determined to be significant, the corrective action provides measures to correct specific conditions and preclude recurrence.

The responsible organization shall implement the corrective action and document the details of the conditions including their resolution.

Follow-up action is conducted to determine that the required corrective action has been completed and that the corrective action documentation has been closed out.

17.2.17 QUALITY ASSURANCE RECORDS

Consistent with ANSI N45.2.9-1974, as

A QA record system, detailed in OQA Program documents, has been established by PP&L which assures that records are identifiable, retrievable and that sufficient records are maintained to provide documentary evidence of the quality of items and services. The system assures that requirements and

responsibilities for record transmittal, retention (such as duration, location, fire protection and assigned responsibilities) and maintenance, subsequent to completion of work, are consistent with applicable codes, standards and procurement documents. QA records include:

(a) Plant Historical Records

(b) Operating Logs

(c) Principle Maintenance and Modification Activities

(d) Reportable Occurrences

(e) Results of Independent Reviews, (e.g., Plant Operations Review Committee or Susquehanna Review Committee), Inspections, Tests, Audits and Materials Analysis

(f) Monitoring of Work Performance

(g) Qualification of Personnel, Procedures and Equipment

These records also include other documentation such as drawings, specifications, procurement documents, calibration procedures and reports, nonconformance reports, and corrective action reports.

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Each manager is responsible for developing procedures which control the origination and transmittal of QA records within that functional unit. Each manager is responsible for transmitting QA records to the storage location designated for that record.

PP&L record storage facilities are constructed, located, and secured to prevent destruction of the records by fire, flooding, theft, and deterioration by environmental conditions such as temperature or humidity.

17.2.18 AUDITS

Subsection 13.4.29

The PP&L audit program requires the planning, performing, documenting, and evaluating of audits. It assures compliance with license commitments, OQA Program requirements, ~~Technical Specifications~~, and other applicable requirements. It also assures that corrective measures are taken in response to audit findings to resolve the original problem and minimize the probability of its recurrence. FSAR

Audits of selected operational phase activities are performed by NAS. These audits include areas which require

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

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

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

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

c. All reportable events.

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

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

f. Records of radioactive shipments.

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

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

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

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

b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.

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

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

e. Records of transient or operational cycles for those unit components identified in FSAR Table 3.9-1 and Technical Specification 5.5.5.

f. Records of reactor tests and experiments.

g. Records of training and qualification for current members of the unit staff.

h. Records of inservice inspections and tests performed pursuant to Technical Specifications 5.5.6 and Inservice Inspection (ISI) Program.

i. Records of Quality Assurance activities required by the Operational Quality Assurance Manual.

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

k. Records of meetings of the PORC and the SRC and records of reviews conducted in accordance with FSAR Subsection 13.4.1 and FSAR Subsection 13.4.2.

l. Records of service lives of all snubbers required by Inservice Inspection (ISI) Program including the date at which the service life commences and associated installation and maintenance records.

m. Records of analyses required by the Radiological Environmental Monitoring Program

implementation of 10CFR50, Appendix B. These areas include activities associated with:

(a) t Operation, Maintenance and Modification.

(b) Preparation, Review, Approval and Control of signs, Specifications, Procurement Documents, Instructions, Procedures and Drawings.

(c) Receiving and Plant Inspections.

(d) Indoctrination and Training Programs.

(e) The Implementation of Operating and Test Procedures.

(f) Calibration of Measuring and Testing Equipment.

FSAR Subsection 13.4.2.9 →

Audits are regularly scheduled based on the status and safety importance of the activity. Audits are also scheduled according to the requirements of ~~Section 6 of the Technical Specification~~. The audit schedule assures proper coverage of all applicable activities. Additionally, the audit program provides for scheduling audits which can be conducted on short notice to respond to specific quality problems.

Audits are structured with a sufficiently defined scope to permit objective evaluation of the activity observed. Quality-related practices, procedures, and instructions are audited to measure both the effectiveness of their implementation and their conformance to OQA Program requirements.

The audit process is conducted according to procedures which require that a written audit plan be prepared. The audit plan ensures the proper scope, team preparation, and depth of coverage. The audit process includes, as applicable, an evaluation of work areas, activities, processes, and items. Audits include a review of associated documents and records.

Audit teams consist of trained personnel, not directly responsible for the areas audited. Each team shall have a designated leader who is responsible for the planning, conduct, and reporting of the audit.

The auditor qualification program ensures that audit team members are qualified to perform their assigned tasks.

Audit results are documented in a formal audit report which is transmitted to the responsible levels of management.

Audit team leaders, through their supervisors, ensure that responsible management takes necessary action to correct deficiencies noted, and provide a basis for preventing their recurrence. Team leaders verify, either through review of documentation resulting from corrective action, or if necessary, re-audit, that deficiencies have been properly corrected.

Formal audit reports are reviewed by NAS Management to determine the effectiveness of the OQA program, and indications of quality trends. If additional management action is required, the results of these reviews are formally reported to the appropriate manager of the responsible organization.