Enclosure #27

EAP 3.1

STONE & WEBSTER ENGINEERING CORPORATION

ENGINEERING ASSURANCE PROCEDURE

TITLE	REVISION: 2 DATE: 9/24/84 PAGE 1 OF 1
VERIFICATION OF NUCLEAR POWER PLANT DESIGNS	
APPLICABILITY SEE BASIC EAP	**SUPERSEDES**
CONCURRENCE	**APPROVAL** W M Eibert CHIEF, ENGINEERING ASSURANCE

CHANGE NOTICE NO. 5

1.0 PURPOSE AND SCOPE

This change is issued to reflect the transfer of the Operational Design Review (ODR) Group from Operations Services Division to Advisory Operations Division.

2.0 CHANGE

2.1 Remove and discard all pages of EAP 3.1, Rev. 2, Change Notice No. 4, presently contained in the EA Manual.

2.2 Insert the attached copy of EAP 3.1 into the EA Manual.

2.3 File this Change Notice in front of EAP 3.1.

EAP 3.1

STONE & WEBSTER ENGINEERING CORPORATION

ENGINEERING ASSURANCE PROCEDURE

TITLE	REVISION: 2
VERIFICATION OF NUCLEAR POWER PLANT DESIGNS	DATE: February 8,1977
	PAGE 1 OF 7

APPLICABILITY	SUPERSEDES
SEE PROJECT APPLICABILITY SHEET ATTACHMENT 6.1	EAP 3.1, Rev. 1

CONCURRENCE	APPROVAL
[signatures]	[signature] SR. ENGINEERING MANAGER

1.0 PURPOSE AND SCOPE

1.1 To establish the requirements for verification of SWEC nuclear power plant designs.

1.2 The requirements of this EAP apply to all SWEC QA Category I designs.

2.0 GENERAL

2.1 Verification of nuclear power plant designs shall be accomplished by "independent objective review" of key design documents. The purpose of this review is to verify the adequacy of design by substantiating that the design inputs have been correctly selected, and that the design meets the specified inputs.

2.2 Definitions

2.2.1 Independent Objective Review (verification) - A review performed according to this EAP by individuals or groups having no direct or immediate supervisory responsibility for developing the design. This review is performed on "key design documents" in addition to the conformance review required for each document type by the applicable EAP.

2.2.2 Key Design Documents - Those design documents that establish design criteria, describe the design approach or otherwise define the design to the detail necessary to allow preparation of final design output documents. These documents are identified by type in Table I, paragraph 4.0 of this EAP.

2.2.3 Conformance Review - A review of design documents, required by the applicable EAPs, prior to the issue of a document. This review is performed by individuals, other than the preparer who are competent in the concerned discipline and normally includes the originator's supervisor and other individuals responsible for preparation of the design. This review is a required portion of SWEC's design control program but does not constitute a means of meeting the requirements of this EAP for verification of nuclear power plant designs.

2.3 Verification of a power plant design is performed in the following general sequence:

a. Verification is initiated by independent objective review of the key design documents that first identify the design requirements that apply to the Project and the design approach developed to satisfy these requirements. These first key design documents are normally the System Descriptions issued for a Project. When a Project schedule requires preparation of a PSAR before issue of Project System Descriptions, independent objective review of the PSAR is the first step in verification of the plant design.

b. Succeeding lower level key design documents, issued as the design is developed, are subjected to independent objective review to assure that:

- Requirements established by the previously verified key documents have been met.

- Design information added to further define the design is verified according to this EAP.

c. Independent objective review of the remaining key design documents issued by the Project is conducted as in b. above. The chart included as Attachment 6.2 to this EAP shows typical relationships between key design documents. This chart is for illustrative purposes only and does not represent mandatory prerequisities in the design process.

2.4 Independent objective review shall consist of addressing the questions listed in Attachment 6.3 as they apply to the key design document being reviewed.

2.5 The depth of an independent objective review may range from a review of all aspects of the design, including all supporting documentation, to a review limited to such items as the design approach and the adequacy of the results obtained. The depth of a review shall be determined by the responsible individual or group (as identified in Table I) based on:

- Importance to safety.
- Complexity of the design.
- Degree of standardization and similarity to previously proven designs.
- Degree of design completion shown by the document being reviewed. CH.1

3.0 PROCEDURE

NOTE: This section of the EAP does not apply to calculations (see EAP 5.3). CH.2

3.1 Each Project shall submit the key design documents identified in paragraph 4.0 to the individuals or groups shown as responsible for independent objective review. Upon request by the reviewer, the Project shall also provide a summary of governing and supporting documents used as input to the key design document, including when necessary, identification of data sources and bases for assumptions. Identification may be by reference, description, or inclusion of copies.

3.2 The individuals or groups identified in paragraph 4.0 as responsible for independent objective review shall conduct their review to ensure that all applicable questions listed in attachment 6.3 have been addressed. Reviewers assigned to perform independent objective review shall be competent in the concerned disciplines and shall have no direct or supervisory responsibility for the design being verified.

3.3 Independent objective review, based upon the factors identified in 2.5, may range from a review performed by an individual, to a review meeting initiated by the responsible individual or group to obtain the participation of other disciplines or groups.

3.4 Standard Key Design Documents

3.4.1 Key design documents prepared as standards for SWEC use shall be prequalified by an independent objective review by the individual or group indicated as responsible (by document type) in Table I.

3.4.2 Project documents prepared by adopting prequalified standard design documents, with no changes other than editorial changes, in accordance with the following EAP's will not require independent objective review.

- Project specifications prepared from prequalified master specifications according to EAP 4.12. CH.3

- Project documents that duplicate prequalified standard design documents (e.g., System Descriptions prepared for a SWEC Reference Plant) according to EAP 2.8.

3.4.3 When changes, other than editorial changes, from a prequalified design document are required to meet the requirements of the Project, the Project document will require independent objective review.

3.5 Duplication of Key Documents from Another Project

3.5.1 Project key design documents prepared as duplicates of documents from another Project shall not require independent objective review provided that:

- The document being duplicated has been subjected to independent objective review and:

- The document is adopted by the new Project as an "exact duplicate" according to EAP 2.8.

3.5.2 When changes, other than editorial changes, from the document being duplicated are required to meet the requirements of the new Project, the new document shall require independent objective review.

3.6 Documentation

3.6.1 Satisfactory completion of independent objective review shall be documented by the responsible individual's signature or initials on the document as indicated by Table I. The reviewer shall print the letter "I" following his signature or initials, except that the "I" is not required if the document title page or title block provides a space identified as "independent reviewer" for the reviewer's signature or initials. Independent CH.1

objective review of specifications shall be documented according to EAP 4.7, 4.12, or 4.13 as applicable. CH.3

3.6.2 The individual responsible for independent objective review shall ensure that his comments have been resolved before approving the document. The individual's approval on the document indicates fulfillment of his responsibility for independent objective review as assigned by this EAP.

3.6.3 Independent objective review by Boston office personnel of key design documents prepared by an Operations Center or SWEC-NY may be documented according to EAP 5.20.

3.6.4 When independent objective review includes a meeting initiated by the responsible individual to obtain participation by other disciplines or groups, the results of the meeting shall be documented, distributed to the cognizant Division and Project personnel, and maintained on file by the individual responsible for the review.

4.0 KEY DESIGN DOCUMENTS

4.1 Table I identifies key documents by type, the EAPs that apply to preparation, the individuals or groups responsible for independent objective review and the methods of documenting approval to indicate satisfactory completion of independent objective review.

TABLE I

DOCUMENT TYPE	EAP	RESPONSIBLE FOR INDEPENDENT OBJECTIVE REVIEW	METHOD OF DOCUMENTATION	
System Descriptions	3.7	Operational Design Review (ODR) Group, Advisory Operations Div.	Sign title page*	CH.5
Technical Topical Reports	2.6	Reviewer designated by EAP 2.6	Approve "Approval Slip" per EAP 2.6*	CH.3
Preliminary Safety Analysis Report (See Note)	2.9, 2.10	Division Licensing Representative	Approve Review/Approval Slip per EAP 2.9, or Change Request Form per EAP 2.10*, as applicable	CH. 1&2 CH.3
Conceptual Dwgs • Site Plan • Plot Plan • Gen. Arrangements	5.17	ODR Group, Advisory Operations Division	Initial drawing*	CH.5
Flow Diagrams	5.9, 5.16	ODR Group, Advisory Operations Division	Initial diagram*	CH.5
Logic Diagrams	5.10	ODR Group, Advisory Operations Division	Initial diagram*	CH.5
One-Line Diagrams.	5.13	Reviewer designated by Chief Engineer, Electrical Division	Initial diagram*	CH.2
Electrical Design Criteria	5.21	Electrical Division Specialist	Sign title page*	
Structural Design Criteria	5.19	Reviewers designated according to EAP 5.19	Sign title page*	CH.1
Master Specifications	4.12	Reviewer designated according to EAP 4.12	Per EAP 4.12	CH.3
Project Specifications	4.13	Reviewer designated according to EAP 4.13	Per EAP 4.13	CH.3
Design Specifications for Structural Support and MC Components	4.7	Reviewer designated according to EAP 4.7	Per EAP 4.7	CH.1
Calculations	5.3	Reviewer designated according to EAP 5.3	Per EAP 5.3	CH.2

*The letter "I" shall be printed following the reviewer's signature or initials, unless the title page or block provides identification as "independent reviewer" (refer to Paragraph 3.6.1). CH.1

NOTE: The PSAR is a "key design document" only when it is the first documentation of the design inputs (see Attachment 6.2). In this case, the PSAR remains a "key design document" only until subsequent documents are issued to record this information. CH.1

5.0 REVISIONS TO KEY DOCUMENTS

NOTE: This section of the EAP does not apply to calculations (see EAP 5.3).

5.1 When a document subjected to independent objective review is revised, the proposed revision shall be resubmitted for approval to the individual or group designated by Table I.

5.2 The individual, or representative of the group shall review the proposed change to determine its effect on the design as previously verified.

The depth of the independent objective review may range from a determination that the changes do not affect the design and that therefore, the previous verification is still valid, to a detailed review of the changes to the extent necessary to verify the change and its effect on the total design. Approval shall be indicated according to paragraph 3.6. CH.1

6.0 ATTACHMENTS

6.1 Project Applicability Sheet

6.2 Flow Chart

6.3 List of Review Questions

PROJECT APPLICABILITY SHEET

NUCLEAR PROJECTS COMMITTED TO REVISION 1 OR REVISION 2 TO REGULATORY GUIDE 1.64

All initial issues of and subsequent revisions to key design documents shall be subject to independent objective review according to the requirements of this EAP. For calculations, the applicable portions of this EAP and independent objective review requirements contained in EAP 5.3 shall be applied to initial issues and all subsequent revisions. CH.4

ALL OTHER NUCLEAR PROJECTS EXCEPT SHOREHAM 1 (J.O. No. 11600)

All initial issues of key design documents issued after February 8, 1977, shall be subject to independent objective review.

Subsequent revisions to all key design documents, other than calculations, which contain a change in design concept shall be subject to independent objective review. This review shall be limited to that portion of the design being changed. Revisions that do not involve a change in design concept shall be reviewed, approved, and issued in accordance with applicable EAPs. CH.4

For calculations, the applicable portions of this EAP and independent objective review requirements contained in EAP 5.3 shall be applied to initial issues and all subsequent revisions.

NOTES

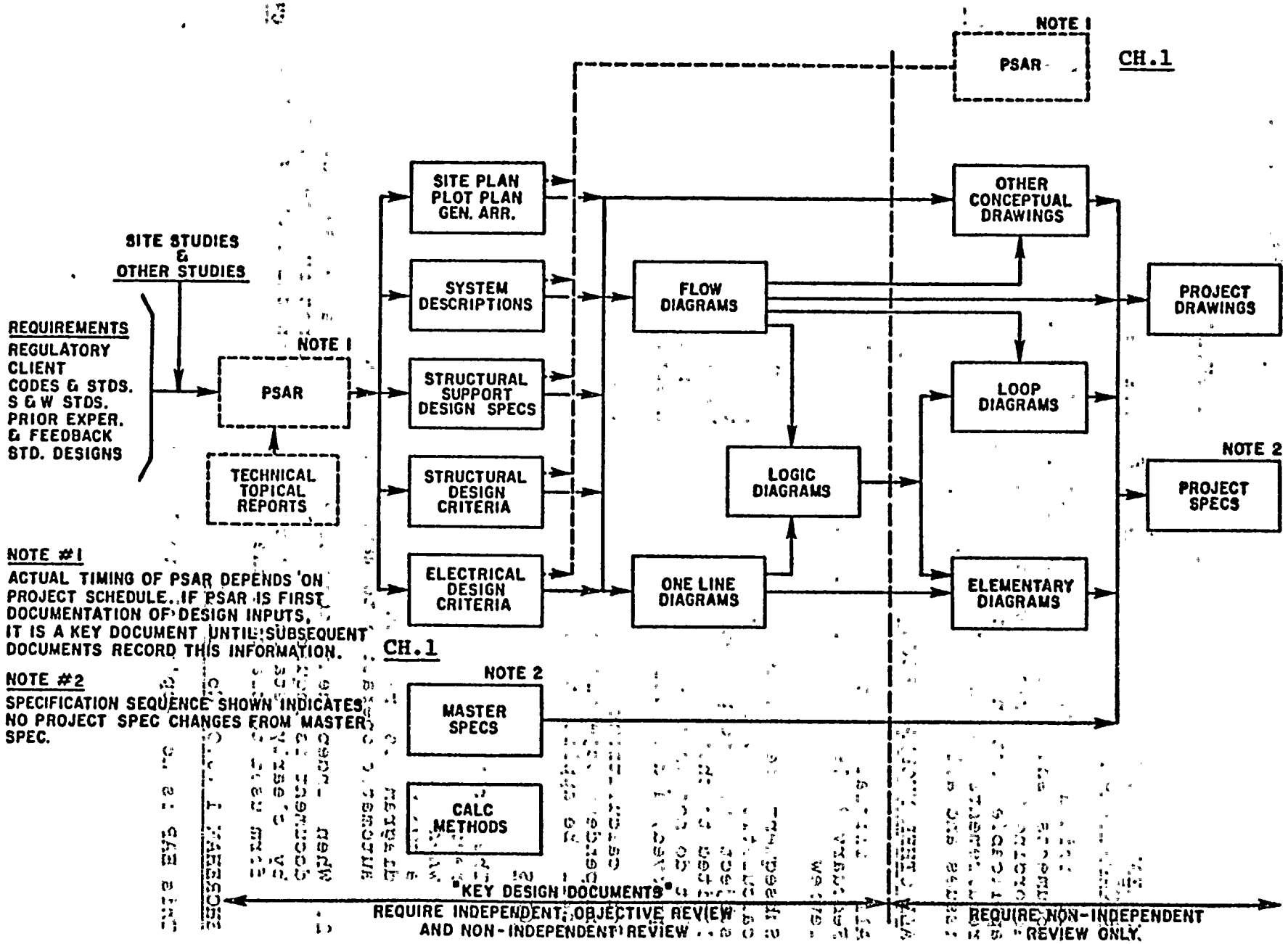
1. The Project Engineer is responsible for determining if a revision involves a change in design concept as, for example, when a flow diagram is revised to change a fluid system from a two pump system to a three pump system, or when a logic diagram is revised to change the pump control logic from automatic operation to manual operation.

2. When independent objective review of a revised key design document is required, the Project shall notify the reviewer by clearly stating this requirement on the routing slip or form used to transmit the document. CH.1

SHOREHAM 1 (J.O. No. 11600)

This EAP is not applicable to Shoreham 1.

ENGINEERING AND DESIGN CONTROL



NOTE #1

ACTUAL TIMING OF PSAR DEPENDS ON PROJECT SCHEDULE. IF PSAR IS FIRST DOCUMENTATION OF DESIGN INPUTS, IT IS A KEY DOCUMENT UNTIL SUBSEQUENT DOCUMENTS RECORD THIS INFORMATION.

NOTE #2

SPECIFICATION SEQUENCE SHOWN INDICATES NO PROJECT SPEC CHANGES FROM MASTER SPEC.

QUESTIONS TO BE ADDRESSED AS APPLICABLE DURING INDEPENDENT, OBJECTIVE REVIEW OF KEY DESIGN DOCUMENTS

1. Question: Were the inputs correctly selected and incorporated into the design?

   SWEC Interpretation: Were the inputs (design requirements and design criteria) correctly selected and incorporated in the design document being reviewed?

   Example: Review of a System Description (for a fluid system) shall ensure that redundancy requirements are correct. Review of Flow Diagrams for this system shall ensure that the redundancy requirements, as listed in the System Description, have been incorporated into the Diagram.

2. Question: Are assumptions necessary to perform the design activity adequately described and reasonable? Where necessary, are the assumptions identified for subsequent reverifications when the detailed design activities are completed?

   SWEC Interpretation: Are assumptions necessary to perform the design activity adequately described and reasonable? Are the assumptions which need to be confirmed at a later date identified?

   Example: Review of Calculations shall ensure that assumptions on which the calculations were based were properly identified, adequately described, and reasonable.

3. Question: Are the appropriate quality and quality assurance requirements specified?

   SWEC Interpretation: Are the appropriate technical and quality assurance requirements specified?

Example: a. Technical Requirements

Review of a Specification for a pump shall ensure that technical requirements such as: "The design temperature and pressure shall apply to all pressure containing parts of the pump," are incorporated.

b. Quality Assurance Requirements

Review of a Specification for a fabricated tank shall ensure that mill test reports are checked for adherence to material specifications.

4. Question: Are the applicable codes, standards, and regulatory requirements, including applicable issues and addenda properly identified and are their requirements for design met?

SWEC Interpretation: Are the applicable codes, standards, and regulatory requirements, including applicable issues of these documents properly identified, and correctly reflected in the design document being reviewed?

Example: Review of a System Description for an electrical system shall ensure that applicable codes, standards, and regulatory requirements are listed in the System Description. Review of Preliminary One-line Diagrams for this system shall ensure that codes, standards, and regulatory requirements, listed in the System Description which call for redundancy, etc, are correctly reflected in the Diagram.

5. Question: Have applicable construction and operating experience been considered?

SWEC Interpretation: Same

Example: Review of a General Arrangement Drawing shall ensure that applicable operating experience has been considered. For example, from

experience in the field, it has been found necessary to design a platform (at an optimum height) in the containment building. This is to facilitate access of maintenance personnel in the periodic in-service inspection (ISI) of the steam generator tubes, in order to reduce radiation exposure to personnel.

6. Question: Have the design interface requirements been satisfied?

SWEC Interpretation: Has the design provided for required interface with other systems, components, or structures?

Example: Review of a System Description for a fluid system shall ensure that interface design conditions with other fluid systems, such as flow rate, temperature rise, etc, are specified when heat transfer is involved.

7. Question: Was an appropriate design method used?

SWEC Interpretation: Same.

Example: Review of a structural Calculation, for sizing structural members, shall ensure that an appropriate calculational method was used.

8. Question: Is the output reasonable compared to inputs?

SWEC Interpretation: Is the output (design document being reviewed) reasonable compared to input (design requirements and design criteria)? This requires an overview as opposed to detail checking.

Example: Review of Flow Diagrams shall ensure that e.g., the size of piping in the Diagram for a given flow rate, temperature, etc, of the medium being carried, is reasonable, based on the reviewer's experience.

9. Question: Are the specified parts, equipment, and processes suitable for the required application?

SWEC Interpretation: Same

Example: Review of Flow Diagrams shall include an overview to ensure that the types of valves specified are adequate, e.g., globe versus gate.

10. Question: Are the specified materials compatible with each other and the design environmental conditions to which the material will be exposed?

SWEC Interpretation: Are the specified materials compatible with each other and will they adequately withstand the design environmental conditions to which the material will be exposed?

Example: Review of Specifications shall ensure that specified materials are compatible with each other with respect to minimizing galvanic corrosion, etc, and will adequately withstand environmental conditions such as wet steam in piping.

11. Question: Have adequate maintenance features and requirements been specified?

12. Question: Are accessibility and other design provisions adequate for performance of needed maintenance and repair?

SWEC Interpretation of 11 and 12:

a. Have adequate maintenance features been specified?

b. Have provisions been made to ensure that necessary maintenance and repair can be performed?

Example of 11 and 12:

a. (above) Review of a System Description shall ensure that the items within the system that require provisions for maintenance have been identified, e.g., pumps, valves.

(above). Review of a System Description shall ensure that adequate provisions have been made for necessary maintenance and repair of the equipment. Such factors as accessibility of the equipment, valving to aid removal of the equipmnent in the case of pumps, redundancy for maintenance purposes, etc, should be considered.

13. Question: Has adequate accessibility been provided to perform the in-service inspection expected to be required during the plant life?

SWEC Interpretation: Have adequate accessibility requirements been specified so that in-service inspection expected to be required during the plant life can be performed?

Example: Review of a System Description shall ensure that adequate accessibility (space) requirements have been specified for in-service inspection of the equipment, etc.

14. Question: Has the design properly considered radiation exposure to the public and plant personnel?

SWEC Interpretation: Same

Example: Review of a General Arrangement Drawing shall ensure that adequate consideration has been given to shielding public and plant personnel from radiation by use of concrete walls, etc.

15. Question: Are the acceptance criteria incorporated in the design documents sufficient to allow verification that design requirements have been satisfactorily accomplished?

SWEC Interpretation: Same

Example: Review of a Specification for equipment shall ensure that sufficient acceptance criteria is contained in the specification so that compliance with design requirements can be ensured such as performance data (flow rate, etc) in the case of pumps.

16. Question: Have adequate preoperational and subsequent periodic test requirements been appropriately specified?

SWEC Interpretation: Same.

Example: Review of a System Description shall ensure that periodic tests required of the system have been specified so that the provisions, e.g., pressure taps, etc, for performing the testing are provided in the design.

17. Question: Are adequate handling, storage, cleaning, and shipping requirements specified?

SWEC Interpretation: Same

Example: Review of a Specification shall ensure that the "Standard Technical Requirement" selected for cleaning of a fabricated assembly is suitable for the application, e.g., will not result in entrapment of corrosive residues.

18. Question: Are adequate identification requirements specified?

SWEC Interpretation: Are adequate requirements specified for identification of materials, components, and equipment?

Example: Review of a Specification shall ensure that the marking requirements (including the marking method) specified for the item are adequate to provide identification and permit traceability to required records (e.g., adequate information on equipment nameplate, marking of component serial number).

19. Question: Are requirements for record preparation, review, approval, retention, etc., adequately specified?

SWEC Interpretation: Same

Example: Review of a Specification shall ensure inclusion of requirements for preparation and retention of records necessary to provide objective evidence that the item has been processed, inspected, or tested by the supplier in accordance with specification requirements.

The following is a telecopy from INPO to NMPC describing the status on the NPRDS and SEE-IN program enhancements:

NUTAC GENERIC LETTER 83-28 SECTION 3.2.1

Pg. 17, 3.2.1 ENHANCEMENTS TO NPRDS

- The present definition of component in NPRDS (extracted from IEEE 603-1980) is more applicable to electrical components. The definition should be improved to describe mechcanical components better.

- STATUS

The Component Boundary Working Group of the NPRDS Users Group has developed component boundary definitions. Their guidance will appear in Revisions 2 and 3 of the Reportable Scope Manual.

- The present failure reporting guidance needs improvement in the following areas:

  — Guidance is needed to provide better information for analyzing the role of piece parts as a factor in causing component failures.

  — The guidance should be revised to indicate that utilities should supply information when inadequate vendor information is identified as a causal or contributing factor in a failure. The guidance should provide users of the data base the ability to retrieve readily those failures involving inadequate vendor information (example, key work sorting, coding).

  — Present failure reports are often sketchy in providing details of the failure analysis conducted by utilities. The guidance should emphasize the importance of providing more complete results of failure analysis when one is conducted. Although detailed failure analyses are not always conducted for every failure, when they are conducted they should be provided in NPRDS failure reports. In this way, the SEE-IN Program and other utilities can derive more benefit from the work of each utility.

STATUS

The Reporting Procedures Manual has been revised to contain guidance on identifying inadequate vendor information. An audit process has been implemented wherein each incoming failure report is reviewed before insertion into the data base. This review includes the adequacy of the narratives in identifying inadequate vendor information and providing details of the failure analysis conducted. This information is readily retrievable by test searches of the narratives.

[illegible]

o Utilities should develop internal methods to ensure that [illegible] reports are clear and complete and that the reports [illegible] followed appropriately.

STATUS

The NPRDS [illegible] utilities failure reports that are not clear and complete. [illegible] are received with [illegible] before they can be accepted into the data base.

o For some failures it may not be possible for utilities to provide a complete failure description within the time frame. For reporting to NPRDS, Utilities should still submit preliminary failure reports within the established time frame. Utilities should revise these reports when the necessary information is available. However, the present system does not provide methods for utilities to indicate that reports will be revised later. NPRDS should be modified to permit each utility to readily identify which of their reports still require follow-up information. Utilities should report a failure event promptly and indicate an initial analysis. Detailed and complete information should be provided in a timely manner once it is [illegible].

STATUS

During [illegible], an incoming failure report may be accepted with [illegible] in the narrative that the failure analysis is incomplete [illegible] be updated later. The utility has the capability to revise [illegible] failure report at a later date and revise the narrative [illegible] as many times as desired.

o The [illegible] NPRDS reporting may not [illegible] the needs of [illegible] systems and components should request that [illegible] accept these systems. INPO will consider these requests, identify the additional reporting requirements needed to handle these requests, and notify utilities when it is able to accept additional information.

STATUS

INPO has developed a procedure for receiving, evaluating, and responding to such requests.

NUTAC GENERIC LETTER 83-28 SECTION 2.2.2

Pg. 19, 3.2.2 ENHANCEMENTS TO SEE-IN UPDATE

- "Reports should be generated for potential failures caused by faulty or missing vendor-supplied information or other ETI. The VETIP recognizes that the utility will uncover errors in ETI (e.g., during review of the information, writing of instructions, testing, etc.) before anyone else. It is recommended that test equipment technical information faults be reported over NUCLEAR NETWORK for review by INPO under the SEE-IN program".

STATUS

There were over 200 operating experience messages entered into NUCLEAR NETWORK by the utilities in 1984. Many of these involved early notification to the industry of problems involving component failures, equipment testing and maintenance problems. Also, INPO accesses the NRC computer in Bethesda each working day to determine plant status information including scrams and 50.72 reports, and relays the highlights of this information to the industry via NUCLEAR NETWORK. These reports, along with the other SEE-IN reports and NPRDS, generally keep the utilities up-to-date on current information regarding testing, maintenance and design problems with components, often well in advance of information supplied to utilities by the affected vendors.

- "The SEE-IN Program should be broadened by INPO to improve the ability to trend NPRDS data. Present methods of trending are largely qualitative and subjective in nature. They depend largely on the ability of analysts to recognize the need to look for degrading or unacceptable system and component reliability. INPO should develop methods to use NPRDS in a more quantitative fashion to detect trend problems. This enhancement is presently under development by INPO."

STATUS

Upon receipt by INPO, each NPRDS failure report is prescreened by computer. The computer prescreening is based on selected fields that are coded by the utility, (one of these is failures reported to manufacturer) to indicate the effect of the failure on the system in which it occurred and on the entire plant. Those failure reports selected by this prescreening are assigned for review according to the plant that originated the report.

In addition to the above screening of individual failure reports, a quarterly screening is performed on all failure reports after they have been sorted according to the components involved. Each INPO reviewer is assigned a selected set of components and, at the end of each quarter, screens all the failure reports for each type of assigned component. The purpose of this screening is to identify significant trends in a particular type of component failure.

- Utilities should develop internal methods to ensure that their NPRDS reports are clear and complete and that the program guidance is followed appropriately.

STATUS

The INPO audit identifies failure reports that are no clear and complete. Discrepancies are resolved via telephone with the reporter before the report can be accepted into the data base.

- For some failures it may not be possible for utilities to provide a complete failure description within the time frames for reporting to NPRDS. Utilities should still submit preliminary failure reports within the established time frame. Utilities should revise these reports when the necessary information is available. However, the present system does not provide methods for utilities to indicate that reports will be revised later. NPRDS should be modified to permit each utility to readily identify which of their reports still requires follow-up information. Utilities should report a failure event promptly and include an initial analysis. Detailed and complete information should be provided in a timely manner once final analysis has been completed.

STATUS

During the audit process, an incoming failure report may be accepted with a statement in the narrative that the failure analysis is incomplete and will be updated later. The utility has the capability to retrieve that failure report at a later date and revise the narrative. This may be done several times, if desired.

- The present scope of NPRDS reporting may not meet all the needs of individual utilities for monitoring the reliability of their own safety-related components. Each utility that decides that additional systems and components should be added to their basic scope of NPRDS systems and components should request that INPO accept these systems. INPO will consider these requests, identify the additional resource requirements needed to handle these requests, and notify utilities when it is able to accept additional information.

STATUS

INPO has developed a procedure for receiving, evaluating, and responding to such requests.

[illegible] forts [illegible] for potential failures [illegible] used [illegible] information to [illegible] recognized [illegible] will uncover errors. In [illegible] review [illegible] of instrumentation [illegible] setting of incorrect [illegible] settings, at [illegible] before [illegible] recommended that test equipment calibration [illegible] information [illegible] NUCLEAR NETWORK for review by INPO [illegible] program [illegible]

STATUS

There were over 250 operating experience messages entered into [illegible] NUCLEAR NETWORK [illegible] in 1983. Many of these involved [illegible] industry of problems involving component failures, equipment testing and maintenance [illegible]. Also, INPO [illegible] reviews the [illegible] information [illegible] NETWORK [illegible] these reports [illegible] along with the [illegible] often [illegible] supplier [illegible] affected [illegible]

"The SEE-IN [illegible] processed [illegible] ability to [illegible] Present methods [illegible] are largely qualitative [illegible] in nature [illegible] recognize [illegible] component [illegible] reliability [illegible] problems [illegible]

DETAILS

Upon [illegible] each NPRDS failure report is prescreened by computer [illegible] The computer [illegible] failures reported to [illegible] manufacturer [illegible] screened [illegible] the plant that submitted the report.

In addition to the above screening of individual failure reports, a quarterly [illegible] all failure reports after they have been screened [illegible] components involved. The INPO reviewer [illegible] each [illegible] type of [illegible] significant [illegible] in a pattern [illegible]

NUTAC GENERIC LETTER 83-28 SECTION 2.2.2

We are also developing an automated screening program for application to NPRDS component failure identification fields. These include combinations of NPRDS component, engineering, manufacturer, system, application and unit fields. The NPRDS screening program will be used to identify significant component failure trends. Significant failure rates identified by the computer screening will be investigated and analyzed further by INPO personnel. Results will be disseminated to the industry by INPO for generic component performance problems and to specific utilities regarding individual plant performance concerns.