U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

Report No. 99900401/80-01 Program No. 51100

Company: Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095

Inspection Conducted: April 8-10, 1980

Inspectors: C J Hale /for 5-1-80
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C. J. Hale, Chief Date
Program Evaluation Section
Vendor Inspection Branch

Summary

Inspection conducted on April 8-10, 1980 (99900401/80-01)

Areas Inspected: Implementation of 10 CFR 21 and 10 CFR 50, Appendix B in the area of design process management, training, and action on previous inspection findings. The inspection involved seventy-two (72) inspector-hours on-site by three (3) NRC inspectors.

Results: In the areas inspected four (4) deviations and one unresolved item were identified.

Deviations: Action on Previous Inspection Findings: Audits reports not issued within the required time (Notice of Deviation, Item I.A.); and corrective action on a previous inspection finding was not taken as committed (Notice of Deviation, Item II.)

Training: Certain quality-related activities are not documented through written operating procedures for the Project Management organization (Notice of Deviation, Item I.B.); and the responsibility for assuring that personnel performing activities affecting quality are suitably trained has not been met by the Project Management organization (Notice of Deviation, Item I.C).

Unresolved Item: Information pertaining to potentially reportable items not available at the facility being inspected (See Details Section I, paragraph C.4.c.).

DETAILS SECTION I

(Prepared by R. H. Brickley)

A. Persons Contacted

E. M. Brown, Manager, Monitoring and Safety Systems
*G. J. Huba, Manager, Engineering QA
*E. H. Kennedy, Licensing Engineer
C. M. Molnar, Senior Analytical Engineer
J. G. Riek, Supervisor, Process Instrumentation
D. L. Sigler, QA Representative, Instrumentation and Controls Engineering
P. L. Yanosy, Supervisor, Protection and Actuation Systems

*Denotes those in attendance at the exit interview.

B. Action on Previous Inspection Findings

1. (Closed) Unresolved Item (Report No. 78-04). Verification had not been completed on two (2) calculations which resulted in input to the CESSAR System 80 FSAR.

   The inspector examined CE Memo PH-SP-256 (QA of Physics data for CESSAR-F ECCS Analysis) dated January 12, 1979, the calculations in question, and found that the verification had been completed.

2. (Closed) Deviation (Report No. 79-02). Some audit reports were not dated as required by procedures.

   The inspector examined the corrective action and preventive measures described in the letter of response dated June 8, 1979, i.e. the two (2) audits were published on January 23, 1979, and the change to procedure QAP 18.1 (Internal Audits) which was issued on June 8, 1979, requiring audit reports to be issued via a letter of transmittal. Additionally the inspector examined the records maintained on eight (8) audits (QAS-79-004 through QAS-79-008) conducted in CY79 for timely issuance of these reports. This examination resulted in a repeat deviation (See Notice of Deviation, Item I.A; also see Report No. 79-01, Notice of Deviation, Item A).

3. (Closed) Deviation (Report No. 79-02). Contrary to procedural requirements two (2) different corrective action reports (CAR) were assigned the same identification numbers.

   The inspector verified the corrective action and preventive measures described in the letter of response dated June 8, 1979, i.e. IOM

(Open CAR Notification) dated March 5, 1979, identifying the person responsible for performing the monthly review of the CAR Log Book, IOM (NRC Inspection 79-02) stating that a monthly CAR Log Book review has been initiated, and the CAR Log Book.

4. (Closed) Deviation (Report No. 79-03). Failure to follow procedures in indicating the QA status and providing evidence of an independent design review on a drawing.

The inspector verified the corrective action and preventive measures described in the letters of response dated September 12, 1979, and October 16, 1979, i.e. Revision 3 to drawing No. E-SYS80-320-367 (Piping Anchors Assy's and Details) dated September 11, 1979, showing the QA status, IOM DPA-368 (NRC Deviation) dated September 12, 1979, from Engineering Management describing the deviation and directing compliance with procedural requirements, IOM PAK-79-038 (NRC Inspection 79-03, Docket No. 99900401) dated October 15, 1979, and IOM PAK-79-055 (NRC Inspection 79-03, Docket No. 99900401) dated November 15, 1979 reporting the results of the drawing review and resultant corrective actions.

5. (Closed) Deviation (Report No. 79-03). Failure to follow procedures in indicating text changes and the revision date on a specification.

The inspector examined the corrective action and preventive measures described in the letters of response dated September 12, 1979, and October 16, 1979 i.e. training records showing that members of the Reactor Auxiliary Components Group had reviewed the requirements of procedure QADP 5.6, an IOM documenting the required corrections to specification SYS80-MD-0311 that will be made at the next technical revision, and IOM-80-116 dated April 8, 1980, documenting the results of the review of all Reactor Auxiliary Components Group specifications to determine the existance of similar deviations. This examination resulted in the identification of a deviation from the commitment contained in CE's letter of response dated October 16, 1979. (See Notice of Deviation, Item II).

C. Compliance with 10 CFR Part 21

1. Inspection Objective

To determine whether Combustion Engineering, Inc. and appropriate responsible officers had established and implemented procedures and other instructions as required to ensure compliance with 10 CFR Part 21 requirements relative to the reporting of defects and noncompliances. Inspector determinations are based on the requirements of 10 CFR Part 21 as clarified by USNRC staff positions in NUREG-0302, Revision 1.

2. Availability and Status of Adopted Procedures and Other Instructions

Summary of Items Subject to Inspection

Each organization, such as Combustion Engineering, Inc., that performs "design" which involves basic components as defined under 10 CFR Part 21 is subject to its regulations. Combustion Engineering, Inc., is also a firm supplying components to a facility regulated pursuant to the Atomic Energy Act of 1954, as amended, or the Energy Reorganization Act of 1974. Combustion Engineering, Inc., and its responsible officer must therefore ensure compliance with the requirements of Part 21 as specified in Section 21.6, for posting; 21.21(a), for procedures; 21.21(b), for notification and written reports to the Commission; 21.31, for the inclusion of appropriate references in procurement documents; and 21.51 for preparation and maintenance of records, sufficient to assure compliance with regulations under Part 21.

As a means to ensure compliance with 21.21(a) regulations, Combustion Engineering, Inc. must establish procedures to provide for the evaluation of deviations not already corrected in all basic components to which it is applicable when knowledge of the deviation is received (QA-22 under NUREG 0302, Revision 1 on Page 21.21(a)-9), or informing purchasers of the deviation so the purchaser may evaluate the deviation. These procedures must also provide for informing a responsible officer within Combustion Engineering, Inc. of any resulting conclusion of a defect or failure to comply.

To ensure compliance with regulations under: 21.6, 21.21(b), 21.41, and 21.51; Combustion Engineering, Inc., may adopt appropriate controls in the form of procedures or other instructions, as necessary, to ensure that the stated regulatory requirements will be implemented as appropriate.

3. Method of Accomplishment

The preceding objective was accomplished by an examination of:

a. Administrative Policy Instructions No. API-17 (Reporting of Safety Hazard) Change 2, dated January 23, 1979; and API-18 (PSG Nuclear Safety Committee) dated January 26, 1978.

b. Quality Assurance Procedure No. QAP 16.3 (Reporting of Safety Hazards) Revision A, dated October 16, 1978, and its Change Notice No. 1 dated June 8, 1979.

c. Quality Assurance of Design Procedure QADP 5.7 (Design Changes and Corrective Action) effective October 1, 1976.

d. Substantial Safety Hazard Report (SSHR) dated January 6, 1978, regarding a Safety Injection Tank for St. Lucie II, S/N 2A2, that was shipped without the required Code Data Report and CE's Certificate of Equipment. The inspector also examined the associated records i.e., an IOM to the Chairman, Nuclear Safety Committee (NSC) dated January 9, 1978, transmitting information for Part III (Action) of the SSHR, and IOM (Meeting of NSC, January 13, 1978) documenting their evaluation and conclusion that the item is not reportable under 10 CFR 21.

e. IOM No. IMS-79-158 (ESF Aux. Relay Cabinet-Procedural Requirements) dated August 9, 1979, and applicable records i.e. NPS Document Distribution/Approval dated August 9, 1979; Nuclear Safety System Review Status Report dated August 15, 1979; IOM ICE-A-3038 (Substantial Safety Hazard) dated August 29, 1979; and CE Memo S-CE-5693 (Potential Fault in ESFAS) dated August 31, 1979, to the Project Management Engineer, SONGS Units 2 and 3 recommending the item be reported under 10 CFR 50.55(e).

f. Corrective Actions - Quarterly Report for the periods October through December 1978; April through June 1979; July through September 1979; and October through December 1979.

g. SSHR (Foxboro Model 226 Electronic Recorder - SONGS 2 and 3) dated September 7, 1979, and applicable records i.e. Foxboro letter (Potential Deficiency Notice per 10 CFR 21 Requirements) to Southern California Edison dated July 23, 1979; IOM IP-79-365 (Foxboro Model 226 Recorder 10 CFR 21 Concern) dated August 30, 1979; and IOM ICE-A-3046 (SSHR) dated September 30, 1979.

h. SSHR dated July 9, 1979, and applicable records i.e. Rosemount letter (Problem with 1153 Series A Pressure Transmitter) to CE dated May 18, 1979; IOM IP-79-331 (Rosemount Model 1153 Series A Pressure Transmitter) dated June 29, 1979; and IOM ICE-A-3042 (Substantial Safety Hazard Report) dated September 6, 1979, concluding that the item is not reportable under 10 CFR 21.

i. Two (2) bulletin boards for posting per the requirements of Section 21.6 of 10 CFR 21.

j. Seven (7) purchase orders for safety related equipment for the inclusion of appropriate references to 10 CFR 21 as required by Section 21.31.

4. Findings

a. General

(1) A total of four (4) items have been submitted by CE personnel under API-17. Of these, two (2) were evaluated and dispositioned by the Department Director as not reportable under 10 CFR 21 and two (2) were referred to the Nuclear Safety Committee where they were evaluated and dispositioned as not reportable under 10 CFR 21.

(2) Instrumentation and Controls Engineering (ICE) identified a potential failure in the Engineered Safety Features Actuation System (ESFAS) circuitry, that could prevent the independent actuation of two or more Engineered Safety Features functions. The postulated failure can be detected by test actuations of the Engineered Safety Features functions, but it cannot be detected using the current normal monthly surveillance tests for the ESFAS. (See paragraph C.3.e above for documents examined).

Two (2) identical cabinets, Trains A and B, are supplied for the ESFAS functions to provide the necessary redundancy. In each cabinet the various ESFAS functions are powered from a common set of power supplies. Separation of the positive and negative leads of these supplies is maintained through the use of conduit within the cabinet. With this method of separation there is a possibility of a short occurring between the positive leads of the various ESAF functions. Depending on the impendance of the short, this may cause the system to fail to actuate when required.

The postulated problem is a short circuit (impedance short) from the actuation logic for one train (A or B) for one ESF function to the actuation logic for the equivalent train (A or B) of another ESF function. Functionally, the short circuit would have to occur somewhere between the manual trip switch and the common high side of the equipment actuation (subgroup) relays. Physically, the short circuit is postulated to be within one of the two Auxiliary Relay Cabinets.

The effect of the postulated failure is that if either one of the affected ESF Functions (but not both) receives a valid actuation signal, the safety equipment associated with the affected train of that function will not actuate. The equipment will not actuate because the equipment actuation relays for the affected train of one of the affected functions will continue to receive power from one trip path of the other affected function through the short circuit. If the affected trains of both of the affected functions are actuated simultaneously, all equipment will actuate.

CE contends that this failure mode in itself will not cause a complete loss of any ESF function. However, because this failure mode is not detectable by current periodic surveillance tests, they have concern that this failure mode could occur and exist for a long period of time during which some other single failure could occur and render one or more ESF functions inoperable.

CE personnel performed a fault tree analysis of this failure mode and recommended a monthly test for this failure as an interim solution. CE has completed a functional design to modify the system such as to provide a method of testing the lower position of each actuation logic circuit for a short circuit without having to actuate the ESF system. (Note: Those plants affected are: Arkansas Power & Light (ANO-2) Docket No. 50-368, Louisiana Power & Light (Waterford-3) Docket No. 50-382, and Southern California Edison (SONGS 2 and 3) Docket No's. 50-361 and 50-362)

The Nuclear Safety Committee concluded that the inability to test for the short circuit during power operation does not constitute a substantial safety hazard under that definition because the probability of its occurrence is judged to be so small relative to be probability of other active parts of the engineered safeguard systems (e.g. relays, valves, pumps) as to have little effect on the over-all probability of failure of one of the systems.

(3) The documents identified in paragraph C.3.g revealed that the Foxboro Model 226 Electronic Recorder is used as a backup indication for all channels except calibration nuclear power where it is the secondary means of indication.

The evaluation and conclusion of the Department Director were that this item is not reportable under 10 CFR 21.

(4) The documents identified in paragraph C.3.h revealed that Rosemount had identified to CE a problem with the lift-off voltage requirement for the 1153 Series-A pressure transmitter. The problem is that under certain operating conditions (i.e. a suppressed zero, a ranged down span, a low input pressure and low ambient operating temperature) the transmitter may not start-up when 12VDC power is applied. The claim is that under worst case conditions it may require as much as 30 VDC to start-up. This problem affects only the start-up of the pressure transmitter. Once the transmitter has been started it will function properly under

the specified conditions with a minimum power supply of 12 VDC. The corrective action to be implemented by Rosemount to resolve the problem is to replace a resistor with a current limiting integraged circuit. The evaluation and conclusion of the Department Director were that this item is not reportable under 10 CFR 21.

b. Noncompliances and Deviations

None identified in this area of the inspection.

c. Unresolved Item

It could not be demonstrated that the Administrative Policy Instruction API-17 (Reporting of Safety Hazards) is sufficient to provide effective implementation of 10 CFR 21 as described in section 21.21(a) i.e. the activities conducted under Quality Assurance of Design Procedure QADP 5.7 (Design Changes and Corrective Action) appear to involve items that have the potential for being reportable, yet nowhere in this procedure is there a reference to 10 CFR 21 or API-17. Furthermore the survey of the Engineering Department revealed only three (3) instances wherein a potential safety hazard was identified and processed per API-17. A future inspection, based on information not readily available during this inspection but contained in various licensee reports and reports submitted to the Reliability and Safety Assurance Section, will be scheduled to resolve this item.

D. Exit Interview

An exit interview was held with management representatives on April 10, 1979. In addition to those individuals indicated by an asterisk in paragraph A of each Details Section, those in attendance were:

E. F. Boudreau, Manager, QA, Technical Services
J. M. Cicerchia, Licensing Engineer
W. R. Corcoran, Director, Systems Engineering
M. R. Etheridge, Vice President, General Services

The inspector summarized the scope and findings of the inspection. In addition the inspector reminded the management representatives that their response to inspection reports should contain the following:

1. Corrective Actions

A description of the steps that have been or will be taken to correct the item, the steps that have been or will be taken to assure that similar items do not exist, and the date these actions were or will be completed.

2. Preventive Measures

A description of the steps that have been or will be taken to prevent recurrence of this type deviation and the date these preventive measures were or will be completed.

In both cases the corrective and preventive actions must be capable of being verified by the NRC inspector during a subsequent inspection.

Management comments were generally for clarification only, or acknowledgement of the statements by the inspector.

DETAILS SECTION II

(Prepared by J. M. Johnson)

A. Persons Contacted

W. W. Albert, Consulting Engineer
G. Brunetto, Supervisor, Plants and Sites
J. Daggett, Senior Engineering Aide
C. Ferguson, Project Manager (ANPP)
G. Harvey, Engineering Quality Assurance Engineer (Auditor)
*C. W. Hoffman, Director, Group Quality Assurance (GQA)
*G. J. Huba, Manager Engineering Quality Assurance (EQA)
A. N. Major, Manager, Plant Components
*W. D. Mawhinney, Director, System 80 Projects
R. P. O'Neill, Supervisor, Safeguards Systems
J. Packard, Supervisor, Planning
*H. G. Robinson, Supervisor, Compliance Section
M. Stewart, QA Engineer
*T. R. Swift, Manager, Group Quality Systems

*Denotes those present at exit interview.

B. Action on Previous Inspection Findings

(Closed) Unresolved Item (Report No. 78-02). CE Topical Report No. CENPD-210-A, Sections 17.10 and Table 17-3 have seemingly contradictory statements concerning the applicability of ANSI N.45.2.6 to Group Quality Assurance (GQA) surveillance personnel. The inspector examined the GQA Manual, procedure QAP 2.1 which now includes Appendix E (Nondestructive Examination Training (NDE) and Qualification Program for NDE Surveillance Activities). Appendix E was issued June 8, 1979, and reflects appropriate incorporation of applicable ANSI N45.2.6 requirements. The inspector also verified that training and certification of appropriate GQA personnel meet the procedural requirements.

C. Training

1. Objectives

The objectives of this area of the inspection were to verify that procedures have been established and implemented that provide for:

a. Formal indoctrination and training or retraining programs for new employees and reassigned employees.

b. Training of inspection, examination and testing personnel that provide for:

(1) Indoctrination with the technical objectives of the projects, the codes and standards to be used, and the quality assurance elements that are to be employed.

(2) On the job participation through actual performance of processes, tests, examinations and inspections.

(3) Testing the capability and proficiency of personnel who perform nondestructive examinations.

(4) Retraining and recertification if evaluation of performance shows individual capabilities are not in accordance with specified qualifications.

(5) Records of training received by each person including applicable certification of qualification and results of tests.

c. Training of audit personnel, including technical specialists, that provide for:

(1) Orientation with applicable standards and procedures.

(2) General training in audit performance including fundamentals, objectives, characteristics, organization, performance and results.

(3) Specialized training in methods of examining, questioning, evaluating, documenting specific audit items, and methods of closing out audit findings.

(4) On the job training, guidance, and counseling under direct supervision of an experienced, qualified auditor to include planning and performing audits; reporting and follow-up action; and review and study of codes, standards, procedures, instructions, and other documents related to QA and QA program auditing.

d. Training programs for other personnel performing quality related activities that include:

(1) A description of quality assurance material to be presented and method of presentation.

(2) Schedules for conducting the training sessions.

(3) Identification of individuals by job description or titles or groups required to attend sessions.

e. Documentation of attendance and retention of other applicable records for all formalized training accomplished.

2. Method of Accomplishment

The preceding objectives were accomplished by an examination of the following:

a. CE Topical Report No. CENPD-210-A, which is also the CE Quality Assurance Manual, Sections 17.2.5 (Training) and Table 17-3 (Commitment Table of Regulatory Guides and ANSI Standards), to determine program commitments and Sections 17.1.3.1, 17.15, and 17.1.2 to determine functions of Projects and Licensing.

b. Group Quality Assurance (GQA) Manual, procedure QAP 2.1, including appendices and change notices, to assure that appropriate procedures implement topical commitments.

c. Quality Assurance of Design Manual (QADM), procedures QADP 8 and QADP 5.7.

d. Quality Assurance Policy Manual, procedure/policy titled "NDT Level III Examiners."

e. Engineering Quality Assurance Instruction No. QAI-2.01 (Orientation and Training of Compliance Auditor Personnel), to assure that qualification requirements have been established for Engineering Quality Assurance (EQA) auditors.

f. Training, qualification and certification records as applicable for eight (8) Group Quality Assurance (GQA) personnel (including vendor surveillance personnel, auditors and certain supervisors), to determine that training required by procedures was performed, and documentation requirements were met.

g. Training and maintenance of proficiency were examined for two (2) EQA auditors.

h. One EQA audit of Plant Engineering Department was examined to verify that training had been audited.

i. Training records were reviewed for personnel from the following departments:

(1) Plan Components;

(2) Safeguards Systems.

j. The inspector inquired about applicable procedures for training for personnel from projects, and records for personnel from one project office, but was told that there is no requirement for training.

k. Project Procedure No. 2 for ANPP (Arizona Nuclear Power Projects) was reviewed to determine whether quality - affecting functions were described (Note: per the procedure the Project Manager reviews DCRs (Deviations from Contract Requirements) for significant deficiencies, indicates this on the DCR, and advises the licensee of potential 50.55(e) deficiencies.)

l. Four (4) FARS (Field Action Requests) were reviewed to determine project responsibilities for generating, processing, approving engineering disposition, and verification of this type of nonconformance report (site-oriented).

3. Findings

a. Deviations

In this area of the inspection two (2) deviations were identified (See Notice of Deviation, Items I.B and I.C.).

(1) Concerning the above deviations, Sections 17.1.3.1 and 17.15 of the CEQAM indicate certain quality affecting activities of Project Management.

(2) Section 17.15 also states that the FAR system is controlled by the QADM (QA of Design Manual), but the manual does not indicate that it is applicable or mandatory for projects personnel. The inspector was given different answers as to its applicability by responsible personnel and hence its applicability is not clear. Also, it does not address the Project Management function of determining acceptability of recommended resolution and determination of safety significance of FAR.

(3) The inspector recognizes that CE has considered these Project Management functions as routine processing and non-safety-related. However, the CEQAM seems to indicate and require certain Project Management functions which are safety-related.

b. Unresolved Items

There were no unresolved items identified in this area of the inspection.

c. Followup Items

Examination will be made during a subsequent inspection of the following:

(1) The FAR form in use by one project differs from the one in the QADM, and was stated to be a fossil plant FAR form. It shows only "Affects ASME Code; Yes or No." Subsequent examination will ascertain whether FAR are reviewed to determine whether safety is affected for deviations that are not related to ASME Code requirements.

(2) Licensing appears to have certain quality-affecting functions, such as scribed in CE QAM 17.1.2 (Interpreting and Coordinating Regulatory Guides). Subsequent examination will determine whether procedures delineate requirements for performance of this function.

(3) It is unclear whether Project Management can be inspected to Project Procedure No. 2 (ANPP) or to QADP 5.7 for their activities relative to FARs and DCRs, to assure conformance to requirements contained in these procedures.

DETAILS SECTION III

(Prepared by J. R. Agee)

A. Persons Contacted

C. D. Blanchard - Equipment Engineer Pumps
*L. B. Dungan - Engineering Quality Assurance Engineer
*D. M. Mayer - Supervisor Plant Engineering
*D. F. Pedretti - Instrument Controls and Electrical, Director
*D. L. Sigler - Instrument Controls and Electrical Quality Assurance Representative
*E. J. Schmidt - Senior Quality Assurance Engineer

*Denotes those in attendance at the exit interview.

B. Design Process Management

1. Objectives

The objectives of this area of inspection were to examine the establishment and implementation of quality related procedures for the design process to verify that:

a. The design process system is defined, implemented, and enforced in accordance with approved procedures, instructions, or other documentation for all groups performing safety related design activities.

b. Design inputs are properly prescribed and used for translation into specifications, drawings, instructions, or procedures.

c. Appropriate quality standards for items important to safety are identified, documented, and their selection reviewed and approved.

d. Final design can be related to the design input with this traceability documented, including the steps performed from design input to final design.

e. Design activities are documented in sufficient detail to permit design verification and auditing.

f. The methods are prescribed for preparing design analyses, drawings, specifications, and other design documents so that they are planned, controlled, and correctly performed.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Examination of the following documents and procedures:

(1) Quality Assurance of Design Manual, Sections -

(a) 5.0 Design Process, Revision 5, dated May 3, 1976.

(b) 5.1 Design Input, Revision 0, dated May 3, 1976.

(c) 5.2 Design Analysis, Revision 3, dated April 2, 1979.

(d) 5.3 Interface Control, Revision 0, dated May 3, 1976.

(e) 5.4 Design Verification, Revision 1, dated December 29, 1978.

(2) Instrumentations and Controls Design Requirements for Main Steam and Feedwater Systems for Standard System 80, SYS 80-PE-IC15, Revision 01, dated December 15, 1978.

(3) Planning Logic Network (PLN) for the Standard System 80, Project 14273.

(4) System Description Shutdown Cooling System for Nuclear Power Project 14273-PE-SD31, Revision 00, dated June 17, 1977.

(5) Component Design Requirements for the Safety Injection System/Shutdown Cooling System for Nuclear Power Project 14273-PE-CR30, Revision 1, dated October 24, 1978.

(6) Project Specification for Safeguard Pumps for Nuclear Power Project, Specification No. 14273-PE-410, Revision 02, October 27, 1978.

(7) General Engineering Specification for A.C. Electric Motors, Specification No. 00000 - ICE - 8001, dated June 27, 1977.

(8) Qualification Criteria of Seismic Category I Instrumentation and Electric Equipment for Nuclear Power Generating Stations, Criteria No. SYS80-ICE 0506, Revision 01, dated November 9, 1978.

(9) Purchase Order No. 9500089 for Low Pressure Pumps dated June 30, 1975. An integral part of this P.O. was applicable sections of the specifications, items 2.a.(2) and 2.a.(4) through 2.a.(8), inclusive, referenced above.

b. Verifying that each of the system descriptions, specifications and purchase orders reviewed had referenced applicable codes, standards, regulatory guides, and 10 CFR 50, Appendix A criteria.

3. Findings

a. General

(1) The procedures referenced above in items 2.a.(1)(a) through 2.a.(1)(e), inclusive, contain design input data checklists. These checklists are used by the design engineers as reminders to identify applicable requirements, such as regulatory, contractural, functional interfacial and other essential input requirements during the preparation of systems and equipment specifications.

(2) The document, item 2.a.(2). is an example of design input data compiled by the plant engineering department and submitted to the Instrumentation, Controls and Electrical (I&E) Department for selection, development and procurement of instrumentation and controls products for safety-related systems, e.g. Main Steam and Feedwater System. Item 2.a.(2) had been prepared and approved by cognizant engineering management, then reviewed by an independent reviewer in compliance with QADP 5.0, Design Process.

(3) The Planning Logic Networks (PLN) is a functional interface control document which provides a systematic method for scheduling transmittal of major design information across design interfaces, including changes to the design information, as work progresses. The PLN reviewed by the inspector covered all safety-related systems and related equipment for the Standard System 80, Project 14273.

(4) The documents, items 2.a.(4) through 2.a.(8), inclusive, referenced above, are representative documents generated in the collection of facility, system, and equipment design process input data and the systemmatic progression of that data to procurement of equipment.

(5) Each of the documents reviewed by the inspector had been adequately reviewed and approved by management, quality status verified and certified by an independent reviewer.

(b) Each of the documents reviewed represented a progressive stage from initial design input to the procurement of the selected equipment.

b. Deviations and Unresolved Items

None were identified.