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October 9, 1986

ST-HL-AE-1754
File No.: D.41

Mr. Robert D. Martin
Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
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South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499 OL
Response to Notice of Violation
NRC Inspection Report Nos. 50-498/85-21 and 50-499/85-19,
50-498/85-24 and 50-499/85-21, 50-498/86-12 and 50-499/86-12

Dear Mr. Martin:

Attachment 1 to this letter constitutes Houston Lighting & Power Company's response to Notice of Violation EA 86-10 and your letter dated August 20, 1986. A 21 day extension of the time by which this response was to be filed was requested by Mr. M. R. Wisenburg (HL&P) and granted by Mr. L. Constable (NRC) via telephone discussions on September 15 and 24, 1986. Our response describes the specific actions taken to correct the deficiencies identified in the Notice of Violation and those additional actions taken to prevent recurrence. Attachment 1 includes much of the same information previously provided in our April 2, 1986, preliminary response. Additional information, based on our reevaluation of that response in light of your August 20, 1986, letter and the Notice of Violation, as well as the updated status of our actions, is indicated by a change-bar in the right margin. Each of the responses to the Notices of Violation references the applicable NRC item number.

Houston Lighting & Power has undertaken a number of initiatives to improve the effectiveness of the inspection process at the South Texas Project. They include strengthening the training program, improving the inspector certification process, and implementing the QC Performance Monitoring Program. In addition, the Continuous Monitoring Program described in my letter of January 10, 1986, and discussed with you and members of your staff at the August 13, 1986, meeting at the South Texas Project site, provides an additional real-time check on the effectiveness of the inspection process. Our verification of the effectiveness of inspections will continue to be performed through our program of audits, surveillances, and effectiveness

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inspections, now supplemented by the QC Performance Monitoring Program and Continuous Monitoring. The data from these verifications is routinely reviewed by QA to determine trends and appropriate action is taken to correct identified weaknesses.

We have taken actions to assure that the deficiencies identified during the CAT inspection are not indicative of potential deficiencies in the as-built plant. These actions include an analysis of each deficiency to determine the root cause(s); an examination of similar areas/processes to determine the extent of the deficiency; remedial actions to correct the specific deficiency as well as corrective action to remedy the root cause(s) so as to preclude recurrence of the problem; and verification of the implementation of both remedial and corrective actions. These actions are described in detail in Attachment 1.

Although Potential Enforcement Actions Nos. 4 and 7 were withdrawn as stated in the cover letter to Inspection Report 50-498/86-12, 50-499/86-12, we have continued the implementation of the committed actions in response to PEA No. 4 described in our April 2, 1986, preliminary response. Those actions are essentially complete with a few items remaining to be closed.

Additional assurance regarding the effectiveness of the inspection process and the adequacy of the as-built plant is provided by the other initiatives put into place which were described in my January 10, 1986, letter and discussed with you at the August 13, 1986, meeting at the South Texas Project site. These initiatives include significantly increasing HL&P's management presence on site; realigning of contractor organizations; reassigning of key project personnel; increasing training of construction personnel; and implementing an improved system for holding supervisors responsible for work completed. We believe that these actions taken together have significantly enhanced the quality of workmanship and inspection activities at the South Texas Project.

Houston Lighting & Power remains fully committed to completing the South Texas Project in a quality manner.

Very truly yours,

J. H. Goldberg

J. H. Goldberg
Group Vice President, Nuclear

JHG/JEG/MRW:jkg

Attachment 1: Response to Notice of Violation

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NOTICE OF VIOLATION I.A.

I. NRC STATEMENT

"10 CFR Part 50, Appendix B, Criterion X, as implemented by the South Texas Project Quality Assurance Plan (STP QAP), Section 10.1, requires that a program for inspection of activities affecting quality be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity.

Contrary to the above, at the time of the inspections, the licensee's inspection program failed to verify conformance to instructions, procedures, and drawings. Components and structures which had been previously inspected and accepted by the licensee's contractor Quality Control (QC) personnel and which were subsequently found by the NRC to not meet specified requirements are listed below:

1. Deficiencies were identified with the installation of eight of ten instruments and instrument tubing supports. Examples of these deficiencies included dimensions exceeding tolerance limits on five installations, an incorrect weld configuration on a tubing support, a support installed in accordance with an incorrect drawing detail, and a support installed with a clamp missing. (Construction Appraisal Team Potential Enforcement Action (CAT PEA) 6.a)

2. Twelve of 30 socket welds in 2-inch schedule 160 piping were found to be undersized. Additional examinations of approximately 200 welds of this type found at least 15 percent of these welds to be undersized. (CAT PEA 6.b)

3. On six lugged wafer valves, hex-head cap screws had been substituted for threaded studs and nuts which were not in accordance with the applicable essential cooling water piping installation isometric drawings and related bill of material. (CAT PEA 6.c)

4. Eight of 12 mechanical equipment items were not constructed or other-wise installed in accordance with applicable design or specified installation requirements. (CAT PEA 6.d as modified by Inspection Report 50-498/86-12; 50-499/86-12)

5. Fourteen of 41 supports/restraints were found to have completed structural welds smaller than those specified in the design drawings. (CAT PEA 6.e)

6. Forty-three of 68 high strength bolts for structural steel sliding connections were found to be over-tightened. QC inspections had not assured that the bolts were installed to a "snug tight" condition, as specified in inspection procedures, which would allow movement in the connection. (CAT PEA 6.f)"

II. REPLY (I.A.1) (86-12-01)

It was determined that all of the final inspections and acceptances of the tubed instrument installations had been performed by one individual. This included the eight instruments identified in the NRC CAT report.

Four instances were identified where attributes which had been inspected by other inspectors were rejected during reinspection. However, responsibility for these attributes belonged to the inspector mentioned above who performed final verification.

Based upon this inspector's performance, an assessment was conducted of the instrumentation inspection certification program, the governing Construction and Quality Control (QC) procedures, and the methods used by QC supervisors to assess the performance of inspectors under their supervision. It was determined that weaknesses in these were a contributing factor.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.A.1) (86-12-01)

Work was stopped on all safety related instrumentation installations. The individual inspector, who performed the inadequate inspections, has been removed from the project.

The Instrumentation QC group was trained in the CAT findings, other specific deficiencies, specification requirements, and inspection methodology. This included "hands-on" training.

A reinspection of safety related tubed instrument installations has been accomplished to reverify inspection status. In addition, other accessible commodities inspected and accepted by the inspector in question were identified and reinspected. Deficiencies identified have been documented and a disposition provided. NCRs have been initiated on those items inspected by the inspector in question but which are now inaccessible for reinspection. Each of the items on these NCRs is being evaluated by Engineering.

A Standard Site Procedure, "Instrumentation Installation," was issued. This is an enhancement of the procedures which were in place and consolidates Construction and QC procedures. Applicable QC and Construction personnel have been trained to the requirements and instructions in this new procedure.

A review of the acceptance criteria has been conducted. Unnecessary or overly restrictive requirements have been eliminated. This allows QC to concentrate on essential attributes.

An assessment was conducted of the instrumentation inspection and certification program. As a result, practical examinations have

been enhanced to include extensive evaluations of the candidate's field performance.

The certification programs for the other inspection disciplines were reviewed and it was determined that they were adequate.

Construction has implemented a program to improve the accountability of craft supervision for the quality of the installation. The results of QC inspections are reviewed on a weekly basis by Ebasco Site Management and appropriate action taken to address areas of weakness.

A QC Performance Monitoring Program has been instituted. This program consists of field observation by the QC discipline supervisor of the performance of each inspector at least once a month. These observations include:

- o Verification of consistency with established inspection methodology
- o Proper completion of inspection records
- o Proper application of the inspector's experience in problem resolution.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.A.1) (86-12-01)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.A.1) (86-12-01)

Full compliance will be achieved on October 31, 1986, when the Engineering evaluation of the inaccessible items is completed.

II. REPLY (I.A.2) (86-12-02)

Investigation has determined that the root cause of this problem was a lack of appropriate formal training of the craftsmen (pipe fitter welders) and QC inspectors in the use of appropriate measuring devices to ensure the adequacy of minimum leg and throat dimensions for fillet welds on socket welded connections.

III. CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED (I.A.2) (86-12-02)

A 100% reinspection of schedule 160 welds has been performed. Twenty-nine welds were identified as nonconforming. Fifteen were

determined to be acceptable-as-is; ten were reworked; and four eliminated by design evolution.

A reinspection of a 10% sample of schedule 40 (310 welds) and schedule 80 (313 welds) was performed. One schedule 40 weld and four schedule 80 welds were undersized which represents a reject rate of .3% and 1.3% respectively. Of the five total undersized welds, the one schedule 40 and two of the schedule 80 were determined acceptable by adoption of an ASME Code Case (N-316). The two remaining schedule 80 welds were reworked. Due to the minor nature of the rework (1/16" maximum weld build-up), no further inspections are considered necessary.

The appropriate Construction and QC procedures were revised to more clearly delineate fillet weld dimensions on socket welded connections. All QC inspectors responsible for field inspections, as well as all pipe fitter welders and welding supervisors, were formally trained to all relevant attributes for fillet welds on all pipe sizes and schedules. Special fillet weld gauges were purchased for measuring socket fillets. Each gauge in each set is labeled with the specific pipe size, schedule, and fitting type. In addition, QA and QC have performed follow up surveillances in order to provide assurance that fillet weld dimensions are as required.

Standard Deficiency Report (SDR) E-349 was initiated on October 31, 1985, to document corrective actions. After QA verification of the corrective action taken, this SDR was subsequently closed on April 3, 1986.

In addition, refer to Part III, 1.A.1, (page 3) for statements concerning improved craft supervision accountability for quality and the QC Performance Monitoring Program.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.A.2) (86-12-02)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.A.2) (86-12-02)

Full compliance was achieved on April 17, 1986, when the last NCR was closed.

II. REPLY (I.A.3) (86-12-03)

Investigation has determined that two deficiencies existed in the field that were accepted by QC:

1. Cap screws of improper length had been installed in several of the lug wafer valves.

2. Cap screws had been substituted without appropriate documentation, i.e., an FCN, prior to installation.

Investigation has determined that the following are the root causes:

1. Failure to follow procedures and inadequate craft training.

2. QC acceptance was based upon verifying torque value. The inspection procedure did not require the physical measurement and documentation of the length and diameter of the cap screws to be installed.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.A.3) (86-12-03)

Appropriate Construction and Field Engineering personnel have been retrained to all of the requirements concerning cap screw substitutions.

The appropriate QC procedure was revised to require verification and documentation of approved cap screw substitutions including length, diameter, and material type. QC personnel were trained.

A 100% reinspection of cap screw substitutions in safety related lugged wafer valves has been completed. Valves installed with incorrect/indeterminate cap screws have been documented on ten NCRs. The NCRs have been dispositioned to replace cap screws that did not meet a conservative thread engagement equivalent to one bolt diameter.

A review was performed to determine whether improper cap screw substitutions had been made on valves other than the lugged wafer valves. No problems were identified.

In addition, refer to Part III, I.A.1, (page 3) for statements concerning improved craft supervision accountability for quality and the QC Performance Monitoring Program.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.A.3) (86-12-03)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.A.3) (86-12-03)

Full compliance was achieved on September 16, 1986, when the last NCR was closed.

II. REPLY (I.A.4) (86-12-04)

An investigation of the CAT observations listed in Table III-5 of the NRC CAT Inspection Report resulted in the following actions:

a. ASME Mechanical Equipment and Tanks

Reactor Water Make-up Tank

The removal of the Flexcell material was evaluated and it was determined that the floor of the tank can withstand the resulting additional stresses. Replacement of the material is not required.

The cause of the condition was the removal of a portion of the Flexcell cushion so that the area under the tank could be investigated for microbiologically induced corrosion (MIC).

Containment Spray Pump, High and Low Head Safety Injection Pumps - Bolting Material Control

Fastener material control for components is addressed in the response to Notice of Violation I.C.2.

b. HVAC Components and Supports

Welding, Bolt Tightening and Damage Deficiencies on EAB Return Air Fan, Charging Pump Supply Cooler and Fuel Handling Building Filter Support Frames

These deficiencies have been documented on Nonconformance Reports. Investigation concluded that these deficiencies were caused by inadequate training and supervision of the craft and the QC inspectors.

A reinspection of HVAC support frames which were inspected and accepted by mechanical inspectors has been accomplished. Deficiencies have been documented and a disposition provided.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.A.4) (86-12-04)

a. ASME Mechanical Equipment and Tanks

The Construction procedure has been revised to add the requirement for a construction process sheet for both safety and non-safety related mechanical equipment. In addition to this and other enhancements, the previous Construction and QC procedures were consolidated in the new construction procedure. Appropriate personnel have been trained in the requirements of the new procedure.

A documentation review of both construction and QC records for ten pieces of mechanical equipment was performed to ensure that the vendor requirements were met. This review was completed with satisfactory results.

b. HVAC Components and Supports

The same type of procedure enhancements and training associated with the ASME equipment has been accomplished for this equipment.

The responsibility for inspection of HVAC component support frames was transferred from the mechanical equipment to the HVAC inspection group.

In addition, refer to Part III, I.A.1, (page 3) for statements concerning craft supervision accountability for quality and the QC Performance Monitoring Program.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.A.4) (86-12-04)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.A.4) (86-12-04)

Full compliance was achieved on September 25, 1986, when the actions associated with the reinspection effort were completed.

II. REPLY (I.A.5) (86-12-05)

We have evaluated the information contained in Table IV-1 of the CAT Inspection Report and determined that only the table entries listed below are the subject of the Notice of Violation:

Table IV-1 Item	Applicable Pipe Support	Deficiency
(3)	CC-1317-HL5006	1 undersize fillet weld
(5)	CV-1209-RR0002*	7 undersize fillet welds*
(8)	CC-1480-RR0011	3 undersize skewed connection welds
(9)	SI-1301-HL5010	1 undersize skewed connection weld
(15)	CC-1303-HL5003	2 undersize fillet welds 1 undersize skewed connection weld
(16)	SI-1105-RR0038	1 undersize skewed connection weld

* A review of the NCR generated against this support and the applicable design drawing shows evidence that only five safety related fillet welds could be undersize.

We have determined that the problem is limited to skewed connection welds based on the following:

Approximately 475 pipe support fillet welds were examined by the Construction Appraisal Team, of which only eight (five on support CV-1209-RR0002; two on support CC-1303-HL5003; and one on support CC-1317-HL-5006) were undersized. These conditions have been identified on three NCRs which have been dispositioned (one "rework" and two "use-as-is") and closed as of March 28, 1986. This does not constitute a problem relative to the inspection of structural fillet welds, nor is it indicative of a widespread hardware deficiency.

The root cause of undersized skewed connection welds was lack of training and imprecise procedural requirements delineating criteria for leg size, throat size, and acceptable weld profiles.

III. CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED (I.A.5) (86-12-05)

1. One hundred twenty-one Class 1, 2, and 3 pipe supports containing skewed welded connections have been reinspected. Twenty of the pipe supports reinspected were found to have undersized skewed weld connections. These have been dispositioned "use-as-is" based upon engineering evaluation.

2. Fifty structural steel connections having skewed welds were reinspected. No deficiencies were found.

3. Those HVAC supports having skewed weld connections were reinspected (10 total). Two undersized skewed weld connections were identified on one support. An NCR was initiated and dispositioned "use-as-is."

4. A sample of 33 electrical supports having skewed weld connections has been inspected. Two undersized skewed weld connections were identified on one support. An NCR was initiated and dispositioned "use-as-is."

Applicable procedures have been revised to incorporate detailed inspection and acceptance criteria for skewed connection welds.

Applicable personnel have been retrained to the procedural requirements.

In addition, refer to Part III, I.A.1, (page 3) for statements concerning improved craft supervision accountability for quality and the QC Performance Monitoring Program.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.A.5) (86-12-05)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.A.5) (86-12-05)

Standard Deficiency Report (SDR E-382) was initiated on December 13, 1985, to document corrective actions. Full compliance was achieved on June 26, 1986, when SDR E-382 was closed.

II. REPLY (I.A.6) (86-12-06)

Main structural steel framing inside the Reactor Containment Building (RCB), the Isolation Valve Cubicle (IVC), and the Heating Ventilating and Air Conditioning (HVAC) ring duct and riser duct inside the RCB was designed to have specific bolted connections with slotted holes. The bolts were to be installed in a "snug tight" condition to allow free movement of members under changing thermal or pressure conditions. No specific torquing requirements were provided.

This lack of specificity caused improper torquing by Construction and did not provide QC inspection with verifiable inspection acceptance criteria.

In addition to the items above, the Polar Crane rail girder supports have slotted connections which were addressed in NRC Unresolved Item 83-16-05.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.A.6) (86-12-06)

Revisions to the pertinent design drawings have been issued to provide an acceptable range of torque values.

Nonconformance Reports (NCRs) were issued and a rework disposition provided for the structural steel and ring duct sliding connections with slotted holes. The HVAC riser duct sliding connections were evaluated by Engineering and accepted as is. All rework has been completed, accepted, and the NCRs closed.

In addition, refer to Part III, I.A.1, (page 3) for statements concerning improved craft supervision accountability for quality and the QC Performance Monitoring Program.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.A.6) (86-12-06)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.A.6) (86-12-06)

Full compliance was achieved May 1, 1986, when the last NCR was closed.

NOTICE OF VIOLATION I.B.

I. NRC STATEMENT

"10 CFR Part 50, Appendix B, Criterion III, as implemented by STP QAP, Section 3, requires that design control measures provide for verifying or, checking the adequacy of design and that design changes, including field changes, be subject to design control measures commensurate with those applied to the original design.

Contrary to the above, it was determined at the time of the inspections that design control measures had failed to verify the adequacy of design in that:

1. Configuration Control Package (CCP) 0243 for modification of motor operated valves had been issued and reviewed by the Architect/Engineer for field implementation with significant errors in the directions provided. (CAT PEA 1.a as modified by Inspection Report 50-498/86-12; 50-499/86-12)

2. The Architect/Engineer had issued and reviewed drawings for installation of annubar flow measurement devices in safety-related systems that did not include vendor installation tolerances. (CAT PEA 1.b as modified by Inspection Report 50-498/86-12; 50-499/86-12)

3. The Architect/Engineer had issued and reviewed installation drawings for certain instrument and sample lines connected to the Unit 1 reactor coolant system pressurizer that did not include the Nuclear Steam System Supplier required flow restriction orifice in each of the five lines. (Inspection Report 50-498/85-24; 50-499/85-21 as modified by Inspection Report 50-498/86-12; 50-499/86-12)

4. Design drawings which incorporated Field Change Requests BC-01202, CC-04949, and Field Change Notice BS-1-0235 had been issued and reviewed by the Architect/Engineer in a manner that differed from the change document (BS-1-0235) or contained drafting errors (BC-01202 and CC-04949). (CAT PEA 2.b as modified by Inspection Report 50-498/86-12; 50-499/86-12)"

II. REPLY (I.B.1) **(86-12-07)**

The primary cause of the deficiencies in wiring configuration of Unit 1 MOVs was an error made by the Bechtel engineer responsible for assembly of the Configuration Control Package (CCP). This engineer did not recognize the actual MOV wiring configuration and provided

instructions to Construction which referenced an outdated Westinghouse (W) design document. An additional contributing factor which affected one jumper was the failure to control the sequence of implementation of Bechtel CCPs.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.B.1) (86-12-07)

An inspection program was implemented by which individual MOVs were examined, reworked, and upgraded, as required, leading to release for turnover and startup testing.

A review was performed to determine whether the MOVs furnished by other vendors might have similar wiring discrepancies. No wiring discrepancies were identified.

All 58 MOVs supplied by W for Unit 1 have been inspected by a special task team, and the rework associated with that inspection was complete on July 3, 1986. Although no CCPs had been issued for Unit 2, a similar inspection and rework program will be performed on the Unit 2 MOVs.

To prevent any confusion relevant to the MOVs wiring design, a Bechtel wiring diagram for the Unit 1 W supplied MOVs has been developed which provides point-to-point wiring information. Future changes will be reflected, where appropriate, with a change to this drawing as well as to the Bechtel elementary drawing. A similar point-to-point wiring diagram is being developed for Unit 2.

To further strengthen design control, W changes that require physical implementation, as identified by the W FCN process, are incorporated into a CCP which is then issued for implementation. Each CCP is annotated to specify when the CCP should be implemented in relation to other CCPs. Completed and "in process" CCPs have been reviewed for proper sequencing.

The project has reviewed CCPs developed by the engineer who made the error which led to the wiring configuration deficiency. Minor deficiencies were identified and corrected; no hardware rework was required. This engineer is no longer employed at STP.

To further assure the integrity of the design control process, an investigation was performed on the Reactor Trip Switchgear and the Solid State Protection System. These systems are W designs and had changes initiated by W and Bechtel that were incorporated into CCPs that were implemented by both W and Ebasco. The investigation concluded that the changes to both systems were correctly implemented.

This event is considered to be an isolated case of faulty CCP preparation.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.B.1) (86-12-07)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.B.1) (86-12-07)

Rework of Unit 1 hardware was completed July 3, 1986. A Unit 2 inspection and rework program will be scheduled consistent with the Unit 2 construction sequence.

II. REPLY (I.B.2) (86-12-08)

The vendor drawings and Bechtel isometrics were subjected to an interdisciplinary review in accordance with Bechtel Engineering procedures. However, due to an oversight, the vendor-specified tolerances for installation of annubars were not included nor referenced on the isometric drawings. This resulted in the installation of 19 annubars in accordance with generic piping installation tolerances as opposed to the tighter tolerances specified by the vendor.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.B.2) (86-12-08)

An Engineering evaluation of the 19 installed annubar flow elements in safety related piping systems has been completed. It was concluded that the system functional requirements can be satisfied with a lower level of accuracy of the flow elements than would have been provided by the original vendor tolerances. The vendor has confirmed that less strict installation tolerances would provide the level of accuracy actually required. The Engineering evaluation also verified that these flow element functions are not essential to plant safety as used in these systems.

Application of the new tolerances to the 19 flow elements already installed demonstrated that the as-installed condition was acceptable in 12 cases. The remaining 7 installations were modified to bring them within the new tolerances. These modifications are complete.

Both the vendor drawings and the affected piping isometrics were amended by Field Change Requests (FCRs) to reference the revised dimensional information required for proper annubar flow element installations. Future installations will be in accordance with these revised drawings.

In addition, the Engineering evaluation verified that other instrumentation connected to process pipes do not have similar vendor imposed tolerances.

A supplemental technical audit was performed by HL&P to determine if vendor information was being adequately incorporated into the applicable design documents. The audit included a review of approximately 176 vendor documents and 124 corresponding Bechtel design disclosure documents. There were technical specialists assigned to the audit from the applicable disciplines of mechanical, I&C, and electrical. The audit team did not identify any instances of failure to incorporate vendor requirements into the Bechtel design disclosure documents. Other types of deficiencies, none of which affect hardware installation, were identified and are being corrected.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.B.2) (86-12-08)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.B.2) (86-12-08)

Full compliance was achieved on January 3, 1986.

II. REPLY (I.B.3) (86-12-09)

The information below was previously transmitted to you in a letter from J. H. Goldberg to R. D. Martin dated March 3, 1986 (ST-HL-AE-1612).

A design error occurred as a result of the failure to provide the specific detail on Drawing 1-P-5051, "Composite Piping Reactor Containment Building R.T.D. Manifold Loop Piping," for the flow restrictors to be provided by the Architect/Engineer (A/E). The correct (in-line) flow restrictors were not shown on the drawing as required by the Piping and Instrumentation Diagram (P&ID) for the five connections on each pressurizer (four level instrumentation lines and one sample line). This deficiency resulted from differences between the applicable notes on the NSSS Flow Diagram and the P&ID. These differences are as follows:

The Westinghouse Flow Diagram for the Reactor Coolant System (Drawing No. 1207E14, sheets 1 though 3) shows the design requirements specified to the A/E. Sheet 2 pertains to the pressurizer and defines the requirements for pressurizer flow restrictors as follows:

> "A/E to provide 3/8" ID flow restrictor with piping for Class 1 - Class 2 transition at pressurizer liquid space level instrumentation and sample nozzles, similar to arrangement shown by Note 5, W Flow Diagram Legend Dwg."

The P&ID 5R149F06003 equivalent note is as follows:

> "Provide 3/8 flow restrictor per Drawing 9P05051 to change from SCI to SC2 at restrictor."

The significant phrase "with piping" was not identified and specifically addressed to assure the design met the requirements for providing the flow restrictors as part of the instrument and sample line connections to the pressurizer nozzles. The "typical" flow orifice detail provided on the Westinghouse Flow Diagram Legend drawing was provided for branch connections onto Class 1 piping. This detail was accurately translated from W drawings to Drawing 9P05051. However, the "typical" detail was not suitable for use in welding the instrument and sample lines to the pressurizer nozzles since Drawing 9P05051 showed the required flow restrictor at the vessel wall. Since the words "with piping" had been omitted from the P&ID note during the preparation of the piping isometric drawings, the designer assumed that the required flow restrictors were provided by Westinghouse as part of the pressurizer nozzles in accordance with Drawing 9P05051.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.B.3) (86-12-09)

The piping drawings were revised to include the required in-line flow restrictors (DCN #1 to 2C379PRC6590 A2/A2 and DCN #2 to 5C369PRC457-A09). The Unit 1 flow restrictors were fabricated and installed by February 11, 1986 (NCR BP-3535).

A detailed review of NSSS Flow Diagrams versus Bechtel P&IDs has been completed. No other significant discrepancies were found. The Bechtel Engineering resolutions of minor differences have been evaluated by Westinghouse and determined to be acceptable.

A Houston Lighting & Power Quality Assurance supplemental audit of Bechtel/Westinghouse design input process assessed the technical adequacy of the identification and incorporation of Bechtel/Westinghouse design inputs into the appropriate design disclosure documents. The audit was completed on February 28, 1986, and no significant discrepancies were found.

The results of the Bechtel P&ID review indicate the flow restrictor problem was an isolated case of inaccurately transcribing drawing information. Nevertheless, appropriate mechanical discipline engineering supervision and lead engineers have been re-instructed in the requirements of reviewing NSSS design inputs. Training was completed on February 4, 1986.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.B.3) (86-12-09)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.B.3) (86-12-09)

HL&P was in full compliance on February 11, 1986, when flow restrictors were installed.

II. REPLY (I.B.4) (86-12-10)

Each of the observations cited in the Notice of Violation has been investigated. Table I contains the specific results of the investigation. Additionally, the cause of each observation has been identified as follows: FCR BC-01202, failure to follow procedures; FCR CC-04949 and FCN BS-1-0235, drafting mistakes.

The examples cited in Table 1 reflect two cases of minor drafting mistakes, and one case where technical information was revised during incorporation of the amendment. None of these items resulted in incorrect installations.

Based upon a concern identified by the Institute of Nuclear Power Operations Construction Project Evaluation of STP in May 1985, the project instituted and completed a review of approximately 165,000 revisions to drawings and specifications for the extent and impact of modified amendments, and concluded that less than .05% of these revisions were modifications that had an impact on construction. The items identified during this review were similar in character and occurred during the same time frame as Item 1 in Table I which was identified by the CAT.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.B.4) (86-12-10)

Refer to Table I for specific actions taken.

Engineering Department procedures have been revised. The procedures now require that if technical information contained in the previously approved amendment is changed, it can only be changed by the issue of another amendment. Editorial changes must be identified in the revision block of the parent document. Appropriate personnel have been trained.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.B.4) (86-12-10)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.B.4) (86-12-10)

Full compliance was achieved January 7, 1986.

Table I
Results of Investigation of Observations

1. "Field Change Request (FCR) BC-01202 was issued on June 13, 1984 against Rev. 2 of Bechtel drawing 3M01-9-C-4312. The FCR was issued to reduce an oversized HVAC opening. A modified version of the FCR (as noted in the drawing revision block) was incorporated into revision 3 of the Bechtel drawing, which was issued on October 4, 1984. As shown on the drawing, the detail is now applicable to both Units 1 and 2. It appears that the penetration was reworked in accordance with the FCR, so that the as-built configuration is not in agreement with the design drawing. The Bechtel civil/structural site engineering organization indicates that FCR BC-01202 was incorrectly incorporated into Rev. 3 of the Bechtel drawing, and issued Drawing Change Notice (DCN) No. 3 on November 16, 1985 to correct the drawing."

   RESPONSE

   Revision 3 of the drawing incorrectly incorporated the FCR. This was caused by a misunderstanding of the required minimum clearance necessary for duct installation. With the exception of the 1'-1" dimension, all other attributes of the FCR were properly incorporated. DCN No. 3 was subsequently issued to correct the discrepancy. Further, FCR BC-01202 was initially issued to effect a change to Unit No. 1 design. The FCR was generated against a Category "9" drawing which designates applicability to both Units 1 and 2. Unless otherwise noted, the FCR would then be reviewed at incorporation by Engineering for applicability of change to Unit No. 2. In this case, it was determined that this same change would be applicable for Unit No. 2.

   The conclusion is that the design Engineer erred during the incorporation of the FCR (i.e., revised technical information outside the bounds of the Project Procedures). The Project Procedures have been revised to make more clear that changes of a technical nature to previously approved amendment documents upon incorporation, require the issuance of another change document (i.e., DCN, FCR/FCN or SCN).

2. "FCR CC-04949 was issued on December 22, 1984 against Rev. 3 of Bechtel drawing 7G-22-9-S-2002. The FCR revised support details for relay racks ERR126 (nonsafety) in Units 1 and 2. The FCR was modified upon incorporation into Rev. 3 of the Bechtel drawing, as noted in the drawing revision block, and as detailed on the drawing. However, the location of the revised steel in plan was not clouded, and the 13/16 in. bolt holes for the support channel were not transferred onto the drawing. The Bechtel civil/structural site engineering organization has verified that the support was installed as detailed on the drawing, and issued DCN No. 18 on November 18, 1985 to correct the drafting error."

RESPONSE

The omission of the hole size in the supporting steel, i.e., channel, and failure to cloud the change in the drawing is a drafting mistake. As indicated in the observation, however, the support was installed as depicted in the design drawing. Standard detailing practices and/or AISC Code dictate that for a 3/4" diameter bolt, a 13/16" diameter hole is provided unless otherwise noted. DCN No. 18 was issued to ensure consistency between the previously approved amendment document, i.e., FCR No. CC-04949 and the design drawing. DCN No. 18 has subsequently been incorporated into Revision 8 of the parent drawing and the hole size appropriately identified.

3. "FCN BS-1-0235 was issued on August 5, 1984 against Rev. 2 of Bechtel drawing CC-9215-RR0005. The FCN was incorporated into Rev. 3 of the Bechtel drawing on March 12, 1985. The team reviewed the drawing, which details separate pipe supports for Unit 1 and 2. The supporting steel for these supports appeared to require stiffeners, and the team then reviewed the pipe support calculation. Rev. 1 of calculation JC-CC-92-15-RR0005, dated September 30, 1985, does require beam stiffeners for both the pipe support supplementary steel and the supporting framing steel. Bechtel issued two separate configuration control packages on October 30, 1985 to add beam stiffeners to the pipe support steel, CCP-1-M-0066-00 and 2-M-ST-0067-00; however, the beam stiffeners to be added to the supplementary steel for the Unit 2 pipe support were not clouded on the pipe support drawing. The Bechtel pipe support group site engineering organization issued FCR XEJ-00371 on November 18, 1985 to correct the configuration control package for Unit 2."

RESPONSE

Failure to cloud the specific change (i.e., additional stiffener plates) was a drafting mistake and has been corrected by issuance of the aforementioned XFCR. However, this mistake would not have caused the stiffeners to be overlooked as they themselves were clearly identified in the Bill of Material as well as a special detail (i.e., Detail No. 9) as being required.

NOTICE OF VIOLATION I.C.

I. NRC STATEMENT

"10 CFR Part 50, Appendix B, Criterion VII, as implemented by the STP QAP, Section 7.0, requires that measures be established to assure that purchased equipment conforms to the procurement documents and that there shall be documented objective evidence of quality of the purchased equipment.

Contrary to above, it was determined, at time of the inspections, for equipment accepted by the licensee that:

1. Several motor control centers were found not to meet Bechtel purchase specification 3E179ES1054 in that terminal extensions had been installed although these had not been specified and the bolting was too short for the load side terminal extensions on the molded case circuit breakers to properly secure the extensions. In addition, insulating barriers installed between the extenders were inadequately secured and frequently were dislodged during installation which could allow phase-to-phase short circuits. (CAT PEA 3.a)

2. Fourteen of the 20 pieces of mechanical equipment were found not to meet procurement documents in that the bolting was not traceable or when traceable, was not in accordance with vendor defined requirements or with Architect/Engineer specifications for the equipment. (CAT PEA 5 as modified by Inspection Report 50-498/86-12; 50-499/86-12)

3. Six of the eight vendor-furnished tanks and heat exchangers did not meet procurement documents in that undersized welds were found on supports and nozzles. (CAT PEA 3.b)

4. Four electric motors furnished by vendors were found to be not in conformance with the procurement document (Equipment Specification 3E319ES1040) in that three motors did not have the required terminal lugs installed on electrical connections and one motor had insulation rated for a lower maximum temperature. (CAT PEA 3.b)"

II. REPLY (I.C.1) (86-12-11)

An examination of the Class 1E 480 volt Motor Control Centers (MCCs) identified the following deficiencies:

1. Loose connections were discovered at the bus extensions on the load terminals of ITE type HE molded case circuit breakers. The vendor-installed screws connecting bus extensions to the circuit breakers lacked sufficient thread engagement to maintain tight connections. The screws in question are 1/4" diameter by 1/2" long pan head screws installed with star lock washers, and were furnished by the vendor for load side cable connections. However, 1/4" thick copper bus extensions had been added by the vendor to the breaker to accommodate field cable larger than #2AWG, thereby reducing the available length of screw thread for making a proper electrical connection.

2. The vendor-installed plastic barriers between the molded case circuit breaker bus extensions in the MCCs were found to be loose and, in some cases, missing. The barriers are press fit into slots located on the bottom of the circuit breaker and maintain electrical insulation between adjacent buses. Some of the missing barriers had fallen into the bottom of the cubicles.

Sixty circuit breakers (30 in each unit) had the bus extensions described above. No specific authorization for the extensions was supplied by Bechtel, nor requested by the vendor. The vendor considered the extensions to be necessary to meet the cable termination design requirements identified in the specification.

A sample inspection of similar circuit breakers supplied by other manufacturers was conducted and although extensions were found on another manufacturer's circuit breakers, no similar deficiencies were identified.

A review of the vendor drawings of both manufacturers who supplied extensions determined that the extension details were not shown. Electrical drawings of this type do not typically depict terminal configuration or other similar hardware details.

Since the MCCs were subject to source surveillance, receipt inspection consisted only of a visual inspection for exterior damage and a confirmation that the required paperwork was present and correct. The deficiencies noted were not identified by construction QC personnel since the procedural requirements for electrical termination activities did not call for an in-depth inspection of the breaker.

The vendor has confirmed that the seismic test report demonstrates that the extensions and barriers were in place during testing.

The root cause of the deficient extension/barrier installations was the failure of the vendor to follow proper design and manufacturing practices.

This condition was evaluated and reported to the NRC as "reportable" pursuant to 10CFR50.55(e) on March 26, 1986.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.C.1) (86-12-11)

Nonconformance Reports (NCRs) were written for the 60 circuit breakers. For 58 of these breakers, the cable was #2AWG size or less. This enables the connections to be made directly to the circuit breaker. This eliminated the need for the extensions and barriers.

Originally, the remaining two breakers were reworked by utilizing longer screws which assure sufficient thread engagement for the bus extensions. In addition, all three phases of the circuit breaker extension were insulated with heat shrink tubing; eliminating the need for the barriers. Subsequently, a design change eliminated the use of one of these two breakers.

The specification for MCCs was revised to require Engineering approval of the use of modified connectors, terminal boards, or bus pads when standard sizes will not accept the cable size required by the project.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.C.1) (86-12-11)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.C.1) (86-12-11)

Full compliance was achieved April 4, 1986.

II. REPLY (I.C.2) (86-12-12)

Site receiving inspection does not check bolting for proper marking when that bolting is furnished on the equipment or packaged with the equipment for site installation. Inspection of the bolting would normally be performed by the vendor under his inspection program.

The identified bolting inconsistencies could have resulted from deficient vendor control of bolting or from assembly/disassembly operations at the site during which bolting could have been removed and incorrect bolting substituted.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.C.2) (86-12-12)

Purchase orders for safety related equipment were reviewed for structural bolting requirements. For equipment not yet shipped, shop inspectors will verify correct bolting prior to shipment.

A 10% sample of safety related rotating mechanical equipment in Unit 1, which included at least one item from every purchase order, was reviewed to verify that items in the field are in compliance with

bolting requirements. Out of 111 items inspected, 11 discrepancies were found involving four vendors. An additional inspection was conducted to inspect the remaining Unit 1 rotating mechanical equipment furnished by these four vendors. Five additional discrepancies were found. NCRs were written and a disposition provided for the 16 discrepant conditions in Unit 1. NCRs have been initiated for the components provided by these vendors in Unit 2.

Standard Site Procedures (SSP)-52, "Installation, Assembly, and Disassembly of Permanent Plant Equipment"; and SSP-57, "Installation, Assembly, and Disassembly of Electrical Equipment," have been implemented containing instructions for control and verification of fasteners during these processes.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.C.2) (86-12-12)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.C.2) (86-12-12)

Full compliance will be achieved on Unit 1 when the last NCR is closed on October 31, 1986. Unit 2 NCRs will be worked off and closed consistent with the Unit 2 construction sequence.

II. REPLY (I.C.3) (86-12-13)

The NRC CAT found that the size of the nozzle and manway weld reinforcement did not meet the requirements stated in the vendor drawings. A total of six tanks and heat exchangers were found to have welds that deviated from the sizes required by the applicable drawings. No inspection of tanks and heat exchangers (subsequent to inspection by the vendor) had been performed prior to the CAT inspection.

The root cause for this discrepancy was the vendor's failure to follow shop fabrication drawing requirements.

A contributing cause was that the project had not completed its investigation of NRC Information Notice 85-33 prior to the CAT.

The Information Notice was received and an action plan developed in June 1985. At the time of the CAT inspection, the inspection of vendor supplied tanks and heat exchangers had not yet taken place.

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED (I.C.3) (86-12-13)

The undersized welds identified during the CAT inspection have been identified on NCRs and dispositioned "use-as-is" based upon Engineering evaluation.

A reinspection of pressure retaining nozzle fillet welds on tanks/heat exchangers supplied by the vendors identified during the CAT inspection has been performed. Additionally, a sample of similar safety-related pressure retaining fillet welds on such products or related products supplied by other vendors has been inspected.

The reinspection revealed additional deviations. The NCRs generated as a result of the reinspection have been dispositioned "use-as-is" based upon Engineering evaluation.

A review determined that there are no open purchase orders for tanks/heat exchangers.

The status of project actions taken to address NRC Information Notices (maintained on the Licensing Commitment Tracking System) is provided to appropriate management monthly to ensure that scheduled activities are accomplished in a timely manner.

QA has performed surveillances of field vessel fabrication work on site with acceptable results.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.C.3) (86-12-13)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.C.3) (86-12-13)

Full compliance was achieved on September 12, 1986, when the NCRs that document this problem were closed

II. REPLY (I.C.4) (86-12-14)

The NRC CAT found the following deficiencies in vendor supplied components:

Page II-14 of the CAT report stated:

"Bechtel specification 3E319ES1040 requires motors under 250 horsepower (HP) rating to have vendor installed terminal lugs on the motor leads. The two air handling unit fan motors inspected, 3V111FN014 and FN016, did not have the required terminal lugs. The braided jackets on the fan motor leads were also found to be frayed. A third fan motor, FN002, identified by the NRC CAT mechanical inspectors was also found in this condition. Although these are not considered significant hardware deficiencies by the NRC CAT, the appropriate terminal lugs need to be installed when the fan motors are terminated to their permanent power source. Fans FN014 and FN016 were subsequently documented on NCR BE-3335 and fan FN002 on NCR BE-3334."

Investigation has determined that the motors were shipped with, but separate from, the air handling units. Source inspection was performed on the air handling units; but, there is no documentation that the motors were inspected. Apparently, it was not understood during receipt inspection that the motors had not been source inspected. As noted by the NRC, the absence of lugs "are not considered significant hardware deficiencies." The requirement for lugs to be provided by the manufacturer is not essential to the function of the equipment, but is intended to save field installation manhours. The absence of lugs would have been discovered in the termination process and they would have been added at that time. The NCRs will assure that the appropriate terminal lugs are installed.

Page II-14 of the CAT report stated:

"The Bechtel specification also requires motors under 250 HP rating to have an insulation rating of Class F (135° C) or H (150° C). The nameplate and vendor manual for the reactor makeup water pump motor 3R271NPA101A indicate the motor insulation is only Class B (110° C). This requires evaluation by the licensee to assure the motor is adequate for its intended service environment."

An investigation of the motors supplied under this purchase order determined that the nameplates and equipment data sheets certified compliance with the insulation class specified in the original specification, i.e., Class B; however, the vendor actually as a practice supplies the higher grade. When Bechtel later upgraded the insulation class, the need to change the nameplates and data sheets was not recognized. The vendor has confirmed that the correct insulation was supplied and the nameplates, equipment data sheets, and equipment qualification reports have been corrected to reflect the class of insulation actually installed.

III. CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED (I.C.4) (86-12-14)

NCRs were issued to correct the hardware items and a Field Change Request (FCR) was issued to correct the vendor documentation.

An evaluation was performed of safety-related motors including fans to see if Bechtel had upgraded the insulation class resulting in inaccurate nameplates or data sheets. One additional case of a purchase order which was upgraded was identified but no inconsistencies exist between nameplates and data sheets with respect to insulation class.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (I.C.4) (86-12-14)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (I.C.4) (86-12-14)

Full compliance was achieved on September 26, 1986, when the evaluation of other safety-related motors was completed.

NOTICE OF VIOLATION II.A

I. NRC STATEMENT

"10 CFR Part 50, Appendix B, Criterion VIII, as implemented by the STP QAP, Section 8.0, requires that measures be established for control of materials, parts, and components to prevent the use of incorrect or defective items. The applicable specifications for load transformers and battery racks required the use of ASTM A-307 bolting. ASTM A-307 requires that each bolt be marked, as a minimum, with the manufacturer's identification.

Contrary to above, at time of the inspections, unidentified fasteners had been used in the field assembly of electrical equipment. (CAT PEA 5 as modified by Inspection Report 50-498/86-12; 50-499/86-12)"

II. REPLY (II.A) (86-12-15)

Unmarked bolts were installed in equipment whose design requirements call for ASTM A-307 bolts. Equipment vendors supply fasteners either installed in the equipment or packaged separately to be installed by site personnel. The higher strength bolting can be identified by ASTM or SAE markings; however, low strength carbon steel bolts are frequently supplied without markings. It is common practice for equipment manufacturers to use ASTM or SAE bolts of low strength carbon steel interchangeably.

A-307 bolts without the manufacturer's mark have been bulk purchased for general field use. These bolts are uniquely identifiable by a black zinc chromate coating. The black zinc chromate coating does provide a positive method of identification, is more readily visible than markings, and is particularly useful for the small fasteners used extensively in HVAC and electrical installations that cannot be otherwise marked. Although originally purchased for use in electrical raceway installations, this black zinc chromate bolting can be (and was) substituted wherever safety related A-307 bolting is required. This substitution was not specifically authorized by the specification for safety related non-ASME bolting.

III. CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED (II.A) (86-12-15)

Specification 4A010GS1009, Safety Related Non-ASME Bolting Material, has been revised to authorize the substitution of the black zinc chromate bolting without ASTM marking in any installation requiring ASTM A-307 bolting.

A test was conducted at Southwestern Laboratories using 60 bolts chosen at random representative of the sizes and surface finishes used at STP. The resulting data shows that the samples tested exceed the

minimum tensile strength required by ASTM A-307, and met the chemical properties required by ASTM. This test confirmed that the low strength carbon steel bolting supplied to the STP meets ASTM A-307 requirements.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN (II.A) (86-12-15)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED (II.A) (86-12-15)

Full compliance has been achieved.

NOTICE OF VIOLATION II.B

I. NRC STATEMENT

"10 CFR Part 50, Appendix B, Criterion XVI, as implemented by the STP QAP, Section 16.0, requires that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, defective material and equipment, and nonconformances, are promptly corrected.

Contrary to these requirements, three nonconforming conditions were identified by both the NRC inspector and the licensee regarding bent instrument nozzle piping on both the Unit 1 and Unit 2 reactor coolant system pressurizers and five missing orifices. One to three weeks elapsed from the initial observations before issuance of a nonconformance report or the application of "hold tags" to the equipment for the nonconforming conditions. The subsequent issuance of the nonconformance report and the application of hold tags occurred after the NRC questioned licensee personnel regarding their progress toward resolution of the observed problem. (Inspection Report 50-498/85-24; 50-499/85-21)"

II. REPLY II.B (1) (86-12-16)

Although the skewed pressurizer nozzle was outside the acceptable tolerance of $\pm$ 1°, it was anticipated that an Engineering evaluation would confirm that the nozzle was acceptable as is.

Project personnel failed to recognize that this deficiency required a nonconformance report (NCR) even though the W Field Deficiency Report (FDR) written to document the deficiency was anticipated to be dispositioned "use-as-is."

III. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED II.B (1) (86-12-16)

A NCR was initiated and hold tags were placed on the nozzle on January 31, 1986. In addition, Standard Site Procedure (SSP)-8, "Nonconformance Reports," was revised to require W to initiate a NCR for deficient conditions detected by W personnel against items where W is the "N" Certificate Holder/Supplier.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN II.B (1) (86-12-16)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED II.B (1) (86-12-16)

The project was in full compliance on January 31, 1986.

II. REPLY II.B (2) (86-12-16)

The NRC raised a question as to the location of the orifices in the instrument taps indicated on the applicable P&IDs. An investigation determined that the flow orifices were not installed.

See response to Notice of Violation I.B.3.

Nonconformance reports are normally not written to document design inconsistencies. The specific condition of missing flow restrictors was corrected by the issuance of a Design Change Notice revising the applicable piping drawings. However, a NCR was issued on January 31, 1986, to further control this condition and facilitate correction of the hardware problems.

III. CORRECTIVE ACTION AND RESULTS ACHIEVED II.B (2) (86-12-16)

See Section II above.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN II.B (2) (86-12-16)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED II.B (2) (86-12-16)

Not applicable.

II. REPLY II.B (3) (86-12-16)

On January 20, 1986, the site inspector informed HL&P that the Unit 2 pressurizer had a severely bent instrument tap. As a result of these discussions, a nonconformance report (NCR) was generated on January 20, 1986. However as of the day of the NRC exit (January 31, 1986), the appropriate hold tag had not been placed. The hold tag was placed immediately following the exit. Investigation revealed that a considerable backlog existed in the NCR hold tag process which could have delayed placing of hold tags for up to two weeks. This constituted an unacceptable delay between the identification of a problem and the placing of the appropriate hold tag.

III. CORRECTIVE ACTION AND RESULTS ACHIEVED II.B (3) (86-12-16)

As indicated above, a hold tag was placed on the bent instrument tap immediately following the NRC exit. In addition, administrative changes were made in the NCR/hold tag process to speed up the placement of hold tags. Specifically, the process has been changed so that immediately after NCR validation, a NCR number is obtained and a

hold tag placed. Before this change, NCRs were sent to the NCR coordinator for assigning of numbers and then returned to the initiator for placement of hold tags. QC inspectors have been trained in the revised procedural requirements.

IV. CORRECTIVE STEPS WHICH WILL BE TAKEN II.B (3) (86-12-16)

Not applicable.

V. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED II.B (3) (86-12-16)

The project was in full compliance on April 17, 1986, when the training of the QC inspectors was completed.