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

Report No. 99900522/79-03 Program No. 51200

Company: Bechtel Power Corporation
San Francisco Power Division
425 Market St.
San Francisco, California 94119

Inspection at: Ann Arbor Office, Ann Arbor, Michigan

Inspection Conducted: May 22-25, 1979

Inspectors: R. H. Brickley 6/13/79
R. H. Brickley, Principal Inspector, Vendor Inspection Branch — Date

R. L. Brown 6/13/79
R. L. Brown, Principal Inspector, Vendor Inspection Branch — Date

J. M. Johnson 6/13/79
J. M. Johnson, Contractor Auditor, Vendor Inspection Branch — Date

Approved by: C. J. Hale 6-13-79
C. J. Hale, Chief, Program Evaluation Section, Vendor Inspection Branch — Date

Summary

Inspection on May 22-25, 1979 (99900522/79-03)

Areas Inspected: Implementation of 10 CFR 50, Appendix B in the areas of design inspection, design process management, procurement document control, procurement source selection, and evaluation of supplier performance. The inspection involved eighty-seven (87) inspector-hours on site by three (3) NRC inspectors.

Results: There were no unresolved items identified in any of the areas, no deviations identified in three (3) of the areas and the following deviations identified in the remaining areas:

Deviations: Design inspection - a calculation on the containment spray system had not been checked as required, and evaluation of supplier performance - solution-anneal heat treatment procedures were not submitted by a valve vendor for Bechtel approval prior to use as required by the procurement specification.

Details Section I

(Prepared by R. H. Brickley)

A. Persons Contacted

D. R. Anderson, Mechanical Group Supervisor
M. B. Pratt, Nuclear Group Leader
K. C. Prasad, Dose Analysis Group Leader
A. K. Vovides, Engineer

B. Design Inspection - Containment Spray System

1. Objectives

The objectives of this area of the inspection were to verify for the containment spray system that:

a. Design criteria, requirements and commitments, as listed in the SAR, were utilized in design input during system and component design.

b. Analyses of containment spray pump net positive suction head (NPSH) during all phases of operation follow the guidance of Regulatory Guide 1.1.

c. Design analyses establish the capability of the system to provide flow at rates and temperatures which result in heat removal rates consistent with those utilized in the LOCA and/or main steam line break analyses.

d. Specifications and/or procurement documents for system components require them to be designed, fabricated, erected and tested in accordance with applicable ASME Section III and 10 CFR 50, Appendix B, requirements.

e. Provisions and plans have been made for pre-operational and operational testing consistent with SAR commitments and statements.

f. The analysis (design) of system spray coverage supports SAR commitments and statements.

g. The system design for pH control including analyses of pH versus time after system actuation supports SAR commitments and statements.

h. Provisions to prevent trapping of chemical additives implement SAR commitments.

i. Calculations of iodine removal constants, use parameters, and system characteristics are consistent with those in items a-h, above.

j. Iodine removal constants used in the analyses of the radiological consequences of a LOCA are consistent with item i., above.

2. Method of Accomplishment

The preceding objectives were accomplished by an examination of:

a. Sections 6.2.2 (Containment Heat Removal System) and 6.5.2 (Containment Spray System) and associated tables and figures of Project No. 7220 FSAR; and Section 3 (Design Control) of Topical Report BQ-TOP-1, Revision 1A for the technical and programmatic commitments.

b. Calculation F-M-3720-30 (NPSH for Spray Pumps - Recirculation Mode) Revision 1, dated March 6, 1979 to verify that it satified B.1.a and B.1.b above.

c. Calculations No. F-M-3750.5-25 (Minimum ECCS Containment Pressure Evaluation) Revision 0, dated April 4, 1979; F-M-3750.5-28 (Inadvertant Spray Actuation) Revision 0, dated March 14, 1979; F-M-3750.5-30 (Minimum ECCS Containment Back Pressure) Revision 0, dated April 24, 1979; F-M-3750.5-32 (Effect of Change in Spray Activation Time on Minimum ECCS Back Pressure) Revision 0, dated April 23, 1979; F-M-3725-1 (Reactor Building Spray System Flow Diagram) Revision 0, dated January 23, 1974; CP-M-3720-24 (Minimum Water Level in Containment During a LOCA) Revision 0, dated August 2, 1974; and CP-M-2720-28 (Containment Spray Header Fill Time Following LOCA) Revision 0, dated December 1, 1976 to verify that they satified B.1.a and B.1.c above.

d. Specifications No 7220-M-54 (Design Specification for the Purchase of Reactor Building Spray Pumps) Revision 6, dated June 30, 1977; and 7220-M-201 (Technical Specification for Shop Fabricated Piping for Nuclear Service) Revision 3, dated January 8, 1974, to verify that they satisfied B.1.a and B.1.d above.

e. Calculations No. F-M-505-24 (FSAR Loss of Coolant Accident Analysis: Off-site Doses) Revision 0, dated January 11, 1978; F-M-505-42 (Iodine Removal) Revision 0, dated January 17, 1979; and F-M-505-43 (LOCA Analysis: Off-site Doses) Revision 0, dated July 17, 1978, to verify that they satisfied B.1.i and B.1.j above.

f. Drawings No. 7220-M-412 (P&ID Reactor Building Spray - Unit 1) Revision 8, dated February 6, 1979; and 7220-M-413 (P&ID Reactor Building Spray - Unit 2) Revision 8, dated February 6, 1979, to verify that they satisfied B.1.a and B.1.e above.

3. Findings

a. There were no unresolved items and one deviation (See Notice of Deviation, Item A) identified in this area of the inspection.

b. The following items apply to Item A of the Notice of Deviation:

(1) In addition to the engineering design calculation identified in Item A of the Notice of Deviation the following calculations have not been checked:

Number	Title	Date
F-M-3725-7	Reactor Building Sump Vent DP.	1/25/78
F-M-3725-6	Estimate of Reactor Building Spray in contact with Containment Wall & Estimate of Containment Wall Surface Area.	6/9/77
F-M-3720-27	Maximum Pressure in Reactor Building Sump Penetration.	6/15/76
F-M-3722-31	Minimum Water Level in Reactor Containment during Spray and Recirc. Mode following a LOCA.	10/25/78

(2) Calculations F-M-505-24 (FSAR Loss of Coolant Accident Analysis: Off-site Doses) and F-M-505-42 (Iodine Removal) both reference calculation No. F-M-3720-33 as a source of input. (See paragraph B.2.e above) In addition calculation F-M-505-43 (LOCA Analysis: Off-site Doses) references calculations F-M-505-24 and F-M-505-42 as a source of input. (See paragraph B.2.e above).

C. Exit Interview

An exit interview was held with management representatives on May 25, 1979. In addition to those individuals indicated by an asterisk in paragraph A of each Details Section those in attendance were:

W. Bird, Consumers Power Company
S. Chakraborti, QA Engineer (QAE)
V. A. Dreisbach, Project QAE
P. A. Martinez, Project Manager
J. Milandin, QA Manager
W. Moring, Lead QAE
R. L. Rixford, QAE
M. O. Rothwell, Assistant Project Engineer
E. Rumbaugh, Manager of Engineering
R. A. Simanek, Project QC Supervisor
C. F. Smith, Procurement Manager
L. O. Sokol, Project Procurement Manager
R. K. Vassar, Manager, Project Operations
H. W. Wahl, Vice President and Area Manager

The inspector summarized the scope and findings of the inspection. Management comments were generally for clarification only, or acknowlegement of the statements by the inspector.

Details Section II

(Prepared by Ross L. Brown)

A. Persons Contacted

*C. D. Dart, Quality Engineer
S. W. Emerson, Senior Engineer
M. G. O'Mara, Quality Engineering, Supervisor
S. Reed, Project Records Processing Center Clerk

*Attended exit meeting.

B. Design Process Management

1. Objective

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. Methods of Accomplishment

The preceding objectives were accomplished by review of the following documents applicable to Job No. 7220.

a. Engineering Department Project Instruction (EDPI) 4.1.1, defines the system and responsibilities for preparation, revisions, review and approval of design criteria documents.

b. EDPI 4.25.1 describes the method of identifying, controlling, and coordinating interfaces among design groups, these activities include the coordination and review of all pertinent engineering design documents developed and/or received by the project.

c. Engineering Department Procedure (EDP) 4.26 defines the requirements and assigns the responsibilities for the performance and documentation of design review to assure that the system and structures significant to the safety, reliability, and operability of the items are adequately designed and that the designs are properly integrated.

d. EDP 4.28 provides the method of development, review, approval and control of the Project Q-List.

e. EDP 4.36 defines the quality requirements and assigns the responsibilities for documentation, verification control and use of Standard Computer Programs used for design calculations.

f. EDP 4.37 defines the methods used and designates the responsibility for preparing, checking, reviewing, approving, controlling, revising and retaining engineering design calculations.

g. EDP 4.46, defines the requirements and assigns the responsibility for the preparation review, approval, and control of project engineering drawing and revisions thereto.

h. EDPI 4.46.3 identifies the use of drawing control log, drawing change notice log, discipline stick files and specifies the required approvals and discipline designator on drawings.

i. EDP 4.47 defines the requirements and assigns the responsibilities for the preparation, review, approval and control of Design Change Notices (DCN) that provides a means of making and documenting changes to design drawings without the immediate necessity of revising the drawing.

j. EDP 4.49 defines the requirements and designates the responsibilities for the preparation, review, approval and control of engineering specifications and changes thereto.

k. EDPI 4.49.1 establishes the method for using Specification Change Notices (SCN) to make changes to specifications after they have been issued.

l. EDP 4.58 describes the steps to be followed by engineering in specifying the Engineering and Quality Verification Documents to be furnished by suppliers, and provides the guidelines and assigns responsibilities for the review of such documents.

m. EDP 5.16 defines the method of control for receiving, recording, processing and expediting all supplier documents submitted to Project Engineering.

n. Documents related to the procurement of the Emergency Diesel Generators for Job No. 7220.

(1) Material Requisition No. 7220-M-18(Q), Revision 5, that includes a list of all the technical and quality requirements and a list of drawings, specification, forms, appendices, data sheets, and other documents to be included as attachments to the purchase order.

(2) Technical Specification for Emergency Diesel Generator, No. 7220-M-18, Revision 5.

(3) Design Data, Appendix A.

(4) Sequential Loading Table, Appendix B.

(5) Water Analysis, Appendix B.

(6) Shop Inspection Requirements, Appendix G.

(7) Motor and Pump Performance Curves, Appendix I.

(8) Applied Forces and Moments to Pump and Heat Exchanges, Appendix J.

(9) General Project Requirements No. 7220-G-11.

(10) Engineering and Quality Verification Document Requirements, No. 7220-M-18(Q), specifying the documents required to satisfy the specifications requirements.

(11) Forty-Nine (49) Schematic Diagrams and six (6) Facing Sheets pertinent to the Diesel Generator and related system.

(12) General Welding Requirements for Shop Fabricated Equipment, Specification No. 7220-G-4.

o. Vendor document submitted to satisfy the requirement specified in paragraph B.2 n.(10).

(1) Seismic Qualification of Diesel Generator (Final Report Volumes I, II and III) vendor print (VP) Nos. 7220-M18-370-1, 7220-M18-371-1 and 7220-M18-372-1.

(2) Vendor Print Control Register log for all vendor documents; the register identifies the document number, subject, number of submittals and status of each submittal.

(3) Induction Motor Curves for 75 HP Motor, VP No. 7220-M18-215-2.

(4) Heat Exchanger Data Sheet, (Combustion Air Cooler) VP No. 7220-M18-237-2 and 3.

(5) Engine Calculations, Load Comparison, Sequential Loading and Margin Test, VP No. 7220-M18-332.

(6) Control Panel-Component Placement VP No. 7220-M18-353-3.

(7) Qualification Testing Report - Standby Generator Set, Engine No. 1, VP No. 7220-M18-374-2.

(8) Sub-Vendor Welding Specification and Qualification VP No. 7220-M18-130-1 and 4.

(9) Sub-Vendor Specification No. 1.5 Welding Procedure and Welding Inspection (covers weld rod control) VP No. 7220-M18-289-2.

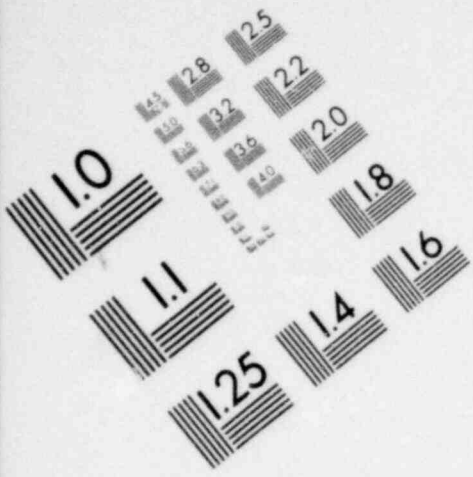
(10) Section 5 of Vendor QA manual (covering weld rod control) VP No. 7220-M18-360-3.

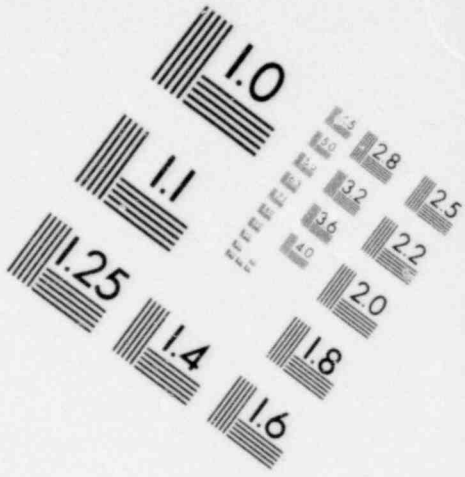
(11) Procedure Specification and Qualification, VP No. 7220-M18-155-1 and 4.

(12) Bechtel internal memorandum stating that two (2) sub-vendor for purchase order 7220-M18 are not manufacturing any safety related components for this order, therefore they are not required to have Bechtel approved welding and/or heat treatment procedures.

3. Findings

No deviations from commitments or unresolved items were identified in this area of the inspection.





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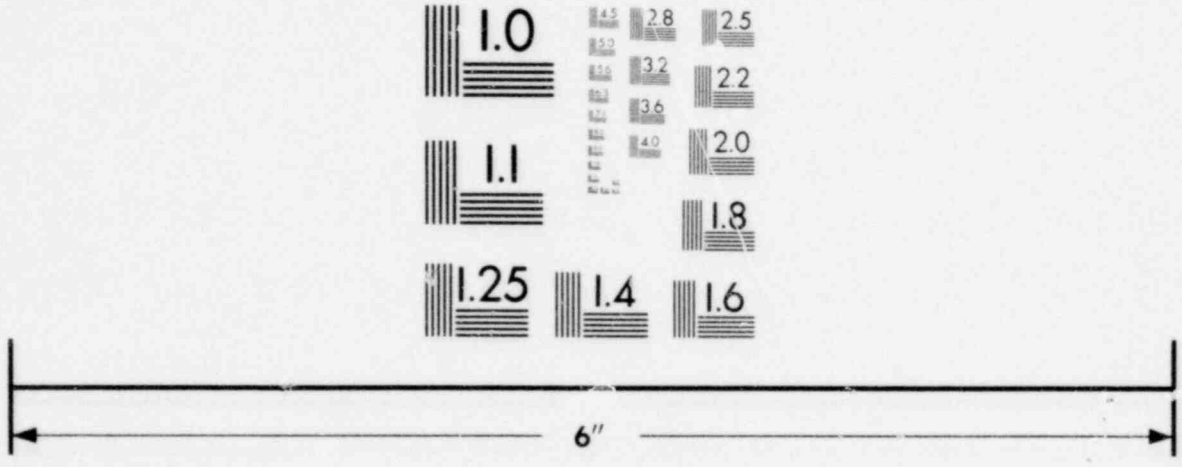

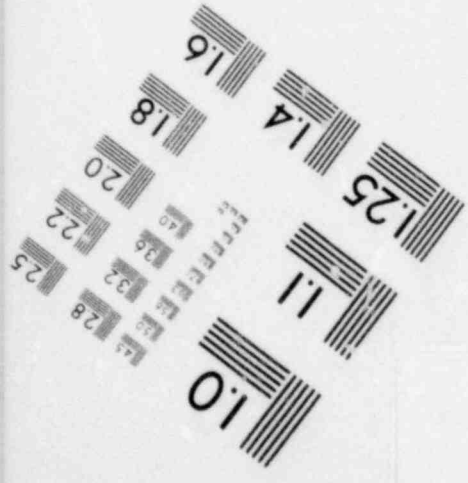

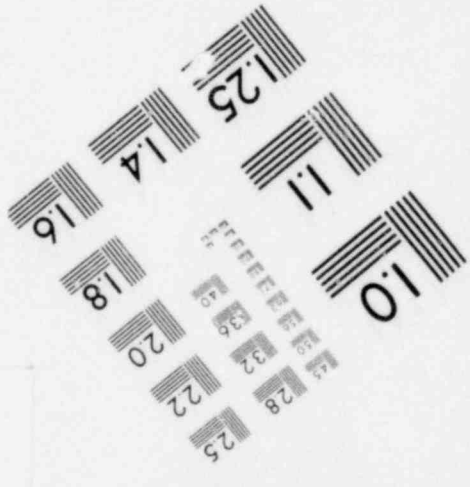

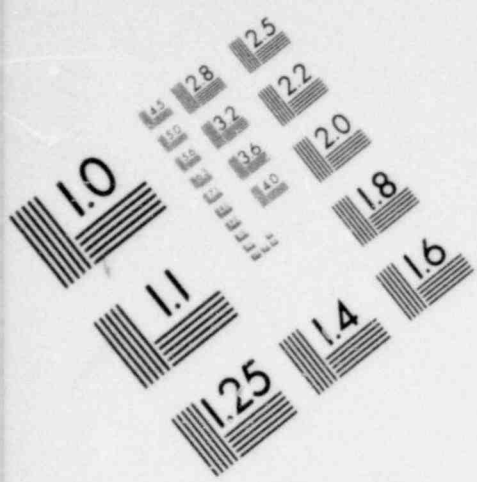

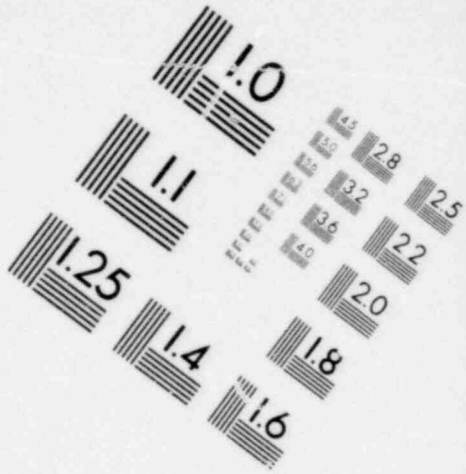

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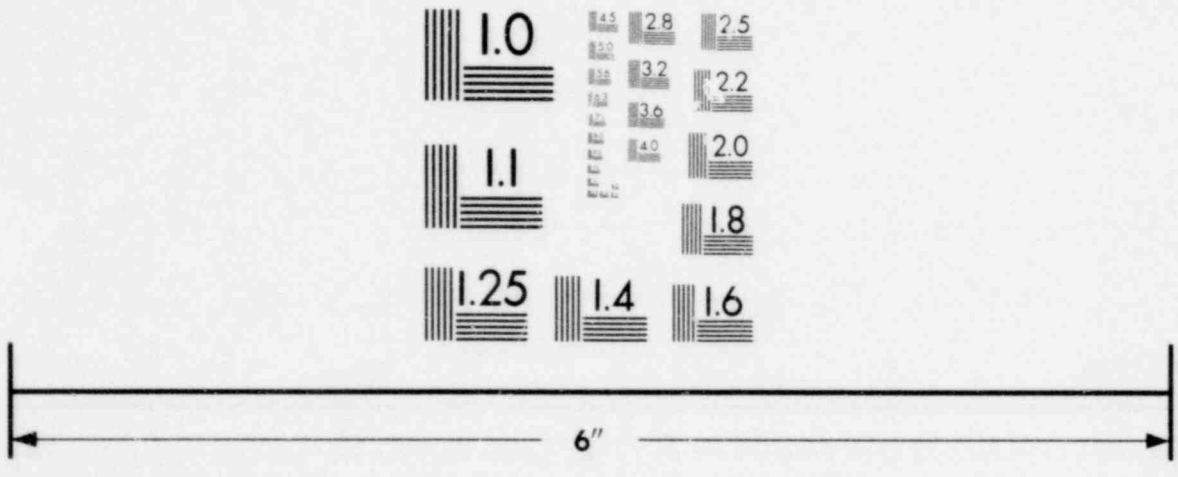

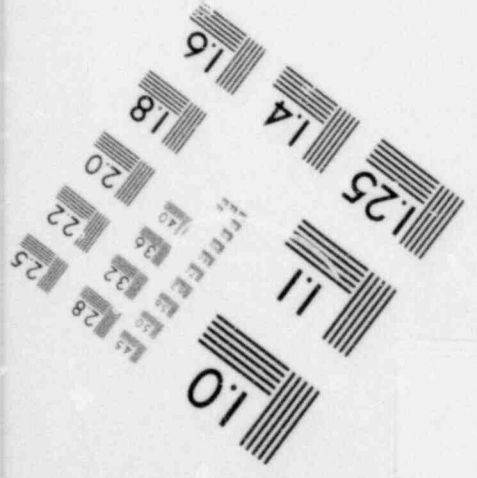

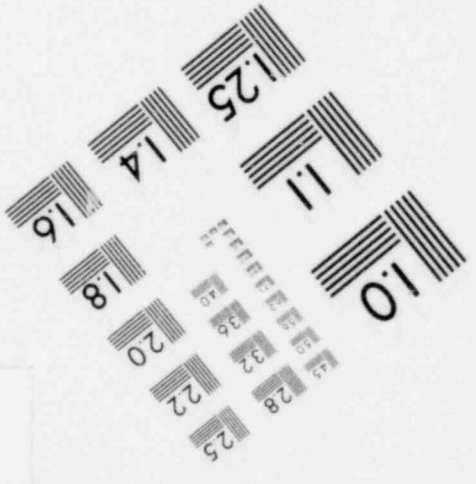

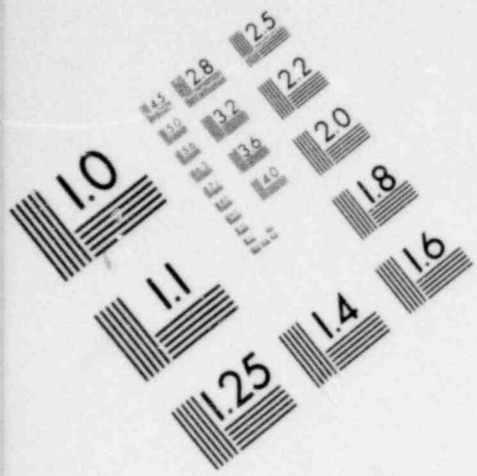

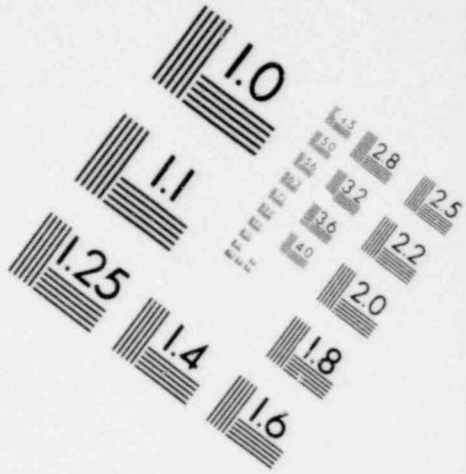

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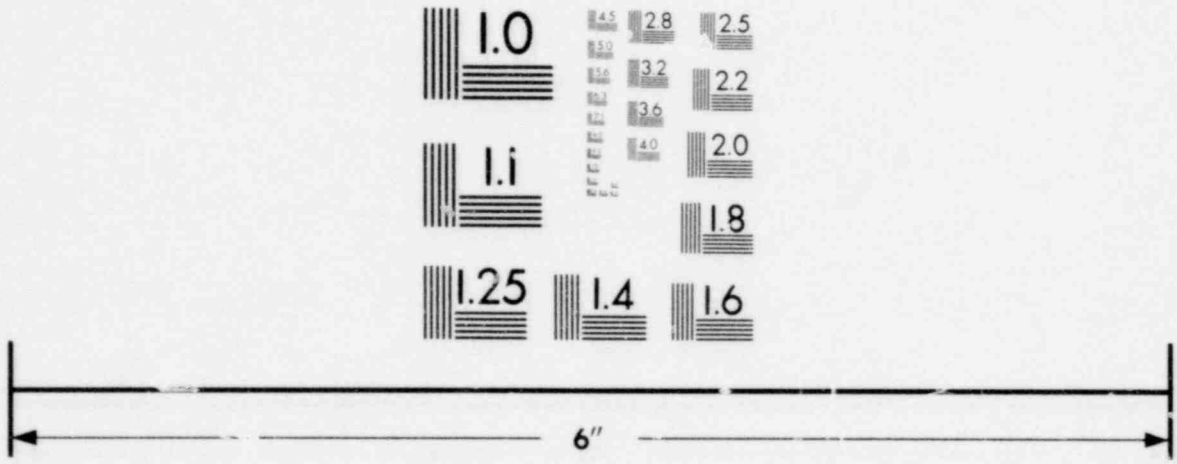

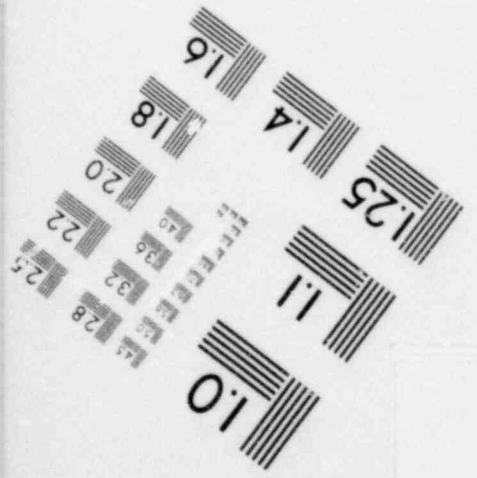

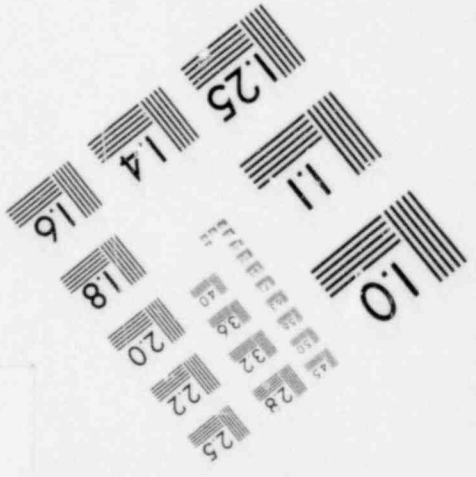

Details Section III

(Prepared by J. M. Johnson)

A. Persons Contacted

T. Ballweg, Mechanical Group Leader
*R. Baltazar, Project Quality Engineer
A. Bice, Quality Assurance Engineer
*R. L. Castleberry, Project Engineer
A. R. Et-Taher, Mechanical Engineer
P. Gray, Procurement Supplier Quality Representative
*J. McBride, Staff Quality Assurance Engineer
T. Troutman, Purchasing Supervisor
D. Ugorcak, Control Systems Engineer
G. Washburn, Group Leader, Control Systems

*Denotes those present at exit meeting.

B. Procurement Source Selection

1. Objectives

The objectives of this area of the inspection were to verify that procedures have been established and implemented for the selection of qualified suppliers of services, materials, and components that provide for:

a. Requirements and methods for evaluation of the potential supplier's capability to provide items or services in accordance with the technical and quality assurance specifications of the procurement documents; methods are consistent with applicable regulatory, code and contract requirements and include source evaluation audits, review of historical performance, and/or review and evaluation of the supplier's QA program, manual and procedures.

b. Qualification requirements for personnel performing source evaluation and audits.

c. Periodic re-evaluation of suppliers, maintenance and distribution to purchasing of an up-to-date listing of the evaluation status, and contract awards made only to companies designated in these documents.

d. Measures to assure that the supplier's bid conforms to the procurement document requirements and/or has been evaluated for acceptability of exceptions taken of technical or Quality

Assurance nature, and resolution of unacceptable conditions identified during bid evaluation prior to contract award or commencement of work.

2. Method of Accomplishment

The preceding objectives were accomplished by an examination of:

a. Bechtel Topical Report No. BQ-TOP-1, Revision 1A (applicable to Project 7220), Sections 1.3 (Procurement), 7 (Control of Purchased Material, Equipment and Services) and 18 (Audits). These were examined to determine program commitments.

b. Final Safety Analysis Report (FSAR) for Project 7220, Section 17, to determine project program commitments.

c. Thermal Power Organization Quality Program Policy, Policy Nos. TPO Q-4.1 (Responsibilities for Procurement), Q-4.2 (Supplier Quality Programs), Q-7.1 (Source Evaluation), and Q-7.2 (Quality Surveillance), to determine Bechtel policy.

d. Engineering Department Procedures (EDPs) and associated Manager of Engineering Directives (MEDs) and Engineering Department Project Instructions (EDPIs): EDPs and associated MEDs and EDPIs Nos. 6.5 (Bid Evaluation), 6.11 (Evaluation of Supplier QA Programs), and 6.10 (Supplier QA Program Selection and Evaluation). These were examined to determine procedural requirements, including project requirements for Project 7220.

e. Bechtel Procurement Supplier Quality Manual, Section 2, Supplier Evaluation, to determine procedural requirements.

f. Documents related to selection of Bingham-Willamette as supplier for 7220-M-14(Q) contract (Auxiliary Feedwater Pumps):

(1) Records of full scope audits performed August 11-13, 1976, and November 30-December 1, 1977 and closure of one (1) finding.

(2) Supplier Performance Evaluation Report (form PSQ 223) of sub-supplier, Terry Steam Turbines, dated March 1, 1978, and March 1, 1979.

(3) QA Manual reviewed and accepted for meeting ANSI N45.2 requirements.

(4) Evaluated Supplier List (ESL) dated April 27, 1979, with rating of Conditional Satisfactory (Prior lists unavailable at Ann Arbor).

g. Documents related to selection of Vitro as supplier for 7220-J-207(Q) contract (Engineered Safety Feature Actuation System (ESFAS)):

(1) Bid evaluation recommending Automation Industries Incorporated, Vitro Lab Division. This includes evaluation/resolution of technical exceptions.

(2) Audit report dated February 2, 1978.

(3) Evaluated Supplier List dated April 27, 1979, showing closure of all open audit findings.

h. Documents related to selection of Crosby Valve and Gage as supplier for 7220-M-333(Q) contract (Nuclear Service Pressure Relief Valves):

(1) Bid evaluation tabulation (including evaluation of exceptions) which recommended selection of Crosby.

(2) Record of acceptance of Crosby ASME Code QA Manual in October 1977 and for QA Manual 110 in July 1978.

(3) Audits dated September 1976 and November 1977.

(4) Evaluated Supplier List dated April 27, 1979, showing status as Conditionally Satisfactory.

(5) Supplier Performance Evaluation Report dated August 22, 1978, concerning future work by Crosby.

i. Documents related to selection of Consolidated Controls Corporation (CCC) as supplier for 7220-J-275(Q) contract (Engineered Safety Systems Isolation System (ESIS)):

(1) List of recommended bidders submitted by engineering.

(2) Bid tabulation, including evaluation of technical exceptions, and recommendation of CCC for contract award.

(3) Evaluated Supplier List dated April 27, 1979 showing CCC as an approved supplier with no open audit findings, an accepted ANSI QA manual, and most recent audit date of October 27, 1978.

j. Auditor qualifications for one (1) lead auditor and one (1) auditor checked on personnel status roster; auditor training certificate examined for one (1) auditor.

3. Findings

In this area of the inspection, no deviations or unresolved items were identified.

C. Procurement Document Control

1. Objectives

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

a. Organizations involved in procurement activities have been identified and responsibilities delineated.

b. Procurement documents include requirements for a quality program consistent with 10 CFR 50, Appendix B, and for passing on appropriate requirements to sub-vendors.

c. Procurement documents include scope of work, technical requirements, equipment specifications, test and inspection requirements and provide rights of access, witness point identification, and requirements for nonconformances and documentation.

d. Changes to procurement documents have the same degree of review and control as original issue.

2. Method of Accomplishment

The preceding objectives were accomplished by an examination of:

a. Bechtel Topical Report No. BQ-TOP-1, Revision 1A, Sections 1.3 (Procurement) and 4 (Procurement Document Control), to determine program commitments.

b. Final Safety Analysis Report (FSAR) for Project 7220, Sections 17 and 3.2 and Table 3.2-1 and Question 421.1 concerning section 17.2, to determine project program commitments.

c. Thermal Power Organization Quality Program Policy, TPO No. Q-4.1 (Responsibilities for Procurement), to determine Bechtel policy.

d. Engineering Department Procedures (EDPs) and associated Manager of Engineering Directives (MEDs) and Engineering Department Project Instructions (EDPIs): EDPs 4.28 (Project Q-Lists), 4.55 (Project Material Requisitions (MRs)), 4.56 (Contracts and Subcontracts) and 4.49 (Project Specifications). These were examined to determine procedural requirements, including requirements for Project 7220.

e. Project 7220 procurement procedures to determine procedural requirements.

f. Project Amendment, Revision B, to the Bechtel Nuclear QA Manual, titled "Midland Project Positions on Required ANSI Standards and Regulatory Guides."

g. Project Q-List (safety-related), Revision 7, dated April 20, 1977.

h. Attachment 7220-G-23, Revisions 5 and 6, titled "General Requirements for Supplier QA Programs." This is the standard QA attachment to procurement documents for Q (safety-related) equipment and includes requirements for adherence to applicable sections of ANSI N45.2 by the supplier, and hold points, access and nonconformances.

i. Documents related to procurement 7220-M14(Q) for auxiliary feedwater pumps:

(1) Material Requisition, Revision 3 (Issued for Purchase).

(2) Purchase order including scope, technical requirements, documents, QA attachment, documentation requirements, purchasing and shipping requirement, applicable codes and standards, and testing requirements.

(3) Purchase order revisions 2 through 6 and their generation by Purchase Memorandums or "snap-outs" (ECARs, which are Extra Charge Approval Requests).

j. Documents related to procurement 7220-J207(Q) for Engineered Safety Feature Actuation System:

(1) Material Requisition, Revision 2 (Issued for Purchase).

(2) Purchase Order including scope, technical requirement documents, codes and standards, shipping requirements, testing, and QA attachment.

(3) Purchase Order revisions 1 through 4, and their generation by Purchase Memorandums or ECARs.

k. Documents related to procurement 7220-J-275(Q) for Engineered Safety System Isolation System:

(1) Material Requisition, Revision 1 (Issued for Bid) and Revision 2 (Issued for Purchase).

(2) Purchase order, including scope, submittals, design requirements documents, codes and standards, shipping requirements, QA attachment, and test and inspection requirements.

(3) Purchase Order revisions 2 and 3 and associated Purchase Memorandums transmitting Material Requisition revisions.

1. Documents related to procurement 7220-M-333(Q) for Nuclear Service Pressure Relief Valves:

(1) Material Requisition, Revision 1 (Issued for Bid) and Revision 2 (Issued for Purchase).

(2) Purchase Order, including technical specification, design specification, project requirements, valve data sheets, and QA attachment, hold points, and testing requirements.

(3) Purchase Order revision 1 and Purchase Memorandum transmitting revised Material Requisition.

3. Findings

In this area of the inspection, no deviations or unresolved items were identified.

D. Evaluation of Supplier Performance

1. Objectives

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

a. Initiation of pre- and post-award activities, as necessary, to assure that purchaser and supplier understand requirements of the procurement documents.

b. Identification of planning techniques and processes, and hold and inspection points.

c. Identification and review/appoval of supplier generated documents.

d. Control of changes and their processing.

e. Establishment of exchange method of document information between purchaser and supplier.

2. Method of Accomplishment

The preceding objectives were accomplished by an examination of:

a. Bechtel Topical Report No. BQ-TOP-1, Revision 1A, Sections 5 (Instructions, Procedures and Drawings), 7 (Control of Purchased Material Equipment, and Services) and 18 (Audits). These were examined to determine program commitments.

b. Final Safety Analysis Report (FSAR) for Project 7220, Section 17, to determine project program commitments.

c. Thermal Power Organization Quality Program Policy, Nos. TPO Q-7.2 (Quality Surveillance), Q-7.3 (Review of Supplier Documents) and Q-7.4 (Control of Supplier Nonconformances), to determine Bechtel policy.

d. Engineering Department Procedures (EDPs) and associated Manager of Engineering Directives (MEDs) and Engineering Department Project Instructions (EDPIs): EDP Nos. 5.16 (Supplier Document Control and Review), 4.64 (Supplier Audit Surveillance and Inspection), 4.63 (Supplier Deviation Disposition Requests), and 4.58 (Specification and Review of Supplier Engineering and Quality Verification Documentation). These were examined to determine procedural requirements, including unique requirements for project 7220.

e. Bechtel Procurement Supplier Quality Manual, Section 3 (Quality Surveillance).

f. Project Amendment, Revision B, to Bechtel Nuclear Quality Assurance Manual, titled "Midland Project Position on Required ANSI Standards and Regulatory Guides."

g. Project Amendment, Revision 2-A, to Bechtel Nuclear QA Manual (Section III, No. 9) concerning supplier document review.

h. Documents related to 7220-M-14(Q), procurement of Auxiliary Feedwater Pumps:

(1) Supplier Deviation Disposition Request No. 1 and its approval by Bechtel.

(2) Quality Surveillance Report Nos. 37, 38, 39 and 46, two of which related to hold point inspections.

(3) Hold point designation and control of changes in purchase order.

i. Documents related to 7220-J-207(Q), procurement of Engineered Safety Features Actuation System:

(1) Seismic Qualification Report and Bechtel's designation as Category 1.

(2) Vitro Drawing No. 2717-100, sheets 1, 2, 3 and 4 and Bechtel's designation as Category 1.

j. Documents related to 7220-J-275(Q), procurement of Engineered Safety System Isolation System:

(1) Post-award meeting notes from September 20, 1977, indicating clarification of technical and QA issues.

(2) Supplier Deviation Disposition Request No. 951 and Bechtel's approval.

(3) Seismic Qualification Performance Test procedure and results and Bechtel's evaluation.

(4) Consolidated Controls Corporation drawing No. 9N46, sheets 1 and 2 and Bechtel's designation as level 1.

k. Documents related to 7220-M-333(Q), procurement of Nuclear Service Pressure Relief Valves:

(1) Supplier Deviation Disposition Request No. 1 and Bechtel's approval.

(2) Crosby drawing No. DS-C-62570 and Bechtel's designation as Code 1.

(3) Crosby procedures designated Code 1 by Bechtel's assembly procedure; liquid pentrant procedure; hard-surfacing procedure.

(4) Telecon record (pre-award) concerning clarification of requirements to Crosby.

(5) Quality Surveillance Reports dated April 10 and April 25, 1979.

3 Findings

a. In this area of the inspection, no unresolved items were identified.

b. One (1) deviation was identified (See Notice of Deviation, Item B).

c. Concerning Item B in the Notice of Deviation, four (4) valve bodies (SA 182 casings) were witnessed (as documented in reports) by the Bechtel Supplier Quality Representative during liquid penetrant inspection after machining. This process is subsequent to solution-anneal heat treatment.

Other materials may also have been processed past solution-anneal heat treatment without prior submission and approval of heat treatment procedures as required.