

ORGANIZATION: MCC PACIFIC VALVES  
LONG BEACH, CALIFORNIA

REPORT NO.:	INSPECTION DATE(S)	INSPECTION ON-SITE HOURS:
99900075/82-01	11/1, 2, & 5/82	17
CORRESPONDENCE ADDRESS: MCC Pacific Valves ATTN: Mr. B. S. Rankin President 3201 Walnut Street Long Beach, CA 90807		
ORGANIZATIONAL CONTACT: Mr. R. Michael - Manager of Quality Assurance TELEPHONE NUMBER: (213) 426-2531		
PRINCIPAL PRODUCT: ASME Section III "N" Class 1, 2, and 3 valves. NUCLEAR INDUSTRY ACTIVITY: MCC Pacific Valves' contribution to the nuclear industry represents approximately 10 percent of its total workload.		
ASSIGNED INSPECTOR:	<u>W. D. Kelley</u> W. D. Kelley, Reactive & Component Program Section (R&CPS)	<u>12/15/82</u> Date
OTHER INSPECTOR(S):		
APPROVED BY:	<u>I. Barnes</u> I. Barnes, Chief, R&CPS	<u>12/15/82</u> Date
INSPECTION BASES AND SCOPE: A. <u>BASES</u> : 10 CFR Part 21 and 10 CFR Part 50, Appendix B. B. <u>SCOPE</u> : This inspection was made as a result of the issuance of a 10 CFR Part 50.55(e) report by Florida Power & Light Company concerning the calculated stress for body to bonnet studs exceeding the allowable stress in 17 valves that have been furnished to St. Lucie Plant, Unit 2. Additional areas inspected included implementation of 10 CFR Part 21 and design and document control.		
PLANT SITE APPLICABILITY: 50-389.		

DESIGNATED ORIGINAL  
Inspected by Rheanne Clark

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A. VIOLATIONS:

None

B. NONCONFORMANCES:

None

C. UNRESOLVED ITEMS:

None

D. OTHER FINDINGS OR COMMENTS:

1. Florida Power & Light Company (FP&L): St. Lucie Plant, Unit 2 - Problem reported was the calculated stress for body to bonnet studs exceeding the allowable stress in 17 valves delivered to site.
  - a. The NRC inspector reviewed the Ebasco Services, Incorporated (ESI) purchase order and design specification, and verified that the bolting material was not specified for valves.
  - b. The NRC inspector reviewed the MCC Pacific Valves (MCC PV) drawings, shop job instructions, and correspondence with ESI, and ascertained that: (1) the original design specified that the stud material was to be SA 193, Grade B7, and the nut material was to be SA 194, Grade 2H; (2) ESI stated in their comments on the MCC PV drawings that, "The material for the bonnet studs shall be ASTM A193, GR B8 strain hardened, and material for the bonnet stud nuts shall be ASTM A194, GR B8 . . . ."; and (3) the MCC PV drawings and shop job instructions were revised in accordance with ESI comments, and the revisions were approved by the MCC PV project engineer.
  - c. The NRC inspector reviewed MCC PV correspondence and discrepant material notices, and established that: (1) the MCC PV QA engineer had identified during documentation review that the ESI specified bolting material was not recognized by Section III of the ASME Code, receiving inspection had accepted the wrong class of material from the bolting material supplier, and the calculated stress of the installed bolting exceeded the allowable stress; (2) a discrepant material notice was issued; and (3) MCC PV notified FP&L that the calculated stress exceeded the allowable for the studs installed in 17 delivered valves.

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<p>d. The NRC inspector verified by document review that MCC PV had revised the drawings and shop job instructions to reflect a change in bolting material to ASME SA 564, Type 630 (1100), and that the revision had been approved by the design engineer. MCC PV actions to prevent recurrence were ascertained to have included: (1) establishment of a design review criteria checklist for assuring the accuracy of design documents; (2) instruction of receiving inspection and QA engineering with respect to material certification and testing requirements; and (3) establishment of standard material procurement clauses to and in procurement of correct material.</p> <p>The checklist now requires (in addition to engineering and project engineer sign off and approval) that the engineering department head sign off and approve the design and revisions to any design. Instructions with respect to material certification and testing requirements were given to receiving inspection and QA engineering personnel as a result of acceptance of A194, Grade B8, Class 1 material when the purchase order had specified Class 2.</p> <p>e. The NRC inspector verified by documentation review that MCC PV had shipped replacement bolting material to FP&amp;L and had provided instructions on installation requirements for: (1) preserving the pressure integrity of the body/bonnet connection; (2) preventing damage to or a leak path through the bonnet gasket; and (3) recommended torque of replacement bolting.</p> <p>2. <u>Implementation of 10 CFR Part 21:</u></p> <p>a. The NRC inspector verified that the MCC PV Material Review Board (MRB) had reviewed the discrepant material notice for the bolting in accordance with their quality assurance program and 10 CFR Part 21 procedures. The MRB was noted to have unanimously agreed that the material selection did not constitute a substantial safety hazard and was not reportable under the requirements of 10 CFR Part 21.</p> <p>b. The NRC inspector established that the deficiency was attributable to the failure of both MCC PV engineering and the independent reviewer (project engineer) to review the customer specified material change with respect to ASME Code acceptability and design adequacy.</p>		

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<p>3. <u>Design and Document Control</u>: The NRC inspector reviewed the applicable sections of the MCC PV ASME accepted quality assurance manual and two implementing procedures, and verified that the drawings and shop job order for one purchase order were revised and approved.</p>		



ORGANIZATION: MCC-Pacific Valves INSPECTOR: W<sup>m</sup> D. Kelley  
Long Beach, California SCOPE: \_\_\_\_\_

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ITEM NO.	DOC TYPE	TITLE/SUBJECT	DOC DATE REV
01	4	MCC-PV Quality Assurance Manual	0
02	2	Ebasco Services Inc. Project Specification FLO-299B-111C Steel Station Valves 2 1/2" and larger ... Seismic Category 1 Nuclear Class 2, 3 and Nonnuclear	2/27/76 R3
03	8	MCC-PV Shop Job Instructions - 100 NY-422563	Original 1/10/75 2.1
04	9	MCC-PV Discrepant Material Notice No. N1821	1/18/80
05	5	ESI Purchase Order NY-422563	9/5/75
06	5	ESI Purchase Order Supplement 1 thru 25	10/14/81
07	1	MCC-PV Dwg No G-384 3" #6" G150-7-WE 150 lb. Stainless Steel Gate Valve (Borated Water Service)	F
08	1	MCC-PV Dwg No G-389 7" S350-7-WE 300 lb. Stainless Steel Gate Valve (Borated Water Service)	E
09	1	MCC-PV Dwg No G-390 12" S-380-7-WE 300 lb. Stainless Steel Swing Check Valve (Borated Water Service)	E
10	1	MCC-PV Dwg No G-391 10" #14" G-380-7-WE 300 lb. Stainless Steel Swing Check Valve (Borated Water Service)	E
11	1	MCC-PV Dwg No. 7-599 3" S-150-7-WE 150 lb. Stainless Steel Swing Check Valve (Borated Water Service)	B
12	10	MCC-PV Work Order X4227-01 *G-150-7-WE	-
13	10	MCC-PV Work Order X4241-01 *S-350-7-WE	-
14	<del>10</del> 7	MCC-PV - ESI Correspondance 1978 To 1982.	
15	3	MCC-PV Recommended Beltinng Torque Charts for 150# & 300# Gate, Globe and Check Valves.	
16	11	MCC - Bill of Lading No 3393	6/14/82

Document Types:

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|------------------|--------------------------|-------------------------------|
| 1. Drawing       | 5. Purchas Order         | 9. Discrepant Material Notice |
| 2. Specification | 6. Internal Memo         | 10. Production Work Order     |
| 3. Procedure     | 7. Letter                | 11. Bill of Lading            |
| 4. QA Manual     | 8. Shop Job Instructions | 12. _____                     |