ORGANIZATION: ROCKWELL INTERNATIONAL
FLOW CONTROL DIVISION
RALEIGH, NORTH CAROLINA

REPORT NO.: 99900058/82-01	INSPECTION DATE(S) 2/8-11/82	INSPECTION ON-SITE HOURS: 60

CORRESPONDENCE ADDRESS: Rockwell International
Flow Control Division
ATTN: Mr. J. V. Grasso, General Plant Manager
1900 South Saunders Street
Raleigh, NC 27603

ORGANIZATIONAL CONTACT: Mr. R. A. Bandukwala
TELEPHONE NUMBER: (919) 832-0525

PRINCIPAL PRODUCT: ASME Section III Class 1, 2, and 3 valves.

NUCLEAR INDUSTRY ACTIVITY: Rockwell International - Flow Control Division's contribution to the nuclear industry represents approximately 10% of its total work load.

ASSIGNED INSPECTOR: Wm D. Kelley 3/16/82
W. D. Kelley, Reactive & Components Program Section (R&CPS) Date

OTHER INSPECTOR(S): I. Barnes, Chief, R&CPS

APPROVED BY: I. Barnes 3/18/82
I. Barnes, Chief, R&CPS Date

INSPECTION BASES AND SCOPE:

A. BASES: 10 CFR Part 50, Appendix B.

B. SCOPE: This inspection and the inspection documented in Inspection Report No. 99900058/81-02 were made as a result of: (1) the issuance of a licensee event report by the Carolina Power and Light Company concerning a stem to stem disc separation in a main steam isolation valve installed at the Brunswick Steam Electric Station, Unit 2; and (2) the issuance of a licensee event

(continued on next page)

PLANT SITE APPLICABILITY:

DESIGNATED ORIGINAL

Certified By Rheanne Fritts

Records identified with the following nuclear facilities were examined during this inspection: 50-324; 50-325; 50-366; and 50-557.

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REPORT NO.: 99900058/82-01	INSPECTION RESULTS:	PAGE 2 of 5

SCOPE (cont.) report by the Georgia Power Company concerning a stem to stem disc separation in a main steam stop valve installed at the E. I. Hatch Nuclear Plant, Unit 2. The areas included in this inspection were the manufacturing process control provisions utilized in the manufacture of main steam isolation valves, with specific emphasis placed on controls for assembly, pin insertion and plug welding.

A. VIOLATIONS:

None

B. NONCONFORMANCES:

1. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Section 9, Revision 8, of the QA Manual, review of the Valve Route Card for a completed and shipped 26" 1612 (WCC) JMMNTY main steam isolation valve (Black Fox Nuclear Project 2, Serial No. PI-38) showed the following examples of the failure of applicable personnel to sign and/or date operations to denote completion:

   a. Sequence No. 070 was not signed by either manufacturing or Quality Assurance personnel.

   b Sequence Nos. 050, 060, 090, 100, 110, 120, 130, and 260 were not signed by supervisory personnel to denote verification of operation completion. Personnel performing the operations were identified on the Route Card, but dates of completion had not been entered.

   c. Sequence No. 160 was not signed by a Rockwell Inspector and Sequence Nos. 170, 260, 280, 290, and 311 had been signed but not dated by a Rockwell Inspector.

2. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Section 6, Revision 7, of the QA Manual, the Valve Route Card applicable to the ASME Section III Code Class 1 valve identified in B.1 above did not indicate the correct Method Specification number to be used for assembly of the stem to stem disc and assembly of the main disc to piston assembly; i.e. Method Specification 7736LR was listed on the Route Card to be used for the assembly operations, whereas Method Specification 7718, Revision 0 was the applicable issued specification.

3. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and paragraph NB-4432 in Section III of the ASME Code (1971 Edition), locking pins were welded to stem discs and main discs (pressure parts) in main steam isolation valves which had been furnished to E. I. Hatch, Unit 2, without specification or evidence of use of welding procedures that had been qualified in accordance with Section IX of the ASME Code.

C. UNRESOLVED ITEMS

None

D. STATUS OF PREVIOUS INSPECTION FINDINGS:

1. (Open) Notice of Nonconformance, Inspection Report No. 81-02: Furnishing of spare stems and discs to the Brunswick Steam Electric Station with oversized disc female threads and undersized stem male threads in regard to Class 3 requirements.

   The status of this nonconformance was not reviewed during this inspection, as a result of correspondence not having been completed on this item.

2. (Open) Unresolved Item, Paragraph C, Inspection Report No. 81-02: Applicability of Appendix B to 10 CFR Part 50 to the procurement of spare stems and discs by Carolina Power and Light Company (CP&L).

   The NRC inspectors were informed, that a copy of an exception to the CP&L Purchase Order No. 716707 specification of Appendix B to 10 CFR Part 50 as being applicable for the supply of spare stems and discs, had not been located. Resolution of this item has been deferred pending completion of the response to the nonconformance identified in 1. above.

E. OTHER FINDINGS OR COMMENTS:

1. Assembly of Main Steam Isolation Valves Furnished to Brunswick, Units 1 and 2, and E. I. Hatch, Unit 2

   a. The NRC inspectors were unable to review the assembly history of these valves, as a result of being informed by Rockwell personnel that Route Cards were only used for piece manufacture in the time frame these valves were produced.

b. Examination of Special Engineering Instructions 408 which contained the Rockwell requirements for manufacture of the E. I. Hatch, Unit 2, valves, revealed no specific criteria for valve assembly. One nonconformance was identified (see paragraph B.3) in regard to the failure to specify the use of a qualified welding procedure for welding of locking pins to the stem disc and main disc.

2. Current Assembly Practices Used for Main Steam Isolation Valves

a. A review was made of the Valve Route Card for a 26" 1612 (WCC) JMMNTY main steam isolation valve, Serial No. PI-38, which had been furnished to Black Fox Nuclear Project 2 during 1981. This review was made in order to determine the current assembly process control provisions for this design of valve, and to ascertain compliance with specified requirements during manufacture.

This inspection showed a difference existed in assembly method from that utilized for the Brunswick and E. I. Hatch valves; i.e., locking pins were retained by mechanical staking and not by plug welding. The NRC inspector was informed that this method had been utilized for valves shipped since early 1979. During this review, one nonconformance (see paragraph B.2) was identified pertaining to the identity of the Method Specification utilized for staking of locking pins. Method Specification 7736LR was listed on the Valve Route Card as the applicable specification to be used for stem to stem disc to piston assembly. Sequence Nos. 080 and 110 were signed off by a Rockwell Inspector indicating acceptance of these assembly operations in accordance with Method Specification 7736LR. On request to see this Method Specification, the NRC Inspector was informed that this specification had been replaced at customer request by inserting the content in Method Specification 7718, Revision 0. No information was provided in regard to the failure to revise the Route Sheet, or the basis for sign off by the Rockwell Inspector.

An additional nonconformance (see paragraph B.1) was identified in regard to the failure to comply with the QA program manufacturing process control requirements in existence at the time of manufacture of this valve. Review of the current QA program requirements for manufacturing process control (Section 9,

Revision 9 - September 3, 1981) showed a change had been made in sign off requirements. The present revision now requires Quality Assurance personnel to sign off only inspection operations listed on the Route Card and not all operations.

Review of Standard Operating Instruction (SOI) 40-19-05, dated December 3, 1981, which pertains to documentation gathering and processing for nuclear valves, indicates it is a Quality Assurance responsibility to review Route Cards for completeness and correctness (after performance of indicated operations) prior to moving material to stores. No operation was listed, however, on Piece Route Cards which clearly required the Rockwell Inspector to perform this function; i.e., the final inspection operation prior to moving material to stores required the Rockwell Inspector to only visually and dimensionally inspect the part. An operation requiring review for completeness was entered on the Valve Route Card which is used for assembly.

b. An inspection was performed with respect to the calibration status of five micrometers, one dial bore gage, and all current torque wrenches used in valve assembly. No nonconformances were identified in this area of inspection. It was established, however, that the present calibration program did not include a torque multiplier used with torque wrenches in valve assembly. The NRC inspector was informed that this device would be included in the calibration program to assure necessary accuracy. A follow-up will be made on this subject at a future inspection.

The NRC inspector additionally noted that the reasons for return of devices for repair were not always entered in the calibration records. As a result, positive verification that a repair was not related to device accuracy could not be accomplished.

3. Manufacturing Process Control-Present Work

An inspection was performed in regard to the compliance of eight parts in manufacture during the inspection, with respect to QA program process control and customer specification requirements. No nonconformances were identified in this area of inspection.

PERSONS CONTACTED

Company Rockwell International Dates Feb 8-11, 1982

Docket/Report No. 99900058/82-01 Inspector Wm D. Kelley

NAME(Please Print)	TITLE(Please Print)	ORGANIZATION(Please Print)
J.V. Grasso	General Plant Manager	Rockwell International-Flow Control Div
B.E. Carothers	Supv. Metallurgical Process Control	" " " "
W.E. Kindsvatter	Materials Manager	" " " "
D.J. Webb	Manufacturing Manager	" " " "
S.L. Adams	Product Engineering Supv	" " " "
D.L. Creech	Supv. Materials Engineering	" " " "
B.E. Hildreth, Jr.	Contracts Administration	" " " "
R.D. Norden	Product Engineer	" " " "
R.A. Bandukwala	Manager Quality Assurance	" " " "
E.L. Green	Chief Inspector	" " " "
W.G. Rains	Supv. QA Engineering	" " " "

Inspector Wm D. Kelley
Scope 2A2901B & 2B
2A2902B

DOCUMENTS EXAMINED

Docket No. 99900058
Report No. 82-01

Item No.	Doc. Type	TITLE/SUBJECT	Doc Date	Doc Rev
01	1	Quality Assurance Manual	9/3/81	9
02	2	Development of Quality Assurance Plan 36-40-09-02	7/5/79	
03	8	RI-FCD Valve Certification Test & Inspection Data Tag No B21-F022A GPC-EI Hatch	—	-
04	8	RI-FCD Valve Field-Service Data - Georgia Power Co. E.I. Hatch MSIV-2B21-F022A	3/8-17/81	
05	2	GE-NED Spec. 21A9230 Main Steam Isolation Valves (GPC-Brunswick GPC-EI Hatch)	2/10/71	2
06	8	RI-FCD Route Card Part No 427531 Stem Disc (GPC-EI Hatch)	—	—
07	8	RI-FCD Route Card Part No. 181000 Stem (GPC-EI Hatch)	—	-
08	8	RI-FCD Route Card Part No. 427563 Disc (GPC-EI Hatch)	—	—
09	8	RI-FCD List of Operation Descriptions	11/6/81	
10	8	RI-FCD Route Card Part No. 410843 Disc (GPC Brunswick)	—	
11	8	RI-FCD Route Card Part No. 410336 Stem Disc (GPC Brunswick)		
12	8	RI-FCD Route Card Part No. 412520 Stem (GPC Brunswick)		
13	2	GE-NED Spec 21A9257 General Requirements for Main Steam Isolation Valves - GPC-Hatch II	11/8/71	3
			6-26-72	7
14	8	RI-FCD Special Engineering Instructions 408 (GPC Hatch II GE (N-Stamp Class 1) ASME Section III 1971 Winter Addenda		

Document Types:
1. Drawing
2. Specification
3. Procedure
4. QA Manual
5. Purchas Order
6. Internal Memo
7. Letter
8. Other (Specify-if necessary)

Inspector Wm D Kelley
Scope 2429013 & -2B
2729028

DOCUMENTS EXAMINED

Docket No. 99900058.
Report No. 82-01

Item No.	Doc. Type	TITLE/SUBJECT	Doc Date	Doc Rev
15	1	RI-FCD Dwg No P419500 Rockwell-Edwards Elite-Flow Stop Valve Fig 1612 JMMNY for GE-APED (CPL-Brunswick)		G
16	1	RI-FCD Dwg No P419501 Rockwell-Edwards Elite-Flow Stop Valve Fig 1612 JMMNY for GE-APED (CPL-Brunswick)		G
17	1	RI-FCD Dwg No C-427563 Disk (GPC-EI Hatch)		B
18	1	RI-FCD Dwg No C-427562 Disk S.F (GPC-EI Hatch		A
19	1	RI-FCD Dwg No D-427531 Disk Stem (GPC-EI Hatch		B
20	1	RI-FCD Dwg No C-427502 Stem (GPC-EI Hatch		D
21	1	RI-FCD Dwg No C-408143 Disk (CPL-Brunswick)		B
22	1	RI-FCD Dwg No D-408177 Disk Stem (CPL-Brunswick)		D
23	1	RI-FCD Dwg No D-410354 Stem (CPL-Brunswick)		F
24	8	RI-FCD Manufacturing Route Card Part No 00724629-14589-C1 Block For 2)	-	-
25	2	RI-FCD Welding Method Spec MS-PI-341N Hardfacing Repair without PWHT in Accordance with ASME Section III		D
26	2	RI-FCD Welding Method Spec MS-PI-431N Hardsurfacing of Carbon Steel ... (Plasma No. 1)		D
27	2	RI-FCD Welding Method Spec MS-PI-441N Hardsurfacing PI Material Without PWHT ...		D

Document Types:
1. Drawing
2. Specification
3. Procedure
4. QA Manual
5. Purchas Order
6. Internal Memo
7. Letter
8. Other (Specify-if necessary)

Inspector Wm D. Kelley
Scope 2A2901B & -2B
2A2902B

DOCUMENTS EXAMINED

Docket No. 99900058
Report No. 82-01

Item No.	Doc. Type	TITLE/SUBJECT	Doc Date	Doc Rev
28	8	RI-FCD Permanent Records for Valve Serial No 3801099-176 (Public Service Co of Oklahoma-Black Fox 2)		
29	2	RI-FCD Method Spec MS-7718-Assembly Procedure for General Electric Balance Valves		0
30	8	RI-FCD Record of Welder Performance Qualification Qualification Record BAB	7/19/76	
31	8	RI-FCD Mfg Route Card for Part No 00724629-14589-01		
32	2	RI-FCD Welding Method Spec. MS-PI-321N-Repair of P-1 Materials without PWHT		1
33	5	UE&C Purchase Order No SNH-590 9763.006-248-65	6/24/80	
34	2	UE&C Spec for Main Steam Isolation Valves No 9763-006-248-65	3/14/80	
35	8	UE&C Quality Assurance Administration & System Requirements for Nuclear Safety Class Items No 9763-QAS-1	8/16/73	
36	8	RI-FCD Certification of Welding Attendant Training	3/1/77	
37	8	Record of Welder Performance Qualification Record No A215	8/19/76	
38	8	Record of Welder Performance Qualification Record B48	7/19/76	

Document Types:
1. Drawing
2. Specification
3. Procedure
4. QA Manual
5. Purchas Order
6. Internal Memo
7. Letter
8. Other (Specify-if necessary)

Inspector Wm D. Kelley
Scope 24290lBa-2B
272902B

Docket No. 99900058
Report No. 82-01

DOCUMENTS EXAMINED

Item No.	Doc. Type	TITLE/SUBJECT	Doc Date	Doc Rev
39	5	CE Purchase Order 9972952-14074	10/30/79	
40	2	CE Project Spec. No 14074-PE-774 ...for Power		1
/		Operated Carbon Steel Isolation Valves for TVA Yellow Creek Plant		
41	2	CE Vendor Quality Control Program Spec. 00000-WQCII.1		D
42	1	RI-FCD Dwg No. D80-21863-01, Sheet 1, Equiwedge Gate Valve		B
		with A260 Actuator 30x24x30 - Fig 1911 (WCC)...		
43	1	RI-FCD Dwg No D80-21863-01 Sheet 3 List of		B
		Materials Equiwedge Gate Valve with A260 Actuator		
44	1	RI-FCD Dwg No PD156863 Sheet 1 General Assembly		D
		of Equiwedge Gate Valve with A260 C-5X-1g Actuator		
45	2	RI-FCD Standard Operating ~~Procedure~~ Instruction ~~36~~-40-60-01	12/21/81	
46	8	RI-FCD Manufacture Route Card 01313076-21277-01		
47	1	RI-FCD Drawing B-1308019-20" 1911Y Retainer Gasket		O
48	8	RI-FCD Mfg. Route Card 00188027-23167-11		
49	1	RI-FCD Dwg. No D-410354 Stem		F
50	8	RI-FCD Rework Ticket No R.52364 - 20" Check Valve		
51	2	RI-FCD Standard Operating Instruction 40-59-02 Gage Identification, Calibration Intervals and Instructions	1/13/82	

Document Types:

1. Drawing
2. Specification
3. Procedure
4. QA Manual
5. Purchas Order
6. Internal Memo
7. Letter
8. Other (Specify-if necessary)

Inspector Wm D. Kelley
Scope 2A290134-2B
272902B

DOCUMENTS EXAMINED

Docket No. 99900058
Report No. 82-01

Item No.	Doc. Type	TITLE/SUBJECT	Doc Date	Doc Rev
52	2	RI-FCD Welding Method Spec. PI-111N Repair, Fillet & Attachment Welds with PWHT ...		2
53	2	RI-FCD Welding Method Spec. PI-211N Repair, Fillet & Attachment Welds with PWHT ...		2
54	8	RI-FCD Mfg Route Card Part No. 00198721-21863-01		
55	1	RI-FCD Dwg No. D-198721 Cylinder Weldment		0
56	8	RI-FCD Mfg Route Card Part No. 0139135-21277-01		
57	1	RI-FCD Dwg No D-1391326-Size 24x20x24 Fig 1911 BY Body Ass'y, Type B.		0
58	8	RI-FCD Mfg Route Card Part No. 01313123-21277-01		
59	8	RI-FCD Mfg Route Card Part No. 01313079-21277-01		
60	8	RI-FCD Mfg Route Card Part No 00198424-21277-01		
61	1	RI-FCD Dwg C198424 Rod Actuator Model A260		
62	5	Cleveland Elec. Illuminating Co. PO P-3480Z	5/8/81	
63	2	Gilbert Assoc. Inc. Spec. SP-521-03-4549-00 Design, Fabrication, and Delivery of Safety Related Gate Globe and Check Valves 2½" and Larger		1

Document Types:
1. Drawing
2. Specification
3. Procedure
4. QA Manual
5. Purchas Order
6. Internal Memo
7. Letter
8. Other (Specify-if necessary)

Inspector Wm D. Kelley
Scope 242901B & -2B
272902B

DOCUMENTS EXAMINED

Docket No. 99900058
Report No. 82-01
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Item No.	Doc. Type	TITLE/SUBJECT	Doc Date	Doc Rev
64	8	RI-ECD Data Package on CEI 20" Check Valve		
65	8	RI-ECD Training Records of Foremen & Supervisors		

Document Types:
1. Drawing
2. Specification
3. Procedure
4. QA Manual
5. Purchas Order
6. Internal Memo
7. Letter
8. Other (Specify-if necessary)