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 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400

AUTH.NAME AUTHOR AFFILIATION
 MCDUFFIE,M.A. Carolina Power & Light Co.
 RECIP.NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Forwards responds to NRC Bulletin 88-005 & Suppl 1 & 2 re
 "Nonconforming Matl Supplied by Piping Supplies,Inc. at..."

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Carolina Power & Light Company

P. O. Box 1551 • Raleigh, N. C. 27602

SEP 7 1988

M. A. McDUFFIE
Senior Vice President
Nuclear Generation

SERIAL: NLS-88-219

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
RESPONSE TO NRC BULLETIN NO. 88-05 AND SUPPLEMENTS 1 AND 2

Gentlemen:

I. INTRODUCTION

On May 6, 1988, the NRC issued Bulletin 88-05, "Nonconforming Materials Supplied by Piping Supplies, Inc. at Folsom, New Jersey and West Jersey Manufacturing Company at Williamstown, New Jersey," which required licensees to submit information regarding materials supplied by Piping Supplies, Inc. (PSI) and West Jersey Manufacturing Company (WJM). On June 15, 1988, the NRC issued Supplement 1 to the Bulletin which narrowed the required scope of review of the Bulletin and modified the time frames of certain actions required by the Bulletin. On August 3, 1988, the NRC issued Supplement 2 to the Bulletin which modified the schedule for actions required for the Bulletin by temporarily suspending many of the required actions of the Bulletin and Supplement 1 until further notice.

Although Supplement 2 did temporarily suspend some of the Bulletin requirements, it still requested holders of full power operating licenses to report the results of their records review, testing, and analysis performed as of the date of issuance of Supplement 2 to the Bulletin, within the 120-day reporting period specified by the Bulletin. Carolina Power & Light Company (CP&L) hereby submits the information requested by NRC Bulletin 88-05, as modified by Supplements 1 and 2 to the Bulletin.

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II. BACKGROUND

NRC BULLETIN 88-05 REQUIREMENTS

NRC Bulletin 88-05 requested licensees to review purchasing records and determine whether any ASME Code or ASTM materials have been supplied by WJM and PSI to their facilities. The Bulletin required licensees with WJM and PSI supplied materials installed in safety-related systems in operating plants to submit to NRC a list of materials found not to be in conformance with applicable code requirements or procurement specifications and identify the applications in which the materials are used. The Bulletin also requested that licensees: (1) take actions to provide assurance that any such materials which are found to be installed in safety-related systems in operating plants comply with ASME Code Section III, ASTM, and applicable procurement specification requirements, or demonstrate that such materials are suitable for the intended service; or (2) replace such materials with ones manufactured to code. Additionally, the Bulletin required licensees to maintain for inspection, the documentation of specific action taken for any of the subject materials identified.

SUPPLEMENT 1 REQUIREMENTS

Supplement 1 reduced the scope of the requested materials review to only flanges and fittings supplied by WJM or PSI, but requested that licensees commence appropriate testing of accessible PSI/WJM supplied flanges and fittings, in order to identify conformance of material to ASME and ASTM specifications. Supplement 1 also requested licensees to perform an appropriate analysis justifying continued operation (JCO) for flanges and fittings which are inaccessible or which deviated from ASME/ASTM Specifications. An NRC Operations Center was established for licensees to make telephone notifications when the need for JCOs was required based on test results. Supplement 1 requested licensees to include the results of all tests of PSI or WJM materials in the written response required by NRC Bulletin 88-05.

NUMARC INVOLVEMENT

On July 22, 1988, the NRC staff met with representatives of the Nuclear Management and Resources Council (NUMARC) to discuss the status of licensee's actions in response to NRC Bulletin 88-05 and Supplement 1. NUMARC and Electric Power Research Institute (EPRI) had been working with Bechtel Power Corporation and electric power utilities across the country to develop a database containing cumulative information from NUMARC members relative to the Bulletin. During this meeting, NUMARC presented information on licensee and NUMARC/EPRI testing and evaluation methodology of PSI/WJM flanges.

SUPPLEMENT 2 REQUIREMENTS

Based on the reported measurement and analytical results presented at the July 22 meeting, and subsequently summarized in letters from NUMARC to NRC dated July 25, 1988 and July 29, 1988, respectively, the NRC issued Supplement 2 to the Bulletin. This supplement temporarily suspended, for full power licensees, the field measurement, testing, records review, and JCO requirements previously required by the Bulletin and Supplement 1. The supplement also identified Chews Landing Metal Manufacturers, Incorporated (CLM) as an additional manufacturer of suspect ASME Section III materials.

Full power licensees were still requested to maintain for inspection the documentation of specific actions taken for identified materials, and to retain nonconforming materials until advised further by NRC.

III. DISCUSSION

SHEARON HARRIS NUCLEAR POWER PLANT

As of the August 3, 1988 suspension of activities per Supplement 2 to the Bulletin, records searches conducted at Shearon Harris Nuclear Power Plant (SHNPP) have identified no PSI or CLM-supplied materials as having been purchased for SHNPP. However, a total of 396 SA105, carbon steel pipe flanges manufactured by WJM have been identified as purchased for safety-related systems at SHNPP. Of these 396 flanges:

Flanges Installed in Safety-related Systems	227
Flanges Not Installed in Safety-related Systems	169
Total Number of Flanges Identified	396

Of the 169 Flanges Not Installed in Safety-related Systems:

Flanges in Stock	8
Flanges Installed in Spare Emergency Diesel Generator	86
Flanges Installed in Emergency Diesel Generator Sold Commercial	65
Flanges Installed in Spare Water Chiller	10
Total Number Flanges Not Installed in Safety-related Systems	169

Of the 227 installed flanges, 221 have been tested for hardness using the Equotip Portable Hardness Tester or Rockwell Hardness Tester. In addition, 104 of the uninstalled flanges have been hardness tested. In addition to the hardness tests performed, two of the eight flanges from stock were also tested for tensile strength and chemical analysis. Refer to Attachment 1 for testing information.

Flanges with test result indications not conforming to ASME and ASTM specifications were subjected to appropriate analysis as required by Supplement 1 to the Bulletin. None of the installed flanges tested were found to be unacceptable for their current use.

Flanges in stock or installed in spare equipment have been placed on hold (per Supplement 1 directives), except for three flanges (Heat #7218) which were provided to the NRC for further investigation. Detailed information concerning material specification, component nature, size, pressure rating, and vendor as required by the Bulletin and its supplements is provided in Attachment 1.

BRUNSWICK STEAM ELECTRIC PLANT

As of the August 3, 1988 suspension of activities per Supplement 2, records searches at BSEP have identified no PSI supplied flanges or fittings as purchased for BSEP. However, a total of 148 A/SA10S, carbon steel pipe flanges manufactured by WJM have been identified as purchased for safety-related systems at BSEP. Of these 148 flanges:

Flanges Scrapped	13
Flanges in Stock	16
Flanges Removed by Plant Modifications	12
Accessible Flanges	14
Inaccessible Flanges	7
Total Number of Flanges Located As of August 3, 1988 Suspension	62

Total Number of Flanges Not Yet Located As of August 3, 1988 Suspension	86
Total Number of Flanges Identified As of August 3, 1988 Suspension	148

Of the 14 installed, accessible flanges, all were tested for hardness using an Equotip Portable Hardness Tester. Fifteen of the 16 flanges in stock were also tested for hardness with the Equotip Portable Hardness Tester prior to suspension of activities per Supplement 2. These flanges were all found to be within the acceptable range.

Flanges in stock have been placed on hold (per Supplement 1 directives). Detailed information concerning material specification, component, nature, size, pressure rating, and vendor as required by the Bulletin and supplements is provided in Attachment 2. Refer to Attachment 2 for testing information.

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

As of the August 3, 1988 suspension of activities per Supplement 2 to the Bulletin, records searches conducted at H. B. Robinson Steam Electric Plant, Unit 2 (HBR2) have identified no PSI, WJM, or CLM supplied materials as having been purchased for HBR2. The initial search of vendor listings did not indicate the direct purchase of suspect materials from PSI, WJM, or CLM. However, some of the suppliers identified on Attachment 1 to NRC Bulletin 88-05, "Table 1 - Known and Intended Receipts of Carbon Steel Materials Furnished by PSI and WJM" were materials vendors for HBR2 during the subject period of the Bulletin. Accordingly, the following additional activities were conducted at HBR2 relative to NRC Bulletin 88-05 and its supplements:

Procurement record files were searched going back as far as 1969 for indication that materials had been supplied or manufactured by PSI, WJM, or CLM. These procurement records were selected based on indication of procurement of safety-related flanges and fittings from the subject suppliers. These searches included purchase orders and material transfer records from BSEP and SHNPP.

Heat number and heat code files identified that were specified on procurement records as being flange or fitting specific were input into a data processing program. This database was then compared to heat numbers or heat codes which were known to be associated with PSI, WJM, or CLM, based on information provided by SHNPP and BSEP.

As INPO Nuclear Network Notices concerning the NRC Bulletin 88-05 issue became available per the directives of Supplement 1, pertinent materials information with regard to heat numbers and heat codes provided by other utilities was reviewed against the results of the HBR2 records searches.

Based on the results of these efforts, no procurement of PSI, WJM, or CLM flanges or fittings appears to have occurred for HBR2.

Please refer any questions regarding this submittal to Mr. J. C. Presley at
(919) 836-6132.

Yours very truly,



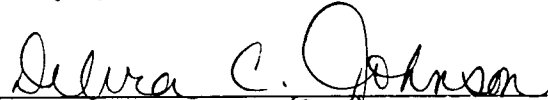
M. A. McDuffie

MAM/JCP/mss (5457JDK)

Attachments

cc: Mr. W. H. Bradford
Mr. B. C. Buckley
Mr. R. Lo
Dr. J. Nelson Grace
Mr. W. H. Ruland
Mr. L. Garner (NRC - HBR)

M. A. McDuffie, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.



Notary (Seal)

My commission expires: 6/26/89

SHEARON HARRIS NUCLEAR POWER PLANT
CAROLINA POWER & LIGHT COMPANY

NRC BULLETIN 88-05
MATERIALS TEST

ATTACHMENT 1

All Items are SA105
Carbon Steel Flanges
Manufactured by WJM

ITEM NO.	HEAT CODE	HEAT NO.	HARDNESS (HB UN)	TENSILE TEST	TENSILE CMTR	MANUF.	VENDOR	SIZE	RATING	SCH.	CLASS	TYPE	REMARKS
1	7218	7218	95.5	44,975	77,660	WJM	Capitol Pipe	2.5	150	--	2	Blind	Stock
2	7218	7218	99.2	44,750	77,660	WJM	Capitol Pipe	2.5	150	--	2	Blind	Stock
3	CND	2167	131	65	71,248	WJM	Guyon Alloys	2	1500	80	2	RFSW	Installed
4	CND	2167	131	65	71,248	WJM	Guyon Alloys	2	1500	80	2	RFSW	Installed
5	CND	2167	134	66	71,248	WJM	Guyon Alloys	2	1500	80	2	RFSW	Installed
6	CND	2167	126	63	71,248	WJM	Guyon Alloys	2	1500	80	2	RFSW	Installed
7	CND	2167	141	70	71,248	WJM	Guyon Alloys	2	1500	80	2	RFSW	Installed
8	CND	2167	144	72	71,248	WJM	Guyon Alloys	2	1500	80	2	RFSW	Installed
9	CES	18596	159	77	84,398	WJM	McJunkin Corp.	1.25	150	40	2	RFSW	Installed
10	6105	6105	152	75	71,814	WJM	Capitol Pipe	.75	150	40	2	RFSW	Installed
11	CES	18596	159	77	84,398	WJM	McJunkin Corp.	1.25	150	40	2	RFSW	Installed
12	CES	18596	156	73	84,398	WJM	McJunkin Corp.	1.5	150	40	2	RFSW	Installed
13	CES	18596	165	72	84,398	WJM	McJunkin Corp.	1.5	150	40	2	RFSW	Installed
14	CES	18596	163	79	84,398	WJM	McJunkin Corp.	1.5	150	40	2	RFSW	Installed
15	CES	18596	163	79	84,398	WJM	McJunkin Corp.	1.5	150	40	2	RFSW	Installed
16	CES	18596	166	81	84,398	WJM	McJunkin	1.5	150	40	2	RFSW	Installed
17	CES	18596	163	79	84,398	WJM	McJunkin Corp.	1.5	150	40	2	RFSW	Installed
18	CES	18596	159	77	84,398	WJM	McJunkin Corp.	1.5	150	40	2	RFSW	Installed
19	A91	A91	180	82	84,030	WJM	Capitol Pipe	2	150	40	2	RFSW	Installed
20	6105	6105	153	73	71,814	WJM	Capitol Pipe	.75	150	40	2	RFSW	Installed
21	CES	18596	79HRB	72	84,398	WJM	McJunkin Corp.	1.5	150	40	2	RFSW	Installed
22	A97	39912	84	(57)	87,000	WJM	TransAmer Dela	2	150	--	3	Blind	Installed
23	CES	18596	82HRB	77	84,398	WJM	McJunkin Corp.	1.5	150	40	2	RFSW	Installed
24	VP	VP	78HRB	71	79,800	WJM	Guyon Alloys	.5	150	40	2	RFSW	Installed
25	VP	VP	82HRB	77	79,800	WJM	Guyon Alloys	.5	150	40	2	RFSW	Installed
26	CES	18596	90HRB	88	84,398	WJM	McJunkin Corp.	1.25	150	40	2	RFSW	Installed
27	A97	39912	80	(57)	87,000	WJM	TransAmer Dela	2	150	--	2	Blind	Installed
28	VP	VP	175	85	79,800	WJM	Guyon Alloys	.5	150	40	2	RFSW	Installed
29	VP	VP	74HRB	70	79,800	WJM	Guyon Alloys	.5	150	40	2	RFSW	Installed
30	R6833	R6833	160	80	83,961	WJM	Capitol Pipe	2	150	40	2	RFSW	Installed
31	E1413	E1413	156	77	78,200	WJM	Capitol Pipe	.5	150	40	2	RFSW	Installed
32	E1413	E1413	164	82	78,200	WJM	Capitol Pipe	.5	150	40	2	RFSW	Installed
33	R6833	R6833	173	84	83,961	WJM	Capitol Pipe	2	150	40	2	RFSW	Installed
34	7218	7218	99.2	(56)	77,660	WJM	Capitol Pipe	2.5	150	--	2	Blind	Stock
35	E1314	E1314	137	66	82,700	WJM	Capitol Pipe	1.5	150	--	2	Blind	Stock
36	B47	13922	149	70	78,500	WJM	McJunkin Corp.	1	1500	160	2	RFSW	Stock
37	B47	13922	149	70	78,500	WJM	McJunkin Corp.	1	1500	160	2	RFSW	Stock
38	B47	13922	149	70	78,500	WJM	McJunkin Corp.	1	1500	160	2	RFSW	Stock
39	B47	13922	149	70	78,500	WJM	McJunkin Corp.	1	1500	160	2	RFSW	Stock
40													Skipped #
41													Skipped #
42	A39	A39	143	69	86,415	WJM	TransAmer Dela	3	150	--	3	RFSO	Installed
43	R6842	R6842	144	69	87,389	WJM	TransAmer Dela	3	150	--	3	RFSO	Installed
44	A39	A39	141	68	86,415	WJM	TransAmer Dela	3	150	--	3	RFSO	Installed
45	R6833	R6833	158	79	83,961	WJM	TransAmer Dela	2.5	150	--	3	RFSO	Installed
46													Skipped #
47	3453	3453	113	(56)	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
48	3453	3453	136	66	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
49	4020	4020	168	83	76,806	WJM	TransAmer Dela	5	150	--	3	RFSO	Installed
50	3453	3453	141	68	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed

Items 1 & 2 were tensile, hardness and chemical composition tested. All material and test results were turned over to the NRC for further investigation along with item 34.

SHEARON HARRIS NUCLEAR POWER PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 1

All Items are SA105
Carbon Steel Flanges
Manufactured by WJM

NRC BULLETIN 88-05
MATERIALS TEST

ITEM NO.	HEAT CODE	HEAT NO.	HARDNESS (HB UN)	TENSILE TEST	TENSILE CMTR	MANUF.	VENDOR	SIZE	RATING	SCH.	CLASS	TYPE	REMARKS
51	4020	4020	160	80	76,806	WJM	TransAmer Dela	5	150	--	3	RFSO	Installed
52	4020	4020	165	82	76,806	WJM	TransAmer Dela	5	150	--	3	RFSO	Installed
53	A39	A39	137	66	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
54	A39	A39	156	77	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
55	3543	3543	147	70	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
56	A39	A39	131	64	86,415	WJM	TransAmer Dela	3	150	--	3	RFSO	Installed
57	A39	A39	130	63	86,415	WJM	TransAmer Dela	3	150	--	3	RFSO	Installed
58	A39	A39	179	88	86,415	WJM	TransAmer Dela	3	150	--	3	RFSO	Installed
59	R6833	R6833	164	82	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
60	R6833	R6833	179	88	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
61	R6833	R6833	172	84	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
62	R6833	R6833	154	73	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
63	R6833	R6833	179	88	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
64	R6833	R6833	137	66	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
65	R6833	R6833	148	70	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
66	3453	3453	126	62	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
67	3543	3543	155	77	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
68	3543	3543	167	83	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
69	3543	3543	151	72	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
70	3543	3543	165	82	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
71	4020	4020	160	80	76,806	WJM	TransAmer Dela	5	150	--	3	RFSO	Installed
72	4020	4020	157	77	76,806	WJM	TransAmer Dela	5	150	--	3	RFSO	Installed
73	4020	4020	169	83	76,806	WJM	TransAmer Dela	5	150	--	3	RFSO	Installed
74	A39	A39	160	80	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
75	A39	A39	152	73	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
76	R6833	R6833	154	73	83,961	WJM	TransAmer Dela	2.5	150	--	3	RFSO	Installed
77	R6833	R6833	187	89	83,961	WJM	TransAmer Dela	2.5	150	--	3	RFSO	Installed
78	4020	4020	159	80	76,806	WJM	TransAmer Dela	5	150	--	3	RFSO	Installed
79	3543	3543	160	80	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
80	3543	3543	150	72	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
81	A39	A39	146	70	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
82	A39	A39	163	81	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
83	A39	A39	155	77	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
84	A39	A39	178	86	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
85	3453	3453	130	63	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
86	3453	3453	142	68	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
87	3453	3453	137	66	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
88	3453	3453	135	65	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
89	M976001	M976001	157	77	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Installed
90	M976001	M976001	176	86	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Installed
91	VR	VR	168	83	81,700	WJM	TransAmer Dela	1	300	--	3	RFSO	Installed
92	VR	VR	178	87	81,700	WJM	TransAmer Dela	1	300	--	3	RFSO	Installed
93													Skipped #
94	M976001	M976001	142	68	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Installed
95	M976001	M976001	181	88	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Installed
96	VR	VR	161	80	81,700	WJM	TransAmer Dela	1	300	--	3	RFSO	Installed
97	VR	VR	153	73	81,700	WJM	TransAmer Dela	1	300	--	3	RFSO	Installed
98	A39	A39	143	69	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
99	A39	A39	144	69	86,415	WJM	TransAmer Dela	2	150	--	3	RFSO	Installed
100	3453	3453	150	72	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed

SHEARON HARRIS NUCLEAR POWER PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 1

NRC BULLETIN 88-05
MATERIALS TEST

All Items are SA105
Carbon Steel Flanges
Manufactured by WJM

ITEM NO.	HEAT CODE	HEAT NO.	HARDNESS (HB UN)	TENSILE TEST	TENSILE CMTR	MANUF.	VENDOR	SIZE	RATING	SCH.	CLASS	TYPE	REMARKS
101	3453	3453	134	65	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
102	3453	3453	141	68	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
103	3453	3453	145	69	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
104	3543	3543	137	66	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
105	R6833	R6833	180	88	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
106	R6833	R6833	145	69	83,961	WJM	TransAmer Dela	2.5	150	--	3	FFSO	Installed
107	3453	3453	143	69	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
108	3453	3453	134	65	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
109	3453	3453	148	70	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
110	3453	3453	143	70	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
111	3453	3453	118	58	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
112	3453	3453	120	58	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
113	3453	3453	137	66	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
114	3453	3453	136	66	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
115	M976001	M976001	156	77	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Installed
116	M976001	M976001	143	64	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Installed
117	VR	VR	172	84	81,700	WJM	TransAmer Dela	1	300	--	3	RFSO	Installed
118	VR	VR	154	73	81,700	WJM	TransAmer Dela	1	300	--	3	RFSO	Installed
119	M976001	M976001	140	68	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Installed
120	M976001	M976001	165	82	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Installed
121	VR	VR	141	68	81,700	WJM	TransAmer Dela	1	300	--	3	RFSO	Installed
122	VR	VR	143	69	81,700	WJM	TransAmer Dela	1	300	--	3	RFSO	Installed
123	3453	3453	120	59	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
124	3453	3453	133	64	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
125													Skipped #
126													Skipped #
127													Skipped #
128													Skipped #
129													Skipped #
130													Skipped #
131													Skipped #
132													Skipped #
133													Skipped #
134													Skipped #
135													Skipped #
136													Skipped #
137													Skipped #
138													Skipped #
139													Skipped #
140	23300	23300	150	72	82,875	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
141	23300	23300	144	69	82,875	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
142	23300	23300	129	63	82,875	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
143	23300	23300	129	63	82,875	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
144	41687	41687	143	69	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
145	41687	41687	153	73	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
146	23300	23300	145	69	82,875	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
147	23300	23300	138	67	82,875	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
148	23300	23300	131	64	82,875	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
149	23300	23300	131	64	82,875	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
150	41687	41687	162	81	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare

"spare" indicates the item is located on uninstalled spare equipment.

SHEARON HARRIS NUCLEAR POWER PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 1

NRC BULLETIN 88-05
MATERIALS TEST

All Items are SA105
Carbon Steel Flanges
Manufactured by WJM

ITEM NO.	HEAT CODE	HEAT NO.	HARDNESS (HB UN)	TENSILE TEST	TENSILE CMTR	MANUF.	VENDOR	SIZE	RATING	SCH.	CLASS	TYPE	REMARKS
151	A91	A91	140	68	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
152	41687	41687	145	69	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
153	41687	41687	151	72	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
154	41687	41687	151	72	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
155	41687	41687	147	70	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
156	961	961	137	66	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
157	961	961	130	63	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
158	961	961	134	65	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
159	961	961	151	72	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
160	A79	A79	167	83	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
161	A79	A79	156	77	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
162	A79	A79	157	77	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
163	A91	A91	164	82	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
164	A91	A91	178	88	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
165	4096	4096	176	86	78,229	WJM	TransAmer Dela	4	150	--	3	RFSO	Spare
166	4096	4096	178	86	78,229	WJM	TransAmer Dela	4	150	--	3	RFSO	Spare
167	4096	4096	150	72	78,229	WJM	TransAmer Dela	4	150	--	3	RFSO	Spare
168	961	961	125	61	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
169	961	961	129	63	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
170	961	961	126	62	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
171	961	961	136	66	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
172	4096	4096	156	77	78,229	WJM	TransAmer Dela	4	150	--	3	RFSO	Spare
173	T9774	T9774	157	77	75,668	WJM	TransAmer Dela	6	300	--	3	RFSO	Spare
174	41687	41687	138	67	86,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
175	4046	4046	134	65	71,828	WJM	TransAmer Dela	16	150	--	3	RFSO	Spare
176	A79	A79	172	84	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
177	4096	4096	148	70	78,229	WJM	TransAmer Dela	4	150	--	3	RFSO	Spare
178	4096	4096	141	68	78,229	WJM	TransAmer Dela	4	150	--	3	RFSO	Spare
179	BND	14341	172	84	85,997	WJM	TransAmer Dela	2.5	150	--	3	RFSO	Spare
180	BND	14341	165	82	85,997	WJM	TransAmer Dela	2.5	150	--	3	RFSO	Spare
181	C04	C04	141	68	83,000	WJM	TransAmer Dela	3X2.5	150	--	3	RFSORED.	Spare
182	R6842	R6842	136	66	87,389	WJM	TransAmer Dela	3	150	--	3	RFSO	Spare
183	4096	4096	165	82	78,229	WJM	TransAmer Dela	4	150	--	3	RFSO	Spare
184	4096	4096	134	65	78,229	WJM	TransAmer Dela	4	150	--	3	RFSO	Spare
185	CW2	CW2	154	73	80,000	WJM	TransAmer Dela	2.5	150	--	3	RFSO	Spare
186	C04	C04	141	68	83,000	WJM	TransAmer Dela	3X2.5	150	--	3	RFSORED.	Spare
187	961	961	154	73	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
188	DC	DC	140	68	74,300	WJM	TransAmer Dela	5	300	--	3	RFSO	Spare
189	A79	A79	162	81	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
190	CBL	32982	140	68	71,792	WJM	TransAmer Dela	1	300	--	3	RFSO	Spare
191	CBL	32982	148	70	71,792	WJM	TransAmer Dela	1	300	--	3	RFSO	Spare
192	GDDH	N85734	168	83	81,050	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Spare
193	CBL	32982	147	70	71792	WJM	TransAmer Dela	1	300	--	3	RFSO	Spare
194	CBL	32982	148	70	71792	WJM	TransAmer Dela	1	300	--	3	RFSO	Spare
195	GDDH	N85734	173	84	81050	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Spare
196	A79	A79	180	88	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
197	41687	41687	140	68	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
198	41687	41687	140	68	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
199	A91	A91	180	88	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
200	C04	C04	137	66	83,000	WJM	TransAmer Dela	3x2.5	150	--	3	RFSORED	Spare

"spare" indicates the item is located on uninstalled spare equipment.

SHEARON HARRIS NUCLEAR POWER PLANT
CAROLINA POWER & LIGHT COMPANY

NRC BULLETIN 88-05
MATERIALS TEST

ATTACHMENT 1

All Items are SA105
Carbon Steel Flanges
Manufactured by WJM

ITEM NO.	HEAT CODE	HEAT NO.	HARDNESS (HB UN)	TENSILE TEST	TENSILE CNTR	MANUF.	VENDOR	SIZE	RATING	SCH.	CLASS	TYPE	REMARKS
201	A79	A79	156	77	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
202	A79	A79	159	80	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
203	A79	A79	180	88	80,290	WJM	TransAmer Dela	1.5	150	--	3	RFSO	Spare
204	961	961	170	83	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
205	A91	A91	176	86	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
206	A91	A91	170	83	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
207	A91	A91	157	77	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
208	961	961	136	66	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
209	961	961	138	67	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
210	961	961	133	64	70,004	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
211	A91	A91	176	86	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
212	A91	A91	159	80	84,030	WJM	TransAmer Dela	2	150	--	3	RFSO	Spare
213	X59774	X59774	136	66	75,526	WJM	TransAmer Dela	2.5	300	80	3	RFWN	Spare
214	1059	1059	150	72	78,876	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Spare
215	X59774	X59774	136	66	75,526	WJM	TransAmer Dela	2.5	300	80	3	RFWN	Spare
216	1059	1059	138	67	78,876	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Spare
217	M1624	M1624	165	82	73,421	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Spare
218	M1624	M1624	180	88	73,421	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Spare
219	M1624	M1624	156	77	73,421	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Spare
220	M976001	M976001	143	69	76,233	WJM	TransAmer Dela	1.5	300	--	3	RFSO	Spare
221	41687	41687	150	72	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
222	41687	41687	141	68	76,095	WJM	TransAmer Dela	8	150	--	3	RFSO	Spare
223	BND	14341	164	82	85,997	WJM	TransAmer Dela	2.5	150	--	3	RFSO	Spare
224	58F	58F	156	77	79,450	WJM	TransAmer Dela	1.25	150	--	3	RFSO	Spare
225	A101	A101	137	66	81,496	WJM	TransAmer Dela	5	150	--	3	RFSO	Spare
226	23300	23300	135	65	82,857	WJM	YORK	8	150	--	3	RFSO	Installed
227	23300	23300	163	81	82,857	WJM	YORK	8	150	--	3	RFSO	Installed
228	294X	H294X	165	82	89,000	WJM	YORK	12	300	--	3	RFSO	Installed
229	R627	R627	185	89	80,000	WJM	YORK	1.25	300	--	3	RFSO	Installed
230	R627	R627	180	88	80,000	WJM	YORK	1.25	300	--	3	RFSO	Installed
231	R627	R627	156	77	79,500	WJM	YORK	1.25	300	--	3	RFSO	Installed
232	R627	R627	145	69	80,000	WJM	YORK	1.25	300	--	3	RFSO	Installed
233	R627	R627	171	84	80,000	WJM	YORK	1.25	300	--	3	RFSO	Installed
234	R627	R627	158	80	79,500	WJM	YORK	1.25	300	--	3	RFSO	Installed
235	9774	9774	176	86	75,668	WJM	YORK	10	300	--	3	RFSO	Installed
236	294X	294X	166	82	89,000	WJM	YORK	12	300	--	3	RFSO	Installed
237	9774	9774	155	77	75,668	WJM	YORK	10	300	--	3	RFSO	Installed
238	23300	23300	139	67	82,857	WJM	YORK	8	150	--	3	RFSO	Installed
239	23300	23300	145	69	82,857	WJM	YORK	8	150	--	3	RFSO	Installed
240	23300	23300	143	69	82,857	WJM	YORK	8	150	--	3	RFSO	Installed
241	R627	R627	165	82	80,000	WJM	YORK	1.25	300	--	3	RFSO	Installed
242	R627	R627	164	82	80,000	WJM	YORK	1.25	300	--	3	RFSO	Installed
243	R627	R627	183	90	79,500	WJM	YORK	1.25	300	--	3	RFSO	Installed
244	R627	R627	172	84	80,000	WJM	YORK	1.25	300	--	3	RFSO	Installed
245	R627	R627	180	88	80,000	WJM	YORK	1.25	300	--	3	RFSO	Installed
246	R627	R627	180	88	79,500	WJM	YORK	1.25	300	--	3	RFSO	Installed
247	R627	R627	154	73	79,500	WJM	YORK	1.25	300	--	2	RFSO	Installed
248	R627	R627	178	86	79,500	WJM	YORK	1.25	300	--	2	RFSO	Installed
249	9774	9774	164	82	75,668	WJM	YORK	10	300	--	3	RFSO	Installed
250	294X	294X	172	84	89,000	WJM	YORK	12	300	--	3	RFSO	Installed

"spare" indicates the item is located on uninstalled spare equipment.

SHEARON HARRIS NUCLEAR POWER PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 1

NRC BULLETIN 88-05
MATERIALS TEST

All Items are SA105
Carbon Steel Flanges
Manufactured by WJM

ITEM NO.	HEAT CODE	HEAT NO.	HARDNESS (HB UN)	TENSILE TEST	TENSILE CMTR	MANUF.	VENDOR	SIZE	RATING	SCH.	CLASS	TYPE	REMARKS
251	9774	9774	162	81	75,668	WJM	YORK	10	300	--	3	RFSO	Installed
252	294X	294X	156	77	89,000	WJM	YORK	12	300	--	3	RFSO	Installed
253	571293	571293	168	83	76,237	WJM	YORK	14	150	--	3	RFSO	Installed
254	571293	571293	183	84	76,237	WJM	YORK	14	150	--	3	RFSO	Installed
255	571293	571293	156	77	76,237	WJM	YORK	14	150	--	3	RFSO	Installed
256	R627	R627	159	80	79,500	WJM	YORK	1.25	300	--	2	RFSO	Installed
257	R627	R627	157	77	79,500	WJM	YORK	1.25	300	--	2	RFSO	Installed
258	22330	22330	150	72	NOCERT	WJM	YORK	12	300	--		BLIND	Ship.Cover
259	571293	571293	126	62	76,237	WJM	YORK	14	150	--	3	RFSO	Spare
260	571293	571293	157	77	76,237	WJM	YORK	14	150	--	3	RFSO	Spare
261	22330	22330	143	69	NOCERT	WJM	YORK	10	300	--		BLIND	Ship.Cover
262	22330	22330	147	70	NOCERT	WJM	YORK	12	300	--		BLIND	Ship.Cover
263	23300	23300	134	65	82,857	WJM	YORK	8	150	--	3	RFSO	Spare
264	23300	23300	133	64	82,857	WJM	YORK	8	150	--	3	RFSO	Spare
265	R627	R627	165	82	79,500	WJM	YORK	1.25	300	--	3	RFSO	Spare
266	R627	R627	178	88	79,500	WJM	YORK	1.25	300	--	3	RFSO	Spare
267	22330	22330	147	70	NOCERT	WJM	YORK	10	300	--		BLIND	Ship.Cover
268	3453	3453	129	64	71,544	WJM	TransAmer Dela	8	150	--	3	RFSO	Installed
269	3543	3543	136	66	73,962	WJM	TransAmer Dela	6	150	--	3	RFSO	Installed
270	CFV	23832	145	69	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
271	COY	3978	148	70	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
272	COY	3978	180	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
273	COY	3978	173	84	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
274	COY	3978	145	69	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
275	COY	3978	153	73	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
276	COY	3978	148	70	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
277	COY	3978	156	77	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
278	COY	3978	180	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
279	CFV	23832	175	86	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
280	CFV	23832	176	86	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
281	COY	3978	151	72	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
282	COY	3978	147	70	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
283	COY	3978	160	80	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
284	COY	3978	148	70	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
285	CFV	23832	168	83	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
286	COY	3978	172	84	77,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
287	COY	3978	156	77	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
288	COY	3978	183	89	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
289	COY	3978	156	77	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
290	CFV	23832	150	72	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
291	COY	3978	156	77	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
292	COY	3978	181	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
293	COY	3978	167	83	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
294	COY	3978	162	81	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
295	CFV	23832	150	72	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
296	COY	3978	186	89	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
297	COY	3978	183	89	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
298	COY	3978	172	84	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
299	COY	3978	165	82	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
300	CFV	23832	147	70	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed

"spare" indicates the item is located on uninstalled spare equipment.

"Ship.Cover" flanges are also located on uninstalled spare equipment.

SHEARON HARRIS NUCLEAR POWER PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 1

All Items are SA105
Carbon Steel Flanges
Manufactured by WJM

NRC BULLETIN 88-05
MATERIALS TEST

ITEM NO.	HEAT CODE	HEAT NO.	HARDNESS (HB UN)	TENSILE TEST	TENSILE CMTR	MANUF.	VENDOR	SIZE	RATING	SCH.	CLASS	TYPE	REMARKS
301	COY	3978	148	70	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
302	COY	3978	181	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
303	COY	3978	183	89	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
304	COY	3978	159	80	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
305	COY	3978	151	72	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
306													Skipped #
307	COY	3978	181	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
308	CFV	23832	162	81	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
309	COY	3978	176	86	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
310	COY	3978	157	77	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
311	COY	3978	148	70	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
312	COY	3978	159	80	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
313	CFV	23832	165	82	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
314	COY	3978	181	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
315	COY	3978	157	77	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
316	COY	3978	151	72	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
317	COY	3978	180	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
318	CFV	23832	162	81	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
319	COY	3978	173	84	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
320	COY	3978	153	73	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
321	COY	3978	154	73	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
322	COY	3978	137	66	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
323	CFV	23832	186	89	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
324	COY	3978	156	77	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
325	COY	3978	159	80	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
326	COY	3978	159	80	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
327	COY	3978	151	72	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
328	CFV	23832	167	83	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
329	COY	3978	165	82	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
330	COY	3978	183	89	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
331	COY	3978	185	89	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
332	COY	3978	180	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
333	CFV	23832	173	84	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
334	COY	3978	178	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
335	COY	3978	154	73	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
336	COY	3978	172	84	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
337	COY	3978	181	88	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
338	CFV	23832	180	88	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
339	COY	3978	151	72	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
340	COY	3978	145	69	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
341	COY	3978	151	72	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
342	COY	3978	173	84	72,902	WJM	Guyon Alloys	3	150	40	2	RFWN	Installed
343	CFV	23832	140	67	82,450	WJM	Guyon Alloys	4	150	40	2	RFWN	Installed
344	COP	7506	154	73	81,019	WJM	Metal Bellows	2	1500	--	3	LJ	Installed
345	COP	7506	150	72	81,019	WJM	Metal Bellows	2	1500	--	3	LJ	Installed

BRUNSWICK STEAM ELECTRIC PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 2

All Items are A/SA105 Carbon
Steel Flanges Manufactured
by WJM

NRC BULLETIN 88-05

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BRUNSWICK STATUS
(AS OF 08/03/88)

ITEM NO.	HEAT NO.	HEAT CODE	HARDNESS HB	VENDOR	SIZE (INCH)	RATING (PSI)	SCH	CLASS	TYPE	LOCATION	REMARKS
1	3426	3426	148	GUYON	20	150	STD	3	FFWN	I	
2	454148	454148	150	GUYON	16	300	STD	3	RFWN	I	
3	454148	454148		GUYON	16	300	STD	3	RFWN	S	HARDNESS TEST NOT PERFORMED
4	454148	454148		GUYON	16	300	STD	3	RFWN		REMOVED BY PM 82-218P
5	454148	454148		GUYON	16	300	STD	3	RFWN	U	
6	454148	454148		GUYON	16	300	STD	3	RFWN	U	
7	454148	454148		GUYON	16	300	STD	3	RFWN	U	
8	454148	454148		GUYON	16	300	STD	3	RFWN	U	
9	454148	454148		GUYON	16	300	STD	3	RFWN	U	
10	454148	454148		GUYON	16	300	STD	3	RFSW	U	
11	31018	GDCW		GUYON	.75	1500	S/160	2	RFSW	I	SEE NOTE 4
12	31018	GDCW		GUYON	.75	1500	S/160	2	RFSW	I	SEE NOTE 4
13	22295	B34		GUYON	1	1500	S/160	2	RFSW	I	SEE NOTE 4
14	22295	B34		GUYON	1	1500	S/160	2	RFSW	I	SEE NOTE 4
15	N86973	GDKH	141	GUYON	1.5	150	STD	2	RFSW	I	
16	N86973	GDKH		GUYON	1.5	150	STD	2	RFSW	I	SEE NOTE 4
17	N86973	GDKH		GUYON	1.5	150	STD	2	RFSW	I	SEE NOTE 4
18	N86973	GDKH		GUYON	1.5	150	STD	2	RFSW	I	SEE NOTE 4

BRUNSWICK STEAM ELECTRIC PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 2

All Items are A/SA105
Carbon Steel Flanges
Manufactured by WJM

19	T9411	GD1R	181	GUYON	4	300	S/40	3	FFWN	I
20	B138	B138	140	GUYON	4	300	N/A	3	FFBL	I
21	3226	CBB	157	GUYON	1	150	S/80	2	RFSW	I
22	3226	CBB	170	GUYON	1	150	S/80	2	RFSW	I
23	3226	CBB	186	GUYON	1	150	S/80	2	RFSW	I
24	3226	CBB	165	GUYON	1	150	S/80	2	RFSW	I
25	3226	CBB	176	GUYON	1	150	S/80	2	RFSW	I
26	3226	CBB	168	GUYON	1	150	S/80	2	RFSW	I
27	3226	CBB	186	GUYON	1	150	S/80	2	RFSW	I
28	3226	CBB	167	GUYON	1	150	S/80	2	RFSW	I
29	3226	CBB	172	GUYON	1	150	S/80	2	RFSW	I
30	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
31	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
32	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
33	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
34	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
35	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
36	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
37	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
38	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
39	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
40	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
41	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
42	3226	CBB		GUYON	1	150	S/80	2	RFSW	SCRAPPED
43	3226	CBB		GUYON	1	150	S/80	2	RFSW	U

BRUNSWICK STEAM ELECTRIC PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 2

All Items are A/SA105
Carbon Steel Flanges
Manufactured by WJM

44	3226	CBB		GUYON	1	150	S/80	2	RFSW	U	
45	17481	17481	147	GUYON	2	150	S/80	2	RFSW	S	
46	17481	17481	141	GUYON	2	150	S/80	2	RFSW	S	
47	17481	17481	147	GUYON	2	150	S/80	2	RFSW	S	
48	17481	17481	138	GUYON	2	150	S/80	2	RFSW	S	
49	81724	32D	147	GUYON	1	150	N/A	2	RFBL	S	
50	81724	32D		GUYON	1	150	N/A	2	RFBL	U	
51	81724	32D		GUYON	1	150	N/A	2	RFBL	U	
52	1090	1090		GUYON	6	150	S/40	3	FFWN	U	
53	TQ	TQ		GUYON	4	150	N/A	3	FFBL		REMOVED BY PM 82-218P
54	6422	ETTC		GUYON	16	150	STD	3	FFWN		REMOVED BY PM 82-218P
55	6422	ETTC		GUYON	16	150	STD	3	FFWN		REMOVED BY PM 82-218Q
56	EUGX	EUGX		GUYON	30	150	STD	3	FFWN	U	
57	4618	4618		GUYON	16	150	STD	3	FFWN		REMOVED BY PM 82-218P
58	4618	4618		GUYON	16	150	STD	3	FFWN		REMOVED BY PM 82-218P
59	4618	4618		GUYON	16	150	STD	3	FFWN		REMOVED BY PM 82-218Q
60	4618	4618		GUYON	16	150	STD	3	FFWN		REMOVED BY PM 82-218Q
61	E1413	E1413		GUYON	.75	150	S/40	3	RFSW		REMOVED BY PM 82-218P
62	23300	23300		GUYON	8	150	N/A	3	FFSO		REMOVED BY TT 85-AEPK-1
63	T8852	GD1E		GUYON	6	150	S/40	3	FFWN		REMOVED BY TT 85-AEPK-1
64	TQ	TQ		GUYON	4	150	N/A	2	RFBL	U	
65	76364	GDEZ		GUYON	1	150	S/80	2	RFSW	U	
66	H1296	GDFB		GUYON	2	150	S/80	2	RFSW	U	
67	H1296	GDFB		GUYON	2	150	S/80	2	RFSW	U	
68	H1296	GDFB		GUYON	2	150	S/80	2	RFSW	U	

BRUNSWICK STEAM ELECTRIC PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 2

All Items are A/SA105
Carbon Steel Flanges
Manufactured by WJM

69	76364	GDEZ	GUYON	.75	300	S/80	2	RFSW	U
70	18840	GDFR	GUYON	2	150	STD	2	FFWN	U
71	X0048	GDHM	GUYON	3	150	STD	2	RFWN	U
72	X0048	GDHM	GUYON	3	150	STD	2	RFWN	U
73	X0048	GDHM	GUYON	3	150	STD	2	RFWN	U
74	X0048	GDHM	GUYON	3	150	STD	2	RFWN	U
75	H0794	GDFU	GUYON	3	150	STD	2	RFWN	U
76	H0794	GDFU	GUYON	3	150	STD	2	RFWN	U
77	H0794	GDFU	GUYON	3	150	STD	2	RFWN	U
78	H0794	GDFU	GUYON	3	150	STD	2	RFWN	U
79	46977	GDCH	GUYON	4	150	S/40	2	RFWN	U
80	56245	GDKG	GUYON	1	150	S/80	2	RFSW	U
81	25256	GDEP	GUYON	2	600	S/160	2	RFSW	U
82	25256	GDEP	GUYON	2	600	S/160	2	RFSW	U
83	22896	22896	GUYON	3	150	N/A	2	RFBL	U
84	22896	22896	GUYON	3	150	N/A	2	RFBL	U
85	N75234	GDAS	GUYON	2	300	S/80	2	RFWN	
86	N86041	GDEL	GUYON	.75	600	XH	2	RFSW	U
87	N86041	GDEL	GUYON	.75	600	XH	2	RFSW	U
88	N86041	GDEL	GUYON	.75	600	XH	2	RFSW	U
89	N86041	GDEL	GUYON	.75	600	XH	2	RFSW	U
90	N86041	GDEL	GUYON	.75	600	XH	2	RFSW	U
91	N86041	GDEL	GUYON	.75	600	XH	2	RFSW	U
92	N86041	GDEL	GUYON	.75	600	XH	2	RFSW	U
93	N86041	GDEL	GUYON	.75	600	XH	2	RFSW	U

REMOVED BY PM 82-218P

BRUNSWICK STEAM ELECTRIC PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 2

All Items are A/SA105
Carbon Steel Flanges
Manufactured by WJM

94	NB6041	GDEL	GUYON	.75	600	XH	2	RFSW	U
95	NB6041	GDEL	GUYON	.75	600	XH	2	RFSW	U
96	25909	GDDF	GUYON	.75	150	S/160	2	RFSW	U
97	25909	GDDF	GUYON	.75	150	S/160	2	RFSW	U
98	56245	GDKG	GUYON	1	300	S/80	2	RFSW	U
99	56245	GDKG	GUYON	1	300	S/80	2	RFSW	U
100	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
101	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
102	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
103	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
104	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
105	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
106	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
107	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
108	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
109	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
110	44266	44266	GUYON	.75	600	XXH	2	RFSW	U
111	9908	9908	GUYON	1.5	150	S/80	2	RFSW	U
112	9908	9908	GUYON	1.5	150	S/80	2	RFSW	U
113	9908	9908	GUYON	1.5	150	S/80	2	RFSW	U
114	9908	9908	GUYON	1.5	150	S/80	2	RFSW	U
115	56245	GDKG	GUYON	1	600	XXH	2	RFSW	U
116	56245	GDKG	GUYON	1	600	XXH	2	RFSW	U
117	56245	GDKG	GUYON	1	600	S/160	2	RFSW	U
118	56245	GDKG	GUYON	1	600	S/160	2	RFSW	U

BRUNSWICK STEAM ELECTRIC PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 2

All Items are A/SA105
Carbon Steel Flanges
Manufactured by WJM

119	56245	GDKG		GUYON	1	600	S/160	2	RFSW	U
120	56245	GDKG		GUYON	1	600	S/160	2	RFSW	U
121	1599	1599		GUYON	.75	150	S/160	2	RFSW	U
122	1599	1599		GUYON	.75	150	S/160	2	RFSW	U
123	1599	1599		GUYON	.75	150	S/160	2	RFSW	U
124	17481	17481		GUYON	2	150	S/80	2	RFSW	U
125	17481	17481		GUYON	2	150	S/80	2	RFSW	U
126	17481	17481		GUYON	2	150	S/80	2	RFSW	U
127	13922	B47		GUYON	1	1500	S/160	2	RFSW	U
128	13922	B47		GUYON	1	1500	S/160	2	RFSW	U
129	13922	B47		GUYON	1	1500	S/160	2	RFSW	U
130	13922	B47		GUYON	1	1500	S/160	2	RFSW	U
131	75	75	144	GUYON	2	600	S/160	2	RFSW	S
132	75	75	144	GUYON	2	600	S/160	2	RFSW	S
133	3772	3772	150	GUYON	.75	1500	XXH	2	RFSW	S
134	3772	3772	153	GUYON	.75	1500	XXH	2	RFSW	S
135	3772	3772	153	GUYON	.75	1500	XXH	2	RFSW	S
136	31018	GDCW	151	GUYON	.75	1500	XXH	2	RFSW	S
137	25904	GDDE		GUYON	.5	300	S/40	2	RFSW	U
138	25904	GDDE		GUYON	.5	300	S/40	2	RFSW	U
139	25909	GDDF	137	GUYON	.5	600	XXH	2	RFSW	S
140	25909	GDDF	137	GUYON	.5	600	XXH	2	RFSW	S
141	25909	GDDF	137	GUYON	.5	600	XXH	2	RFSW	S
142	25909	GDDF	137	GUYON	.5	600	XXH	2	RFSW	S
143	25256	GDEP		GUYON	2	150	S/40	2	FFWN	U

BRUNSWICK STEAM ELECTRIC PLANT
CAROLINA POWER & LIGHT COMPANY

ATTACHMENT 2

All Items are A/SA105
Carbon Steel Flanges
Manufactured by WJM

144	25256	GDEP	GUYON	2	150	S/40	2	FFWN	U
145	H7414	H7414	GUYON	4	150	STD	3	FFWN	U
146	66293	GDKF	GUYON	1	300	S/80	2	RFSW	U
147	66293	GDKF	GUYON	1	300	S/80	2	RFSW	U
148	66293	GDKF	GUYON	1	300	S/80	2	RFSW	U

NOTES: 1) ALL MATERIAL C.S. FLANGES A/SA-105 MANUFACTURED BY WJM

2) HB-CONVERTED BRINELL NUMBER BASED ON IN-SITU HARDNESS TEST USING EQUOTIP

3) LOCATION I = INSTALLED
S = IN STOCK
U = UNKNOWN4) INACCESSIBLE, LOCATED INSIDE U1 DRYWELL, NRC NOTIFIED 06/24/88,
JCO IN-PLACE (REFERENCE EER 88-341).
8 POSSIBLE LOCATION OF THESE FLANGES WERE EVALUATED, THOUGH PURCHASE
ORDER IDENTIFIED ONLY 7 FLANGES.