



**Carolina Power & Light Company**

P. O. Box 1551 • Raleigh, N. C. 27602

APR 25 1984

SERIAL: NLS-84-126

E. E. UTLEY  
Executive Vice President  
Power Supply and Engineering & Construction

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
United States Nuclear Regulatory Commission  
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-324/LICENSE NO. DPR-62  
ENVIRONMENTAL QUALIFICATION OF SAFETY-RELATED  
ELECTRICAL EQUIPMENT - EXTENSION REQUEST PER 10 CFR 50.49(g)

Dear Mr. Denton:

INTRODUCTION

During a February 2, 1984 meeting held with your staff, Carolina Power & Light Company (CP&L) notified the NRC per 10 CFR 50.49(h) that an extension to the schedular requirements described in 10 CFR 50.49(g) would be required for the Brunswick Steam Electric Plant (BSEP) Unit No. 2. This letter requests an extension until November 30, 1985 to complete the environmental qualification of certain equipment pertaining to BSEP Unit No. 2.

Carolina Power & Light Company has followed and will continue to follow a deliberate, but continuous path in pursuit of final qualification as required by 10 CFR 50.49. Due to the complexities of the procurement and modifications required to properly integrate the 10 CFR 50.49 related work with already scheduled regulatory and maintenance work and the resulting magnitude of the change in plant design, CP&L has determined that it is prudent to request a schedular extension for Unit No. 2 to ensure proper management control of affected outages. We believe that this course of action affords the best protection for the interest of the public health and safety. It is anticipated that BSEP Unit No. 1 will meet the schedular requirements established in the environmental qualification rule.

Carolina Power & Light Company is also considering a plan to replace recirculation piping on both Brunswick Units in 1985 and 1986. Adoption of this plan would require CP&L to further modify the scope and schedule of the presently planned outages. Carolina Power & Light Company expects to finalize its plans and notify you of the need for any required extension requests by December 31, 1984.

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DISCUSSION

When CP&L set out to respond to IEB 79-01B, we determined to do so in a deliberate manner. Accordingly, we commissioned our A/E, United Engineers & Constructors, to compile a list of safety-related equipment (Master List). This list was assembled by referencing the design documents for BSEP and contained approximately 1500 items per unit. Since the initial list was made using the original design documents, we considered it necessary to verify it by field inspection. Concurrently with the field verification, we contacted equipment vendors in an attempt to develop qualification information on the installed equipment, or failing that, to procure qualified replacements.

As stated in our May 20, 1983 submittal, CP&L intended to achieve full compliance with the environmental qualification rule by the summer of 1984 for BSEP Unit No. 1 and by winter 1984/1985 for BSEP Unit No. 2. However, due to significant conflicting scheduling problems discussed in detail in Attachment 1, CP&L was forced to reschedule the refueling outages for both units. The changes in the operational plan affected the capability of meeting the scheduler requirements of paragraph (g) of 10 CFR 50.49 for Unit No. 2.

The above mentioned changes in the operating plan moved the starts of the second refueling outages after March 31, 1982 from July 1984 up to March 1985 for Unit No. 1, and from December 1984 to March 1984 for Unit No. 2. The juxtaposition of the respective unit outages, and the consequent loss of nine months of preparation time for Unit No. 2 modifications, compounded by the magnitude of other work that must be accomplished, has effectively prevented CP&L from being able to complete the environmental qualification effort for BSEP Unit No. 2 electrical equipment as originally intended. A list of the remaining equipment for which replacement will be required per section (g) of the environmental qualification rule is provided for your information in Attachment 2. The environmental severity reduction modifications will also require an extension due to material delivery schedule.

The extension of BSEP Unit No. 2 past March 31, 1985 to November 1985 is necessitated by the work schedule for BSEP Unit No. 1. As noted above, the second refueling outage for BSEP Unit No. 1 will commence in March 1985, and it is expected that compliance with the environmental qualification rule will be achieved during that outage. Management of construction and engineering resources and application of project management expertise to BSEP Unit No. 1 will preclude any degree of effort being simultaneously applied to BSEP Unit No. 2. Since meaningful work could not be accomplished with both units down, the extension is being requested to November 30, 1985 to allow the return to service of BSEP Unit No. 1.

CONCLUSION

Carolina Power & Light Company believes it has made a good faith effort to complete work required by 10 CFR 50.49 within the schedule provided in paragraph (g) of the rule. To date, CP&L has spent approximately eight million dollars towards the engineering and installation of EQ-related modification packages. Of approximately 500 components requiring

replacement/installation addressed in our program, nearly 100 will have been completed before the end of the present outage and approximately 75 of the remaining items cannot be completed due to non-availability of qualified replacements. Therefore, as provided in 10 CFR 50.49(g), CP&L is seeking a schedular extension to November 30, 1985 for all items in Attachment 2.

In support of our request for deferral, a reference to previously submitted justifications for continued operation (for each piece of equipment), is also included in Attachment 2. Since nothing in this extension request serves to change the plant conditions or parameters from those previously justified, CP&L reaffirms the previously submitted bases for continued operation.

Should you have any questions regarding this request, please contact a member of our Licensing Staff.

Yours very truly,

*Ma M. Duffie*  
for E. E. Utley

PPC/pgp (9714PPCa)

cc: Mr. D. O. Myers (NRC-BSEP)  
Mr. J. P. O'Reilly (NRC-RII)  
Mr. M. Grotenhuis (NRC)

## ATTACHMENT I

### OUTAGE SCHEDULE CHANGES IMPACTING ENVIRONMENTAL QUALIFICATION

The following events have severely affected the fuel cycle and outage sequence for both Brunswick Units and have resulted in major changes to the scheduling of the units' refueling outages:

1. The Unit No. 1 outage of December 1982, which was originally scheduled for 25 weeks, was extended to 36 weeks and was completed in mid-August 1983.
2. In July 1983, the NRC issued an order for Intergranular Stress Corrosion Cracking (IGSCC) inspections on Unit No. 2. A shutdown date of November 1983 was designated to prevent outage overlap with Unit No. 1. This November shutdown was an unscheduled outage which, due to problems with the unit battery, increased to eight weeks duration.
3. The original nuclear operating plan for 1983 and 1984 had two outages to complete EQ for Unit No. 2 and one outage for Unit No. 1, all of which were within the scheduler requirement of 10 CFR 50.49. Specifically for Unit No. 2, the plan showed a maintenance outage in the fall of 1983 followed by refueling outage in the winter of 1984. For Unit No. 1, the plan showed a refueling outage in the summer of 1984.

The extended Unit No. 1 outage and the shutdown order for Unit No. 2 pushed the start of a planned maintenance Unit No. 2 outage from September 1983 to the next refueling window in the spring of 1984. Therefore, the originally planned "September 1983 maintenance outage" was rescheduled to start in March 1984, and became the "second refueling outage after March 31, 1982" which is referenced in paragraph (g) of 10 CFR 50.49.

As a result of these changes, Brunswick Unit No. 2 effectively lost one outage in which to complete portions of the EQ work and 9 months of preparation time. This meant that the entire EQ work scope, which had already been scheduled to be completed by the end of the originally planned December 1984 outage, was pushed into the rescheduled March 1984 outage.

Specifically, the outage started on March 12, 1984 and has a planned duration of 30 weeks. During that time, 78 major modifications and projects will be made to the plant including 49 regulatory mandated items. These items include off-gas recombiner and AOG system work, seismic supports, Mark I containment long-term torus modifications, IGSCC inspections, 10-year inservice inspections, analog instrumentation replacements, and modifications related to environmental qualification (10 CFR 50.49). The remaining major projects consist principally of the service water system upgrade, condenser retubing, RWC system upgrade, replacement of the extraction steam line, refueling (and associated work) and routine surveillance testing including ILRT. At its peak, the outage will involve some 160 procedure changes. An outage of this size already approaches the limits of work scope that responsible management permits to occur in a single outage.

## ATTACHMENT 2

UNIT 2

1 of 1

## REPLACEMENT ITEMS TO BE DEFERRED - QUALIFIED REPLACEMENTS NOT AVAILABLE

ITEM	PLANT ID #	5/20/83 SCEWS #	REMARKS	JCO INDEX NUMBER
Pressure Switch	B32-PS-N018A,A-1	2057	Barksdale	74
Pressure Switch	B32-PS-N018B	2058	Barksdale	81
Pressure Switch	E11-PS-N016A-D	2059	Barksdale	71
Pressure Switch	E11-PS-N020A-D	2060	Barksdale	73
Pressure Switch	E41-PSH-N012A-D	2061	Barksdale	79,80
Pressure Switch	E41-PSH-N017A,B	2062	Barksdale	73
Pressure Switch	E41-PSH-N027	2063	Barksdale	73
Pressure Switch	E51-PS-N019A-D	2064	Barksdale	75
Pressure Switch	E51-PS-N020	2065	Barksdale	72
Pressure Switch	E51-PSH-N009A,B	2066	Barksdale	76
Pressure Switch	E51-PSH-N012A-D	2067	Barksdale	76
Pressure Switch	IA-PSL-3594,5	2068	Barksdale	Note 1
Pressure Switch	SW-PS-1175.6	2071	Barksdale	Note 1
Temperature Switch	SW-TS-1109-12	2072	Barksdale	99
Pressure Switch	CAC-PDS-4222,3	2073	Barton	57
Flow Switch	E11-PDIS-N021A,B	2074	Barton	96
Flow Switch	E21-FS-N006A,B	2075	Barton	98
Flow Switch	E41-FSL-N006	2076	Barton	97
Flow Switch	E51-FS-N002	2078	Barton	97
Pressure Switch	E41-PS-N001A-D	2077	Barton	59
Limit Switch	B21-F003,4; B32-F019	2143	Honeywell	124 124
Connector	NS2	2238	Pyle National	169
Level Switch	E41-LSH-N015A,B	2243	Robertshaw	82
Control Switch	B32-CS-F019,20	2261,2	Sentry	Note 2
Pressure Switch	E11-PS-N010-A-D	2265	Static-O-Ring	60
Pressure Switch	C72-PS-N002A-D	2264	Static-O-Ring	61
Pressure Switch	E11-PS-N011A-D	2266	Static-O-Ring	61
Pressure Switch	E11-PS-N019A-D	2267	Static-O-Ring	61
Pressure Switch	E21-PS-N008A,B	2268	Static-O-Ring	63
Pressure Switch	E21-PS-N009A,B	2268	Static-O-Ring	63
Pressure Switch	E41-PS-N010	2269	Static-O-Ring	62

- NOTES: 1. JCO index number 77 is applicable to these items as they are the same model number (D2TM150SS)
2. JCO supplied as page VII-14 of CP&L's 5/20/83 submittal.

## ATTACHMENT 2

UNIT 2

1 of 3

## REPLACEMENT ITEMS TO BE DEFERRED DUE TO SCHEDULE RESTRAINTS

ITEM	PLANT ID #	5/20/83 SCEWS #	REMARKS	JCO INDEX NUMBER
Time Delay Relay	DBO-74-17	2123	Agastat	143
Solenoid Valve	B32-F020	2012	ASCO	45
Solenoid Valve	CAC-PV-1260-1,2	2013	ASCO	35
Solenoid Valve	CAC-PV-3439,40	2014	ASCO	(Note 1)
Solenoid Valve	CAC-SV-4222,3	2015	ASCO	24
Solenoid Valve	CAC-V4,5,8	2016,17	ASCO	25,26,53
Solenoid Valve	CAC-V6	2018,9	ASCO	36,38
Solenoid Valve	CAC-V7	2020	ASCO	52
Solenoid Valve	CAC-V9	2021	ASCO	49
Solenoid Valve	CAC-V10	2022	ASCO	37
Solenoid Valve	CAC-V15	2023	ASCO	36
Solenoid Valve	CAC-V47,55,56	2024,5	ASCO	29,30
Solenoid Valve	CAC-V48	2026,7	ASCO	45,50
Solenoid Valve	CAC-V49,50	2028	ASCO	44
Solenoid Valve	C12-F110A,B	2030	ASCO	44
Solenoid Valve	E11-F053A,B	2032	ASCO	30
Solenoid Valve	G16-F003,04,19,30	2033	ASCO	45
Solenoid Valve	TD-SV-3598,3601	2051	ASCO	(Note 1)
Solenoid Valve	2(A-D)-BFIV-RB	2052	ASCO	39
Pressure Transmitter	CAC-PT-1257-2	2055	Bailey	67
Flow Transmitter	VA-FT-2577	2056	Bailey	93
Terminal Blocks	Penetration Boxes Inside Containment	2097	Curtis	182
Motor	NP6,7-MOT-M1	2098	Doerr	(Note 2)
Motor	NP6,7-MOT-M2	2099	Doerr	(Note 2)
Temperature Switch	B21-TS-N010A-D	2101	Fenwall	109
Temperature Switch	E41-TS-3314	2102	Fenwall	110
Temperature Switch	E41-TS-3315-8,3354	2103	Fenwall	112
Temperature Switch	E41-TS-3488,9	2104	Fenwall	107
Temperature Switch	E51-TS-3319-23,3355	2105,6	Fenwall	108,111
Temperature Switch	E51-TS-3487	2107	Fenwall	108



## ATTACHMENT 2

UNIT 2

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## REPLACEMENT ITEMS TO BE DEFERRED DUE TO SCHEDULE RESTRAINTS

ITEM	PLANT ID #	5/20/83 SCEWS #	REMARKS	JCO INDEX NUMBER
Pressure Transmitter	C32-PT-N005A,B	2110	GE	68
Radiation Detector	D12-RE-N010A,B	2111	GE	148
Pressure Transmitter	E11-PDT-N002A,B	2114	GE	69
Flow Transmitter	E41-FT-N008	2116	GE	95
Terminal Block	Penetration Boxes Inside Containment	2119	GE	180
Solenoid Valve	VA-SV-936A,B	2157	Johnson Svcs.	34
Temperature Switch	VA-TS-936A-F	2158	Johnson Svcs.	113,114
Position Switch	VA-ZS-936A,B	2159	Johnson Svcs.	123
Limit Switch	C12-F010-L	2164-1	NAMCO	(Note 3)
Limit Switch	E51-C002-LS4	2166	National ACME	155
Accelerometer	B21-FT-4157 to 67	2168	NDT Int'l.	(Note 4)
Motorized Vlv Actuator	B21-F016	2184	Limitorque	20
Motorized Vlv Actuator	E11-F022	2184	Limitorque	20
Motorized Vlv Actuator	CAC-V22	2188	Limitorque	1
Motorized Vlv Actuator	E51-F007	2222	Limitorque	20
Motorized Vlv Actuator	E51-F019	2225	Limitorque	17
RTD	CAC-TE-1258-1 to 13 & 22,23,24	2235	PYCO	100
RTD	CAC-TE-1258-14,21	2236	PYCO	100
RTD	CAC-TE-1258-17, 18,19,20	2237	PYCO	100
Float Switch	E51-C002-H	2263	Square D	(Note 5)
Pressure Switch	E51-PSL-N006	2270	Static-O-Ring	62
Level Transmitter	B21-LITS-N026A,B	2279	Yarway	85

## ATTACHMENT 2

UNIT 2

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## REPLACEMENT ITEMS TO BE DEFERRED DUE TO SCHEDULE RESTRAINTS

ITEM	PLANT ID #	5/20/83 SCEWS #	REMARKS	JCO INDEX NUMBER
Reactor Instrument Penetration System	27 Solenoids	2035-7	Manufactured by:	27,28,35,
Components Consisting of; Solenoid Vlvs.	25 Press. SW	2041-3	ASCO, Barksdale,	41,42,47,
Pressure Switches,	62 Pos. SW	2046,7	Cherry Electric	48,ASCO;
Position Switches and	42 Flow SW	2069,70	and Magnetrol	77,78,
Flow Switches		2094,5		Barksdale;
		2160,1		94,122
				Cherry
				Electric;
				91 Magnetrol
Standby Gas Treatment System Components	4 Switches	2084	Manufactured by:	116,
Consisting of;	8 Indicator	2090	Bettis, Bradley,	Bettis:
Swatches, Indicator	Lights			156,
Lights, Various MCC	8 MCC	2100	Farr and NAMCO	Farr,
Components, Limit	Components			Bradley;
Swatches	4 Limit	2165		115, NAMCO
	Switches			

Notes

1. As noted in previous submittals, the same justification is applicable to all existing installed ASCO solenoid valves.
2. JCO supplied as page VII-17 of CP&L's 5/20/83 submittal.
3. JCO supplied as page VII-11 of CP&L's 5/20/83 submittal.
4. JCO supplied as page VII-12 of CP&L's 5/20/83 submittal.
5. JCO supplied as page VII-18 of CP&L's 5/20/83 submittal.