

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9103210028 DOC. DATE: 91/03/13 NOTARIZED: NO DOCKET #
 FACIL: 50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
 AUTH. NAME AUTHOR AFFILIATION
 VAUGHN, G.E. Carolina Power & Light Co.
 RECIPIENT NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Responds to NRC 910204 safety evaluation re station
 blackout rule (10CFR50.63). Util takes exception w/NRC
 determination to change extremely severe weather
 classification from Group 3 to Group 4.

DISTRIBUTION CODE: A050D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 8
 TITLE: OR Submittal: Station Blackout (USI A-44) 10CFR50.63, MPA A-22

NOTES:

	RECIPIENT		COPIES		RECIPIENT		COPIES	
	ID CODE/NAME		LTR	ENCL	ID CODE/NAME		LTR	ENCL
	PD2-1 PD		1	1	LO,R		1	1
INTERNAL:	NRR PD1-4PM TAM		1	1	NRR/DET/ESGB 8D		2	2
	NRR/DST/SELB		3	3	NRR/DST/SPLB8D1		3	3
	NRR/DST/SRXB8E		1	1	<u>REG FILE</u> 01		1	1
EXTERNAL:	NRC PDR		1	1	NSIC		1	1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTR 15 ENCL 15

MA 4/20

R
I
D
S
/
A
D
D
S

R
I
D
S
/
A
D
D
S



Carolina Power & Light Company

P.O. Box 1551 • Raleigh, N.C. 27602

G. E. VAUGHN
Vice President
Nuclear Services Department

MAR 13 1991

SERIAL: NLS-91-069
10CFR50.63

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

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE DPR-23
RESPONSE TO NRC STATION BLACKOUT SAFETY EVALUATION
(NRC TAC NO. 68595)

Gentlemen:

In a letter dated February 4, 1991, the NRC provided the Safety Evaluation (SE) regarding the Station Blackout (SBO) Rule (10CFR50.63) as applicable to the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR2) and the associated Technical Evaluation Report (TER) performed by SAIC. The NRC letter also contained eight (8) recommendations and requested confirmation that the Staff recommendations would be implemented. CP&L concurs with most of these recommendations, with exceptions discussed in Enclosure 1, which provides CP&L's responses to each of the Staff's recommendations. CP&L also takes exception to the NRC determination to change the HBR2 Extremely Severe Weather (ESW) classification from Group 3 to Group 4. The CP&L position is presented in Enclosure 2.

As a result of our preliminary review, some items from the August 8, 1990 telecon with your staff were not consistent with our understanding of the telecon (reference Enclosure 2); and some inaccuracies were identified in the SAIC Evaluation. Certain values from CP&L's evaluation were incorrectly used in the SAIC Evaluation. In addition, some assumptions used by SAIC were beyond SBO criteria. The Company will identify these discrepancies in the SBO supporting documentation. Our preliminary determination is that these discrepancies would not alter the conclusions of the SAIC Evaluation and the Safety Evaluation.

The NRC SE on SBO for HBR2 was received by CP&L on February 11, 1991. In accordance with the scheduler requirements of the Rule, CP&L will complete all items necessary to meet 10CFR50.63 no later than February 11, 1993.

9103210028 910313
PDR ADOCK 05000261
P PDR

A050
111

ENCLOSURE 1

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
RESPONSE TO NRC STATION BLACKOUT SAFETY EVALUATION RECOMMENDATIONS

Staff Recommendation 1 (SE Section 2.2.2)

The licensee, in accordance with their stated commitment, should test the AAC source to show that it can be started and connected to the safe shutdown loads within one hour. The test results should be included in the documentation supporting the SBO submittals that is to be maintained by the licensee.

CP&L Response 1

Based on testing experience with OST-910, Dedicated Shutdown Diesel Generator (DSDG) (biweekly), CP&L is confident that a timed load test will demonstrate the ability to have the DSDG connectable to the SBO coping loads within one hour as required. Although OST-910 does not duplicate the SBO sequence, samples of that load test demonstrate that the diesel can be started and loaded to the grid in approximately 15 minutes.

CP&L will demonstrate that the Alternate AC (AAC) source can be started and is connectable to the safe shutdown loads within one hour as outlined by NUMARC 87-00, Appendix B, Item 12. Documentation of this demonstration will be maintained with the SBO supporting documentation files.

Staff Recommendation 2 (SE Section 2.3.2)

The licensee should reevaluate the adequacy of the B battery to power the necessary SBO loads for one hour considering the aging factor and an allowance for additional loads that may be added. Also, the licensee should confirm that the B battery is not needed after one hour for the SBO scenario and what steps, if any, will be taken to prevent the battery from discharging to the point where reverse polarity could occur. The results of the reevaluation and confirmation should be included in the documentation supporting the SBO submittals that is to be maintained by the licensee.

CP&L Response 2

The B battery does not support any equipment required to operate during the SBO eight-hour coping period. While the B battery does support two switchyard breakers, normal alignment for restoration of off-site power does not include these breakers. Loss of the B battery due to reverse polarity, or deactivation, will not adversely affect coping during or a recovery from a Station Blackout. The basis for our response to Recommendation 2 will be maintained in the documentation supporting the SBO submittals.

Staff Recommendation 3 (SE Section 2.3.3)

The licensee should describe in detail what specific procedures would be used to supply compressed air during an SBO and how the procedures will assure adequate air supply to the PORVs. This documentation should be included in the documentation supporting the SBO submittals that is to be maintained by the licensee.

CP&L Response 3

To facilitate a controlled cooldown, existing CP&L SBO procedures identify connecting back-up nitrogen gas supplies to the Main Steam PORV's. As referenced in our previous transmittals, Procedure DSP-010 provides instructions for connecting the Main Steam PORVs to the Steam Dump Nitrogen Accumulator System. This action is currently used in POM procedures for loss of all AC power and safe shutdown in case of fire. These accumulators and this repair procedure will provide a reliable source of compressed gas for these valves, not subject to the potential electrical or mechanical failures associated with an instrument air system or that might be postulated during a Station Blackout. This information will be maintained in the documentation supporting CP&L's SBO submittals.

Staff Recommendation 4 (SE Section 2.3.4)

The licensee should reevaluate the temperature rises in the above identified areas, other than containment, using conservative initial temperatures, corresponding to the maximum bounding design temperatures including the Technical Specification temperature limits, and confirm that there is a reasonable assurance of SBO equipment operability in these areas during an eight-hour SBO.

CP&L Response 4

HBR2 UFSAR 9.4.1.1(b) defines indoor temperatures to be maintained for the following areas:

Reactor Auxiliary Building (RAB)	104°F max
Control Room	75°F

Therefore, area heat-up calculations assumed the following initial air temperatures for the four RAB rooms and the control room:

CCW Pump Room	104°F
Charging Pump Room	104°F
Battery Room	104°F
Cable Spread Room	104°F
Control Room	75°F

Based on these initial temperatures, it is CP&L's position that the existing control room SBO heat-up calculation conservatively estimates that the control room temperature will not exceed 120°F during the HBR2 eight-hour coping period for the following reasons.

1. The calculation indicated the final temperature was below 120°F with two doors open. Three doors are available, but only two are credited under the current analysis, due to the arrangement of the vestibule. CP&L SBO procedures will require opening all three control room doors to cool the control room.

2. The calculation conservatively assumed Battery B heat loads in the control room remain on for the complete eight-hour coping period. These loads are more than 30% of the calculated heat input to the control room. Battery B is not required for coping and may be operational for about one hour of an SBO.
3. The calculation assumed an outside air temperature of 95°F for the eight-hour SBO coping duration. HBR2 UFSAR 9.4.1.1(a) defines the summer outside air temperature for HVAC design at 95°F. This is felt to be conservative; even though peak air temperature occasionally exceeds 95°F, the air does not stay at the maximum temperature for periods as long as the eight-hour coping duration. Also, due to the heat sink presented by the concrete wall, the outside wall temperature will not reach the peak air temperature.
4. The calculation assumed a wall and ceiling thickness of 1.5 feet. The actual wall thickness is greater than 1.5 feet.
5. The calculation used a conservative method provided by NUGSBO and transmitted to the Staff by CP&L's August 30, 1990 memo, for coping durations greater than 4 hours.

To confirm the conservatism of the NUGSBO formula, CP&L will perform an additional detailed transient analysis and benchmark the results to the values achieved using the NUGSBO formula. The results of this evaluation will be maintained with the documentation supporting the SBO submittal. If the evaluation indicates that the NUGSBO methodology is not conservative for the selected case, the NRC will be notified; and use of the NUGSBO formula will be reevaluated.

Staff Recommendation 5 (SE Section 2.3.4)

The licensee should include in their SBO procedures a provision to open the control room cabinet doors within 30 minutes after the onset of an SBO. These evaluations and verifications and any resulting modification should be included in the documentation supporting the SBO submittals that is to be maintained by the licensee.

CP&L Response 5

CP&L SBO procedures will be revised to require that control room cabinet doors shall be opened within 30 minutes after the onset of SBO.

Staff Recommendation 6 (SE Section 2.3.5)

The licensee should provide a means to detect the misposition of SI-860B or SI-861B during normal operation and provide for corresponding corrective measures to maintain appropriate containment integrity during the eight-hour SBO duration. The evaluation and proposed actions addressing the above should be included in the documentation supporting the SBO submittal that is to be maintained by the licensee.

CP&L Response 6

Adequate measures to detect the mispositioning of valves SI-860B and SI-861B are already in place. Prior to RCS heat-up, SI-860B and SI-861B are aligned, verified, and checked to be in the closed position per OP-202. As required by Technical Specification 4.5.2.2, OST-158 verifies the closed position of both valves monthly. Access to these valves is controlled by a locked barrier under security control. Also, the valves' position is indicated in the control room.

If both valves were not properly closed, the Refueling Water Storage Tank (RWST) would drain to the containment sump. Redundant containment water level indicators are verified operable once per shift. The RWST level is indicated in the control room, and a low-level alarm is annunciated in the control room. RWST level is checked each shift by two individuals, independently, using the RWST level indicators. This combination of measures provides adequate assurance that these valves will be in the closed position prior to a postulated SBO.

Staff Recommendation 7 (SE Section 2.5)

The licensee should include a full description of the nature and objective of all modifications in the documentation supporting the SBO submittal that is to be maintained by the licensee.

CP&L Response 7

The recommended description will be maintained with the applicable modification package and the existing design control process will ensure continued compliance with 10CFR50.63.

Staff Recommendation 8 (SE Section 2.7)

It is the staff's position that an EDG reliability program should be developed in accordance with the guidance of Reg. Guide 1.155, Section 1.2. Confirmation that such a program is in place or will be implemented should be included in the documentation supporting the SBO submittal that is to be maintained by the licensee.

CP&L Response 8

CP&L will establish an EDG Reliability Program which meets the guidance of Regulatory Guide 1.155, Position 1.2 in accordance with Appendix D of NUMARC 87-00.

ENCLOSURE 2

ESW DISCUSSION AND TELECON CLARIFICATIONS

ESW Group Reclassification (SE Section 2.1)

The SE states: "The staff agrees with the licensee's determinations above except for the ESW classification. The staff has classified the ESW group for Robinson 2 as Group 4. However, this does not change the required coping duration for Robinson 2, and does not affect the licensee's coping analyses."

CP&L Response

CP&L concurs that changing the ESW classification from Group 3 to Group 4 would not change the required coping duration for HBR2 and does not affect the HBR2 coping analysis; however, based on site-specific data, CP&L has concluded that the site is correctly classified as ESW 3.

NUMARC 87-00 provides two options for determination of the ESW Group. Option 1 uses site-specific data to define the annual wind speed expectation for winds equal to or greater than 125 mph and Table 3-1 defines the ESW Group as a function of wind speed expectation. Option 2 uses Table 3-2 which defines the ESW Group for each plant. A note on Table 3-2 states that NUMARC has not verified the accuracy of the data in the Table.

CP&L elected Option 1 because site-specific data, previously submitted to the USNRC, was available. The use of Option 2 would require validation of the database used to generate NUMARC Table 3-2 because NUMARC 87-00 stated that NUMARC did not verify the accuracy of the data in Table 3-2. It is CP&L's position that Option 1 is the preferred approach when docketed site-specific data is available.

CP&L used HBR2 site-specific data presented in the HBR2 UFSAR Section 2.3.1.2-7 and noted in Figure 2.3.1-2. The UFSAR indicated that winds of 125 mph or more are expected to occur at a rate of once every 475 to 500 years (0.002 per year). From NUMARC Table 3-1, the HBR2 ESW Group is 3. The SE elected NUMARC Option 2 which indicated the expected frequency of 0.0036 per year and ESW Group 4.

Clarification Related to the August 8, 1990 Telecon

Some positions or commitments attributed to the telecon of August 8, 1990 are not consistent with our responses or analysis. As a matter of clarification, the more significant items are noted below:

SER, Section 2.3.6, (TER 3.3.6) notes RCS inventory being maintained by use of a charging pump. Based on a comparison of the ECA 0.0 document with the Robinson Nuclear Plant, it was concluded that the Westinghouse document was applicable. Based on ECA 0.0, it was concluded that normal RCS leakage and a seal leakage of 25 gpm per pump would not result in core uncover during an eight hour blackout without a charging pump. A charging pump is available off of the DS bus, but it is not considered a required component. The pump was noted in some of the information transmitted as it could represent a heat load or electrical demand if Operations actuated it, and it was included in these calculations for conservatism.

SER Section 2.6 notes that we indicated that all SBO equipment is covered by an NRC-approved QA program. However, our actual response was that all equipment subject to Appendix B of Reg. Guide 1.155 either is, or will be, in compliance with an approved QA program (or an SBO QA program) prior to the compliance date (2/11/93).

TER, Section 4.4, notes that the licensee stated that an instrument air compressor would be available one hour after the onset of an SBO. It should be indicated that an instrument air compressor may be available, but it is not considered a required component as the only desired action requiring a source of compressed gas is the Main Steam PORV actuation. As noted previously, the use of the existing POM procedure, DSP-010 will provide instructions on connecting these valves to an available source of nitrogen.

If you should have any questions, please contact Mr. S. D. Floyd at
(919) 546-6901.

Yours very truly,



G. E. Vaughn

JSK/jbw (1025RNP)

Enclosure

cc: Mr. S. D. Ebnetter
Mr. L. Garner (NRC-HBR)
Mr. R. Lo