



ENTERGY

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R. F. Burski
Director
Nuclear Safety
Waterford 3

W3F1-91-0227
A4.05
QA

March 21, 1991

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Station Blackout (SBO)

Gentlemen:

Entergy Operations, Waterford 3, on March 30, 1990 submitted a response to the station blackout rule 10CFR50.63, reference one (1). The response, in part, communicated a commitment, specifically to revise OP-902-005 to include the restoration of the emergency diesel generators as part of the SBO recovery process and to make provisions to have bottled compressed air stored on-site and available for the emergency diesel generators. Waterford 3 committed to complete this effort by April 17, 1991. After further evaluation, we have decided to implement an alternative approach which is preferable from a technical and operational standpoint for the restoration of the emergency diesel generators after an SBO.

The original method proposed by Waterford 3 relied on compressed bottles of air as a source of compressed air for starting the EDGs. This method is not technically or operationally preferable for the following reasons:

1. Highly compressed air when released into the 250 psig air receivers lowers the air temperature in the receivers to -150°F. Such a low temperature could have deleterious effects on the starting air system.
2. There would be approximately fifty (50) bottles of compressed air at 400 psig required to provide an adequate supply of starting air. The operational process of discharging 50 bottles of air into the air receivers would be unnecessarily complex and time demanding given an SBO event.

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Alternatively, Waterford 3 has purchased a portable air compressor that can be connected to the EDG air receivers. The compressor is currently on-site. The compressor is sized to match the existing permanent compressors, and thus it is sized to provide an adequate supply of compressed air to start the EDGs. The compressor is ready for use and can be connected to the starting air receiver lines. The portable air compressor is a preferable option to compressed air bottles because it is a reliable source of compressed air, can be easily connected to the EDG air receivers, and is relatively maintenance free.

Accordingly, the appropriate procedures will be changed to reflect the portable air compressor option rather than compressed air bottles. Specifically OP-902-005 will be revised to include a statement that the portable air compressor is available and should be used given an SBO. Procedure OP-009-002 will be changed to incorporate information for the installation to the air receivers, operation, and maintenance of the portable air compressor. The procedural changes will be completed by the end of Refuel 4.

Please contact me or Robert J. Murillo should there be any questions regarding this letter.

R.F. Band

RFB/RJM/dc

cc: Messrs. R.D. Martin, NRC Region IV
D.L. Wigginton, NRC-NRR
E.L. Blake
R.B. McGehee
NRC Resident Inspectors Office

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Reference

1. LP&L Letter to USNRC, W3P90-0673, dated March 30, 1990



Louisiana Power & Light Company
317 Baronne Street
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New Orleans, LA 70160-0340
Tel. 504 585 2805

R. F. Burski
Nuclear Safety & Regulatory
Manager

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Gentlemen:

LP&L on April 14, 1989 submitted the response for Waterford 3 to the station blackout rule 10CFR50.63, reference one (1). Subsequently, NUMARC on January 4, 1990, reference two (2), issued a letter to the industry identifying issues requiring evaluation. The following information provides the results of our evaluation.

1. The information provided in the April 14, 1989 LP&L response was based on NUMARC 87-00 and remains valid. There are no changes to the Waterford 3 SBO categories and classifications documented in reference one.
2. Pursuant to NUMARC 87-00, section 3.2.1, part 1.B, method A, site specific data was used in calculating the estimated frequency of loss of off-site power due to extremely severe weather. The methodology and data in NUREG/CR-2639, May 1982, was used. LP&L also supplemented the data in NUREG/CR-2639 with tornado data from the National Oceanic and Atmospheric Administration and calculated the annual expectation of tornadoes.
3. The original analysis assumed that at the end of the postulated SBO, power was restored to the shutdown buses from off-site AC power. LP&L is in the process of modifying emergency operations procedure OP-902-005 to include the restoration of the emergency diesel generators as part of the recovery process. Provisions need to be made to have bottled compressed air stored on-site and available for the emergency diesel generators. A station modification may be required to change the starting air system to accommodate the compressed bottled air. This effort will be completed by April 17, 1991 pursuant to paragraph c(4) of 10CFR 50.63.

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4. The LP&L document for SBO, calculation EC-E89-016, was revised. The revision was made to enhance the existing SBO analyses and evaluations or to validate certain assumptions. The analysis which is required to confirm the LOCA is the bounding containment heat-up event compared with an SBO is in the process of being finalized. The documentation of the analysis, which includes computer analysis, will be finalized by April 16, 1990.
5. LP&L affirms its understanding that the diesel generator target reliability for Waterford 3, 0.975, is to be maintained.

LP&L recognizes the importance of station blackout. A significant effort has been made to assure there is comprehensive and well supported documentation for SBO. We believe the Waterford 3 evaluation thoroughly addresses the current issues on SBO.

RFB

RFB/RJM/smb

Attachment

cc: Messrs. R.D. Martin
F.J. Hebdon
D.L. Wigginton
E.L. Blake
W.M. Stevenson

W-3 NRC Resident Inspector's Office