



LOUISIANA
POWER & LIGHT / INTER-OFFICE CORRESPONDENCE

May 31, 1988

W3P88-1212
A4.05
QA

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

Subject: Waterford 3 SES
Docket No. 50-382
Technical Specification Change Request NPF-38-81

Reference: W3P88-1213 to NRC from R.F. Burski

Gentlemen:

Louisiana Power & Light files this application for an emergency amendment to the Waterford 3 Technical Specifications in accordance with 10CFR50.91(a)(5). The amendment, which does not involve an unreviewed safety question nor a significant hazards consideration, would revise the number of Containment Cooling Fans which must be operable in Technical Specification 3.6.2.2, Containment Cooling System.

The referenced letter discussed the need for a Temporary Waiver of Compliance until such time as an emergency Technical Specification change could be processed by the NRC. The need for this waiver, and this emergency change, became evident when plant personnel discovered that the C Containment Cooling Fan was inoperable due to the sudden failure of the fan motor windings. At the time of discovery (May 28, 1988 at approximately 1400 hours) Waterford 3 was in the process of entering mode 2 to perform Low Power Physics Testing following a refueling outage. The inoperability of the C fan, therefore, would have prevented Waterford 3 from performing Low Power Physics Testing and would have required a plant cooldown within 72 hours.

A001
||
w/check \$150
#05-6337

NS90015AA
8806070102 880531
PDR ADOCK 05000382
P DCD

"AN EQUAL OPPORTUNITY EMPLOYER"

Upon discovery, LP&L contacted vendors and utilities throughout the country, as well as Canada, for a fan motor which would meet the design requirements of this particular application. When this proved fruitless, LP&L immediately began searching for a similar motor which, with minor design changes, could be substituted for the damaged motor. In parallel with this, maintenance personnel began removing the motor in order to send it to the manufacturer for work. In addition, LP&L engineers contacted Ebasco Services in an effort to determine if a reanalysis of the limiting design basis accidents with respect to Containment cooling and depressurization would be feasible.

Upon receiving enforcement discretion, Waterford 3 entered mode 2 on May 29, 1988 to begin Low Power Physics Testing. Throughout May 29 and 30, LP&L continued to search for alternative motors. In addition, LP&L and Ebasco engineers continued work on the reanalysis. At approximately 1200 hours on May 31, 1988 LP&L was informed by Ebasco engineers that the reanalysis would support a Technical Specification change to allow less than the currently required cooling fans to be operable in modes 1 through 4.

The failed motor has been disassembled and inspected at Westinghouse's Spartanburg facility. This inspection showed the condition and lubrication of the bearings were satisfactory, and there was no evidence of foreign material intrusion into the stator area. Westinghouse engineers are currently working on a failure analysis. Preliminary results indicate that the motor experienced an electrical problem which resulted in a short circuit of an area of the windings several inches in diameter. It is impossible, in this short time frame, to have a more conclusive evaluation. Since there is no evidence to the contrary at this time, it is assumed that the motor experienced a random failure.

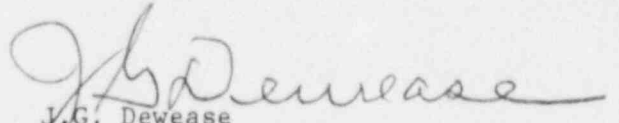
At approximately 1200 hours on May 31, 1988 LP&L is scheduled to complete Low Power Physics Testing and, therefore, will complete the necessary requirements to proceed to mode 1. The LP&L and Middle South Utilities systems experience the highest demand for electrical power during the upcoming summer months. The unavailability of Waterford 3 would require the operation of more costly fossil fired units or the open market purchase of wholesale electricity at prices much higher than Waterford 3 electricity. The alternatives to nuclear generated electricity represents an undue economic burden upon LP&L and its ratepayers.

Page 3
W3P88-1212

The Ebasco/LP&L evaluation, which was completed a matter of hours prior to the completion of Low Power Physics Testing, forms the basis for the enclosed Technical Specification change request.

Should there be any questions, please contact Larry Laughlin at (504) 464-3499.

Very truly yours,


J.G. Dewease
Senior Vice President-
Nuclear Operations

JGD:LWL:ssf

Attachments: NPF-38-81
LP&L Check \$150.00

cc: R.D. Martin, J.A. Calvo, D.L. Wigginton, NRC Resident Inspectors
Office, E.L. Blake, W.M. Stevenson

bcc: R.P. Barkhurst, R.F. Burski, T.F. Gerrets, F.J. Drummond, S.A. Alleman,
N.S. Carns, D.F. Packer, P.V. Prasankumar, J.R. McGaha, E.J. Senac,
M.J. Meisner, G.E. Wuller, R.J. Murillo, G.E. Wilson, R.W. Prados,
L.W. Laughlin, C.E. DeDeaux, G.W. Muench, R.T. Lally, Jr., W.A. Cross

Records Center, Administrative Support, Licensing Library, Site
Licensing Support File

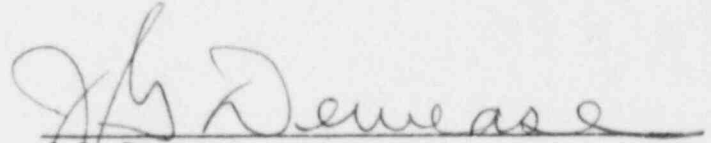
Ebasco - J.B. Houghtaling, M.r. morrell
CE - R.P. O'Neill

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of)
)
Louisiana Power & Light Company) Docket No. 50-382
Waterford 3 Steam Electric Station)

AFFIDAVIT

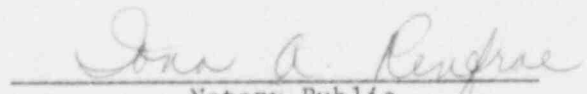
J.G. Dewease, being duly sworn, hereby deposes and says that he is Senior Vice President-Nuclear Operations of Louisiana Power & Light Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached Technical Specification Change Request NPF-38-81; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.



J.G. Dewease
Senior Vice President-Nuclear Operations

STATE OF LOUISIANA)
) ss
PARISH OF ORLEANS)

Subscribed and sworn to before me, a Notary Public in and for the Parish and State above named this 31st day of May, 1988.



Notary Public

My Commission expires at death.

DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGED NPF-38-81

The proposed change would revise Technical Specification 3.6.2.2, Containment Cooling System.

Existing Specification

See Attachment A.

Proposed Specification

See Attachment B.

Description

Waterford 3 Technical Specification (TS) 3.6.2.2 presently requires two independent trains of containment cooling fans to be operable with two fan systems to each train for modes 1, 2, 3, and 4. The proposed change would revise the existing Technical Specification to allow Waterford 3 to operate with one fan in each train (i.e. only two fans, one in each train would be required to be operable).

The function of the Containment Heat Removal System, as described in Chapter 6 of the Waterford 3 FSAR, is to assist Containment Spray and heat sinks in removing heat from containment atmosphere, and thus maintain containment pressure and temperature at acceptable levels, during a design basis accident. The most limiting condition for peak containment pressure considerations is a Main Steam Line Break (MSLB) at 75% power. For long term pressure reduction considerations, a Loss of Coolant Accident (LOCA) from 100% power is the most limiting.

A reanalysis of these limiting events using the same computer codes and models described in Chapter 6 of the FSAR was performed. The analysis assumed only one Containment Cooling Fan per train was operable and the initial containment pressure was the maximum allowed by Technical Specification 3.6.1.4, 1.0 psig. The reanalysis shows that for the limiting 75% MSLB with the failure of one containment cooling train (one Containment Cooling Fan operates instead of two), the peak containment pressure increased by approximately 0.1 psig from approximately 43.7 psig to approximately 43.8 psig. Similarly, for the limiting 75% power MSLB with a failure of a main steam isolation valve to close (two Containment

Cooling Fans operate instead of all four), the peak pressure increased from approximately 43.7 psig to approximately 43.8 psig. This maintains more margin (0.2 psig) to the containment design pressure of 44 psig than was approved in the original license analysis.⁽¹⁾

To assess the effect of fewer operable cooling fans on the long term post accident containment pressure reduction, the limiting 100% power LOCA was reanalyzed. This analysis verified that the containment pressure can be reduced by a factor of 2 within 24 hours after the accident.

The proposed change, therefore, would revise TS 3.6.2.2 to require one Containment Cooling Fan per train to be operable in modes 1, 2, 3 and 4.

Safety Analysis

The proposed change described above shall be deemed to involve a significant hazards consideration if there is a positive finding in any of the following previously evaluated?

1. Will operation of the facility in accordance with this proposed change significantly increase the probability or consequences of any accident previously evaluated?

Response: No.

As discussed previously, a reanalysis of the LOCA and MSLB events for Waterford 3 indicates that with one Containment Cooling Fan per train operable, the containment design pressure is not exceeded for the worst case design basis accident and allows a greater margin to design than that originally licensed for Waterford 3. In addition the analysis shows that one fan per train is sufficient to reduce containment pressure by a factor of 2 within 24 hours after the accident. This reanalysis was performed using the same computer codes and models previously evaluated by the NRC in its review of the Waterford 3 FSAR. The only inputs that changed were related to the number of Containment Cooling Fans assumed to operate for the LOCA and MSLB events.

(1) To put the reanalysis results in perspective, it is instructive to briefly review the history of the Containment pressure Technical Specification at Waterford 3. As originally licensed, the MSLB limiting case peak pressure (calculated from the initial condition of the then maximum allowable Containment pressure) resulted in a margin of 0.04 psig to the Containment design pressure. Waterford 3 requested a change to the Containment pressure Technical Specification via W3P87-2006 dated July 29, 1987 (as supplemented by W2P87-1147 dated 11/5/87), based upon reanalyses of the limiting MSLB/LOCA cases an increase in the margin to Containment design pressure. The present limiting case discussed above (MSLB with failure of a main steam isolation valve to close) maintains a margin of 0.20 psig to Containment design pressure - more than double the originally licensed margin.

Since the reanalysis supports the proposed change, the probability or consequences of any accident previously evaluated will not significantly increase.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change requires only one Containment Cooling Fan per train to be operable. The operation of the system, as well as plant procedures, will remain unchanged. Therefore, the proposed change will not create the possibility of a new or different kind of accident from any previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin to safety?

Response: No.

The results of the reanalysis of the limiting LOCA and MSLB events show that the containment design pressure is not exceeded with only one Containment Cooling Fan per train operable. In fact, the safety margin exceeds that available under the original Waterford 3 Technical Specifications. Also the containment pressure is reduced by a factor of 2 within 24 hours after the accident. Therefore, there is no significant reduction in the margin to safety due to this change.

Safety and Significant Hazards Determination

Based upon the above Safety Analysis, it is concluded that (1) the proposed change does not constitute a significant hazards consideration as defined by 10CFR50.92; (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and, (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

ATTACHMENT A