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December 14, 1984

W3P84-3467  
3-A1.01.04  
A4.05

Director, Nuclear Reactor Regulation  
Attention: Mr. G.W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

SUBJECT: Waterford SES Unit 3  
Docket No. 50-382  
Justification for Low Power Operation  
Potential Containment Coatings Failure

Dear Mr. Knighton:

As stated in the Waterford 3 FSAR, Section 6.1.2.1, not all containment protective coatings were applied in accordance with the QC requirements of ANSI N101.4. The following justification is provided for interim low power operation pending completion of further analysis.

1. The adverse environment for coating failure inside containment, where sump water is necessary, could potentially only be produced by a break in the reactor coolant system (RCS). The probability of an RCS break of sufficient size to degrade containment coating is low during the period prior to exceeding 5% power. Moreover, the low levels of decay heat and fission products produced during this period would limit accident consequences to low levels in the unlikely event of an RCS break. An analysis employing very conservative assumptions has demonstrated that three hours following a large break LOCA, when ECCS flow is first required to prevent core uncover, the flow requirement is less than one-half of one percent of one loop of Low Pressure Safety Injection (LPSI), approximately 20 gpm. An assumed sump blockage of 90% would still allow sufficient coolant to the core.
2. In response to FSAR question 211.64, a full scale hydraulic model test was conducted to demonstrate operability of the Safety Injection System (SIS). This test was performed by Western Canada Hydraulic Laboratories, Ltd. and documented in a report entitled "Louisiana Power & Light Company, Waterford Steam Electric Station, Unit 3,

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Model Testing of the Safety Injection System Sump". The report was submitted to the NRC via LP&L letter W3P82-1755 dated June 28, 1982. Included in the test was a demonstration that the sump would perform its safety-related function with up to 90 percent of the total sump screen area blocked. An evaluation of the loss of coatings inside containment is presently in progress.

3. Surface areas within the containment where coating materials were not substantially in compliance with ANSI N101.4 were thoroughly evaluated in the FSAR Section 6.1.2.1. The evaluation considered the following: shop materials used; compliance with manufacturer's recommendations for application; suitability of the coating system for the functional purpose; retrievability of any materials and application records; and , the surface area involved.

The evaluation concluded that only a small fraction of containment coating material would be likely to fail under accident conditions.

4. A Waterford 3 Reactor Containment Building Liner Plate coating problem was initially reported under 10 CFR 50.55(e) via LP&L letter dated November 18, 1983, W3K-1796.

Ebasco's Corrosion Engineering Department along with an independent coating testing company developed an in-situ Design Basis Accident (DBA) test-box to determine the adequacy of the liner plate coating. No coating failures resulted from the test program. Coating defects which were present, were addressed in NCR W3-3648 and determined not to compromise the safety related function of the coating system.

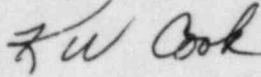
After completion of the testing program, the site coating contractor, Sline Industrial Painters, Inc., began repair of the liner coating using the instructions provided by NCR W3-3648 and by coating specification, LOU 1564.734. Repair consisted of recoating; hand tool cleaning or blast cleaning unacceptable areas and recoating in accordance with specification LOU 1564.734.

Coating repairs have been completed, inspected and supporting documentation has been verified. The aforementioned information is documented in the final report of Significant Construction Deficiency No. 56.

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Mr. G.W. Knighton  
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Should you require additional information or wish to discuss this matter further, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in dark ink, appearing to read "K.W. Cook". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

K.W. Cook  
Nuclear Support & Licensing Manager

KWC:MJM:pc

cc: E.L. Blake, W.M. Stevenson, R.D. Martin, D.M. Crutchfield, J.H. Wilson,  
G.L. Constable