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March 3, 1986

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In the Matter of
Florida Power & Light Company
(Turkey Point Nuclear Generating Units 3 & 4)
Docket Nos. 50-250 OLA-1 and 50-251 OLA-1
(Vessel Flux Reduction)

Dear Members of the Board:

On January 21, 1986, Licensee Florida Power and Light Company filed its Proposed Findings of Fact and Conclusions of Law in this proceeding; those of the Intervenors were filed on February 17, 1986; and those of the NRC Staff were filed on February 24, 1986. Pursuant to your Order of February 5, 1986, Licensee is entitled to file reply findings no later than today. A review of the pleadings already filed leads us to believe, however, that it is not necessary to burden the Board with extensive additional proposed findings of a formal nature. Instead, this letter and its attachment are intended to serve as the Licensee's reply.

There are, of course, differences in emphasis and detail between the proposed findings and conclusions of the Licensee

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and the NRC Staff. Nevertheless, they are in substantial agreement, and Licensee does not consider it necessary to reply to the Staff's pleading. In addition, we believe that, in an anticipatory manner, the Licensee's filing and, more directly since it followed the Intervenor's filing, the NRC Staff's filing in large part already adequately reply to the Proposed Findings of Fact and Conclusions of Law submitted by the Intervenor. However, Intervenor raise two matters which warrant some brief, additional discussion.

First, during the course of the hearing, Intervenor's witness and technical interrogator Dr. Edwards ultimately recognized, contrary to Intervenor's Proposed Findings of Fact and Conclusions of Law, that significant tests and measurements existed concerning the development and application of the WRB-1 correlation and the quantification of penalties to account for uncertainties. E.g., Tr. 582, 886-87. Specifically, as the hearing developed and with respect to the "three uncertainties" referred to in the Board's first question (i.e., application of the WRB-1 correlation to 15x15 OFA array fuel; rod bow; and mixed LOPAR/OFA fueled core) the primary point of contention among the parties that emerged was the effect of a mixed core. As Intervenor's Dr. Edwards stated in response to questioning by Chairman Lazo concerning the 3% mixed core penalty:

My problem is that in talking about the 95/95 confidence level regarding the WRB-1 correlation, we learned that there was a bound taken for the data set, but still one could only assert that it was 95/95 confident.

That was based upon a very extensive and very exhaustive sequence of measurements and tests over a long period of time, as Dr. Hsui has described.

When we come to the rod bow penalty, we are told that there is also a wealth of statistical information and measurements to confirm that a 95/95 confidence level was met.

When we come to this criterion, I have difficulty in seeing where there is any comparison in terms of scientific certitude that would allow one to conclude that a 95/95 confidence level or any kind of confidence level has been met simply by using a code and calculating mathematical numbers and saying this is the biggest number we have got and therefore that [3 percent] is a bonding [sic] value.

I have great difficulty with understanding how this can be construed as satisfying that criterion.

Tr. 886-87 (emphasis added).

However, the effect of a mixed core has been fully explored and explained by both the NRC Staff and the Licensee. See, e.g., Hsii, ff. Tr. 733, at 13-15; Dzevis, ff. Tr. 302, at 6-7. A mixed core penalty was applied to the 1.34 safety analysis minimum DNBR calculated for Turkey Point assuming a homogeneous core. Hsii, ff. Tr. 733, at 13-14. The penalty, of course, is to account for the fact that LOPAR and OFA fuel have different hydraulic resistance characteristics which affect the cross-flow of coolant between the different fuel bundles such that the OFA fuel, which has the higher spacer grid resistance, will receive less flow. Hsii, ff. Tr. 733, at 13. This reduction in flow was quantified through experiments on the hydraulic characteristics of the two types of fuel assemblies. Tr. 312. The hydraulic characteristics established by these experiments were used in a sensitivity study -- utilizing NRC Staff approved methodology -- to determine the percent difference in the DNBR between a homogeneous core and a mixed core for various reactor conditions. These calculations indicated that a 3% DNBR reduction, applied to the OFA fuel, was sufficient to bound all effects for the transition core geometry. Hsii, ff. Tr. 733, at 14, 17-18. Since the 3% penalty is a bounding -- or worst case -- value, it satisfies the 95/95 probability standard. E.g., Tr. 884.

Second, Intervenors have attempted to inject confusion concerning WABA rods in the core, even while admitting that they have no knowledge of any effect. See, e.g., Intervenors' Proposed Findings of Fact and Conclusions of Law, ¶ 50; Tr. 608-09, 627-28, 631. However, this matter, too, has been well considered and explained.

The effect of WABA rods has been reviewed and their use approved by the NRC Staff. Quite simply, reactor coolant flow through the WABA rods is considered in analysis to bypass the core completely. The effect of bypass flow has been analyzed up to that which would result from a large number of such rods. Based on this analysis, the Staff has set a restriction on the number of WABA rods such that -- if the limit is not exceeded -- no separate consideration of WABA rod bypass flow is necessary. This limit has not been exceeded at Turkey Point and, thus, the effect of WABA rod bypass flow has been properly evaluated. See, e.g., Tr. 838-51.

For the convenience of the Board, we have briefly outlined, in an attachment to this letter, the principal issues raised in the Intervenor's Proposed Findings of Fact and Conclusions of Law as to which they differ from the positions espoused by the other parties. The attachment specifies the paragraphs in which the Intervenor makes each point, and some of the related paragraphs of the License and Staff findings and conclusions.

Respectfully submitted,



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Attachment

cc: Enclosed Service List

Summary of issues raised in "Intervenors' Proposed
Findings of Fact and Conclusions of Law" with
references to where these issues are addressed
by the WRC Staff's and Licensee's
Proposed Findings of Fact and Conclusions of Law

	<u>Intervenors</u>	<u>NRC STAFF</u>	<u>Licensee</u>
A. Intervenors contend that the penalties assigned for particular uncertainties do not satisfy the 95/95 standard of the Standard Review Plan in that:			
1. <u>Mixed Core Penalty</u>	22-25, 32	39-49	34-37
a. "[T]he mixed core penalty was not verified by experimental data but was only a calculation performed by Licensee."	22	41-44, 48	34
b. "[N]o experimental data exist[s] which actually measure[s] the effects on CHF of interbundle cross-flow between fuel bundles of different design."	25	39-40	34-35, 43-44
2. <u>Rod Bow Penalty</u>	26-29, 32	50-56	38-41
a. "There [is] confusion as to whether the 5.5% rod bow penalty is sufficiently conservative"	26 & 28	52-55	39-40 fns. 13 & 14 @ 30
b. "There is no ... data on rod bow penalty for ... 15 x 15 OFA fuel."	27	55-56	39
3. <u>Applicability of WRB-1 Correlation</u>	17-18, 30-31, 32	57-60	46-48
a. "[T]here [is] no experimental CHF data on the [applicability of the WRB-1 correlation to] ... 15 x 15 OFA fuel."	31	57-60	46-47
b. "[I]mportant tests were not performed."	31 & 18	59-60	48
B. Thus, Intervenors conclude that:			
1. <u>Reduction in the Safety Margin</u>	34-40	71-77,	33, 36-37, 50
a. "[N]on-compliance with the 95/95 Standard of the Standard Review Plan ... constitutes a significant reduction in the Safety Margin ..."	38	see also 26-28, 41-49 66-68, 70	see also 23, 23, 39, 49

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

_____)	OFFICE OF _____)
In the Matter of)	DOCKETING & SERVICE)
FLORIDA POWER AND LIGHT COMPANY)	BRANCH)
)	Docket Nos. 50-250 OLA-1)
)	50-251 OLA-1)
(Turkey Point Plant, Units 3))
and 4))	ASLBP No. 84-496-03 A)
_____)	(Vessel Flux Reduction))

CERTIFICATE OF SERVICE

I hereby certify that copies of a letter to the Members of the Board from Michael A. Bauser, dated March 3, 1986, together with the attachment thereto, were served on the following by deposit in the United States mail, first class, postage prepaid and properly addressed, on the date shown below.

Dr. Robert M. Lazo, Chairman
Atomic Safety and Licensing Board Panel
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Washington, D.C. 20555

Dr. Emmeth A. Luebke
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Secretary
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Attention: Chief, Docketing and
Service Section
(original plus two copies)

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Dated this 3rd day of March, 1986.



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