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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of )  
 )  
FLORIDA POWER & LIGHT COMPANY ) Docket Nos. 50-250 OLA-1  
 ) 50-251 OLA-1  
Turkey Point Units #3 and #4 ) ASLBP No. 84-496-03 LA

INTERVENORS RESPONSE TO LICENSEE'S MOTION FOR SUMMARY  
DISPOSITION OF INTERVENORS' CONTENTIONS (b) and (d)

Intervenors submit this response, supported by the affidavits attached hereto by Dr. Gordon Edwards and Joette Lorion, to summary disposition as to contentions (b) and (d) submitted by the Licensee on August 10, 1984, as provided under rule 10 C.F.R. 2.749 (a).

This response and its supporting affidavits clearly refute the contentions of the Licensee that there is no genuine issue of material fact to be heard as relates to said contentions (b) and (d).

Intervenors contend that there is a genuine issue to be heard.

(1) Intervenors contention (b) states:

Whether the entirely new computer model used by the utility, for calculating reflood portions of accidents meets the Commission's ECCS Acceptance Criteria: specifically, whether a 2.2% reduction in re-flood rate is misleading because for a small decrease in re-flood rate, there results a large increase in fuel temperature. Re-flood rates are critical if below 1 or 2 inches per second.

In support of contention (b), the Affidavit of Dr. Gordon Edwards argues that the accident analysis to support the fuel core design change, specifically the BART-A1 computer code, is deficient in that it has not specifically analyzed the mixed fuel core at Turkey

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Point and thus cannot predict with certainty the effect that thermal hydraulic resistance will have on reflood rates. Dr. Edwards also points to certain uncertainties in the BART calculations such as failure to take into account that it is precisely where discontinuous heat transfer regime transitions occur that cladding failure will occur, and the fact that certain underlying assumptions that the code is based on could be fundamentally wrong because such systems are "vastly oversimplified conceptualizations based on the average behaviour of an ideal system." Dr. Edwards suggests that given the limitations of mathematical analysis, all of the conclusions should be tested against the actual operating experience of the plant, rather than an ideal situation.

The Affidavit of Joette Lorion states that the decrease in reflood rate at Turkey Point is based on an "uncertain computer code loosely coupled with other models prepared for other fuel core designs, and does not equate a computer code specifically designed for this technology and does not constitute compliance with 10 C.F.R. 50.46."

Both the Edwards and Lorion Affidavits point out numerous uncertainties in the "conditionally" accepted BART- A1 code, such as failure to consider all accident possibilities, absence of a gap heat transfer model, and assumption of constant pressure. Both Lorion and Edwards stated that reduction in safety margins and reflood rate should not be without analysis that takes into account the current operating status of the Turkey Point plant, and based on a computer model that is designed for the specific fuel core design at Turkey Point and complies with 10 C.F.R. Part 50.

(2) Intervenors' contention (d) states:

The proposed decrease in departure in the nucleate boiling ratio (DNBR) would significantly and adversely affect the margin of safety for the operation of the reactors. The restriction of the DNBR safety limit is intended to prevent over-heating of the fuel and possible cladding perforation, which would result in the release of fission products from the fuel. If the minimum allowable DNBR is reduced from 1.3 to 1.17 as proposed, this would authorize operation of the fuel much closer to the boundary of the nucleate boiling regime. Thus, the safety margin will be significantly reduced. Operation above the boundary of the nucleate boiling regime could result in excessive cladding temperatures because of the departure from the nucleate boiling (DNB) and the resultant sharp reduction in heat transfer coefficient. Thus, the proposed amendment will both significantly reduce the safety margin and significantly increase the probability of serious consequences from an accident.

In support of Intervenors' contention (d), the Affidavit of Dr. Gordon Edwards says that the Licensee's assertion that lowering the DNBR limit from 1.3 to 1.17, "in no way implies a reduction in the safety margin of the reactor," is incorrect, Dr. Edwards states that, "by allowing the fuel to run at a hotter temperature, the reduction in the DNBR limit does allow for a greater probability that DNB will occur." (Edwards Affidavit, pg. 8) Again, Edwards points out that the DNBR calculations were not performed for a mixed fuel core, and "it would be wise to wait until the transition (to a homogenous core) is complete before translating the results of such analysis into licensing changes." Dr. Edward also states that "the time required to reach the critical temperature will be shorter if the initial temperature of the fuel is higher, and that a rupture in cladding could lead to radio-iodine releases."

The Affidavit of Joette Lorion points to the fact that radio-iodine build-up and releases are already occurring in the Turkey Point Units, and that the DNBR calculations are particularly deficient in that they did not factor the current situation with the reactor fuel into the

DNBR analysis. She states that the lowering of DNBR in a reactor unit that is already experiencing fuel failure causes FPL not to be in compliance with 10 C.F.R. Part 50, Appendix A. Lorion also quotes recent remarks by Robert Pollard of the Union of Concerned Scientists and Demetrious Basdekas, an NRC reactor Safety Engineer, in which they both state in a newspaper article that current fuel design changes at Turkey Point reduce the safety margin of the reactor.

Both the Edwards and Lorion Affidavits point to uncertainties in the underlying mathematical models used to approve the lowering of the DNBR limit. Among the uncertainties are the failure to take into account the mixed fuel core, failure to provide an analysis of the fuel core design being used, and failure to take into account that DNB could still occur even if DNBR is calculated to be greater than 1.

#### CONCLUSION

Taken in sum, the contentions raised by Intervenors, and the supporting affidavits of Dr. Gordon Edwards and Joette Lorion, demonstrate that not only have Intervenors raised a substantial issue of material fact that addresses a significant unresolved safety issue, but that the issues raised here also constitute significant safety hazards considerations that are of substantial and compelling interest to the health, safety, and welfare of members of the public.

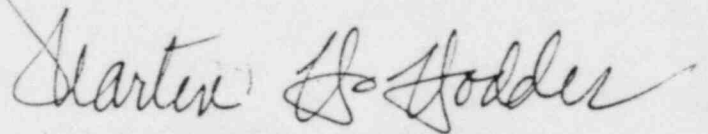
The Commission's licensing of the modified fuel assemblies (and the simultaneous lowering of safety standards) for utilization by the Utility, without any prior public review, constitutes improper experimentation in the field, which threatens the safety of the environment and members of the public. These activities should properly

(5)

be conducted in the laboratory.

For the Board to grant summary disposition of these important contentions at this point in these proceedings would be to totally ignore the substantial issues of material fact that the Intervenors have raised here, and to illegally deny the reviews required by Public Law.

Respectfully Submitted,



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