J. P. O'Reilly

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

SEP 27 1968

R. S. Boyd, Assistant Director for Reactor Projects, DRL
THRU: Saul Levine, Assistant Director for Reactor Technology

FLORIDA POWER AND LIGHT COMPANY (TURKEY POINT NO. 3 AND 4)
DOCKET NO. 50-250/251 - BASE MAT CONCRETE

We have reviewed the FP&L "Report on Honeycombing - Turkey Point Unit 3 - Containment Mat" dated July 19, 1968. We have also reviewed the two draft reports provided to the Division of Compliance by their consultants, C. E. Kesler and R. E. Philleo.

The information submitted by the applicant is deficient in several areas, including:

(1) There are no section drawings provided to give a clear understanding of the locations of suspected voids and their relationships to the locations of reinforcing bars and bearing plates. It is difficult to interpret the data presented in the applicant's report without supporting drawings, including a set of horizontal and vertical sections, a plan view, and a developed elevation.

(2) The information presented by the applicant leaves significant doubt as to whether the void test procedures were adequate to detect voids in the critical areas under and around the bearing plates and trumpets. Sonic testing appears inadequate in these areas because of interference by the steel elements, and the Swiss Hammer technique is valid only for near-surface surveys.

(3) The information presented by the applicant does not indicate any intent to perform a post-repair program to determine that all significant voids have been eliminated.

The CO consultants indicate, in their draft reports, their belief that the completed investigative program and the proposed repair program are generally adequate.

On the basis of our review, we recommend that:

(1) The applicant should be required to submit the drawings (described above) to us in order that we can verify our present interpretation of the data accumulated from the investigation.

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(2) The applicant should be required to provide further assurance that the critical areas under and around the bearing plates and trumpets have been investigated in such a manner that all significant voids have been detected.

(3) The applicant should be required to develop a suitable post-repair test program consisting of:

(a) A series of check tests using the same techniques as for the pre-repair investigation to verify that all significant voids have been eliminated.

(b) A number of special measurements during initial strength testing of the containment to verify that the mat is performing in accordance with its design intent. The measured values should be compared to acceptance limits developed prior to the test.

Provided that the applicant responds in an acceptable manner to these recommendations, we believe that the proposed repair program would be acceptable. We advise, however, that the actual repair details be carefully reviewed by someone highly qualified in such matters and that the remedial construction be supervised by an equally competent individual.

R. C. DeYoung, Chief
Containment & Component Technology Branch
Division of Reactor Licensing

RT-982
DRL:C&CTB:RCDeY

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