



FPL

OCT 04 2000

L-2000-197
10 CFR 50.90
10 CFR 50.91

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

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Response to Request for Additional
Information - Proposed License Amendments
Changes to Containment Structural
Integrity Technical Specifications

By letter L-2000-072, dated May 22, 2000, Florida Power and Light Company (FPL) submitted a request to amend Appendix A of Facility Operating Licenses DPR-31 and DPR-41 to modify the Turkey Point Units 3 and 4 Technical Specifications (TS). The proposed amendments revise the Turkey Point Units 3 and 4 Technical Specifications, Section 3/4.6.1.6, Containment Structural Integrity, to incorporate the requirements specified in ASME Section XI, Subsection IWL, as modified and supplemented by the requirements in 10 CFR Section 50.55a(b)(2)(viii), Examination of concrete containments.

As a result of several conversations with the NRC Staff, additional information was requested to complete the review of the proposed amendments. Attachment 1 provides the additional information requested. Attachment 2 contains the proposed revised Technical Specifications Bases page for information only.

FPL has determined that the additional information provided herein does not change the conclusions reached in the original no significant hazards consideration determination provided in FPL letter L-2000-072. In accordance with 10 CFR 50.91(b)(1), a copy of this letter is being forwarded to the State Designee for the State of Florida.

Should there be any questions, please contact us.

Very truly yours,

R. J. Hovey
Vice President
Turkey Point Plant

Attachments

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant
Florida Department of Health

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STATE OF FLORIDA)
) ss.
COUNTY OF MIAMI-DADE)

R. J. Hovey being first duly sworn, deposes and says:

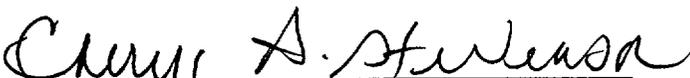
That he is Vice President, Turkey Point Plant, of Florida Power and Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.



R. J. Hovey

Subscribed and sworn to before me this
4th day of October, 2000.


Name of Notary Public (Type or Print)

CHERYL A. STEVENSON
NOTARY PUBLIC - STATE OF FLORIDA
COMMISSION # CC029876
EXPIRES 01/18/2004
BONDED THRU ASA 1-888-NOTARY1

R. J. Hovey is personally known to me.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Question 1:

The current Technical Specification (TS) requires you to assess the tendon prestressing forces in exempt tendons based on the lift-off measurements from accessible ends. Approximately 1/3rd of the dome and hoop tendons are exempt tendons. Your inability to include them in the random selection of tendons is a concern, particularly because these tendons are subject to relatively high temperatures near the steam dump area (See Attachment 2 of Information Notice 99-10). Provide justification for excluding the inspection of these tendons in the proposed TS requirements.

Response:

In general, the requirements of IWL encompass and augment the requirements of the current Technical Specifications. As a result of this, and the mandate to comply with IWL, FPL determined that it would be prudent to revise the Technical Specifications and conduct containment inspections, including tendon surveillances, in accordance with IWL. This eliminates redundant efforts, and streamlines the conduct of surveillances, while ensuring the appropriate level of safety of the containments.

IWL does not have requirements to perform single-ended lift-off testing on tendons determined to be exempt because of inaccessibility. Only examinations in accordance with IWL-2524 and 2525 are required for these cases at the accessible end and at the inaccessible end(s) of the exempt tendons if they become accessible at some other point in time, such as during an outage. Notwithstanding, single-ended lift-off testing is not a good indicator of tendon performance and may actually be detrimental since the shims on the opposite end of the tendon may shift if the tendon is detensioned for any reason.

Rather than perform the single-ended lift-off testing as required by the current TS, or examination of inaccessible ends as described in IWL, FPL has proposed to perform lift-off testing at both ends of a substitute tendon located as close as possible to the exempt tendon, as required by IWL-2521.1 (b). In addition, FPL has committed to examining a second substitute tendon in accordance with IWL-2524 and IWL-2525 at both ends. Note that the accessible end of the exempt tendon will be examined in accordance with IWL-2524 and IWL-2525. The aggregate of these inspections will result in exceeding the sample required by IWL and provide a very good representation of the tendons in the area of interest.

With regard to tendon exposure to relatively high temperature near the steam dump area, the following considerations are provided to allay this concern:

- The steam exhausts do not discharge directly onto the containments, and there is a distance between the containment cylinder walls and these exhausts of approximately 15'. Therefore, the concrete temperatures in the steam exhaust area are not appreciably higher. In fact, the areas where the hoop substitute tendons would be selected are expected to be generally at a higher temperature due to a lack of air circulation.
- Dome tendons are completely shielded from any steam plume because the tendons loop over the dome behind the ring girder at the top of the containment concrete cylinder. Only the tendon caps above the relief pipes are in the potential steam plume area. The caps are approximately 15' horizontally and 75' vertically from the top of the relief pipes and therefore not subject to any significant increase in temperature.
- Hoop tendons are wrapped 120 degrees around the containment cylinder wall and only the caps above the exhaust pipes and a small section along the wall are in the steam plume area. The exhausts are 15' from the cylinder walls and the hoop tendons have 7" of concrete cover over the tendon sheathing. Again, no appreciable increase in temperature is expected.
- There are no exempt vertical tendons.

In conclusion, although the proximity of the steam exhausts is a safety concern for personnel on inspection platforms should the main steam safety valves lift, it is not credible that the tendon wires will experience any significant temperature increase from the steam exhaust plumes. Because of the distance and concrete cover, the tendons are considered unaffected by the possible steam plumes. In addition, the releases of steam from the atmospheric steam dumps and atmospheric blowdown are infrequent and of short duration. Discharges from a main steam safety valve lifting would only occur during a transient and again would be of relatively short duration. The only plausible effect is a slight temperature increase of the nearest tendon caps for a very short period of time without any lasting effect.

Note that the effect of high ambient temperature noted in Attachment 2 of Information Notice 99-10 was considered in the containment reanalysis of the Turkey Point containment structures performed in 1994. The steel relaxation rate was increased by 50% to account for the effect of higher ambient temperatures than originally expected. There has been no correlation between tendons in the steam exhaust area with higher steel relaxation during previous surveillances.

Based on the above, it is concluded that single-ended lift-off testing is not prudent. The substitution of tendons, as described above and approved by relief request, for those tendons determined to be inaccessible, is considered acceptable to provide an equivalent level of assurance of containment performance.

Question 2:

The Staff's evaluation of Relief Request #20 emphasized that the relief was granted on the basis that (1) the substitute tendons will be examined in accordance with IWL-2520, (2) the accessible ends of the exempt tendons will be examined in accordance with IWL-2524 and IWL-2525, and (3) that the end anchorages of additional tendons will be examined in accordance with IWL-2524 and IWL-2525. Provide justification for eliminating the current TS requirements for exempt tendons.

Response:

The current TS action statement (3.6.1.6.b) requires lift-off testing at the accessible end of exempt tendons to verify that the lift-off force is not below 86% of the predicted lower limit. The PLA proposes to eliminate this requirement because, as stated in response to question 1 above, it is not part of IWL requirements, not considered to be a good representation of the tendon prestress, and may be detrimental. The proposed inspection requirements, which include inspection of substitute tendons from the same general area, are considered more stringent than previous practices and will provide equivalent, if not a greater, verification of containment performance through the end of plant life.

ATTACHMENT 2 TO L-2000-197

CONTAINMENT SYSTEMS

BASES

3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the design limits for a LOCA are not exceeded, and that the environmental qualification of equipment is not impacted. If temperatures exceed 120°F, but remain below 125°F for up to 336 hours during a calendar year, no action is required. If the 336-hour limit is approached, an evaluation may be performed to extend the limit if some of the hours have been spent at less than 125°F. Measurements shall be made at all listed locations, whether by fixed or portable instruments, prior to determining the average air temperature.

3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum analyzed peak pressure of 49.9 psig in the event of a LOCA. The measurement of containment tendon lift-off force, the tensile tests of the tendon wires or strands, the visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the Type A leakage test are sufficient to demonstrate this capability.

 Some containment tendons are inaccessible at one end due to interferences and safety considerations. These tendons, if selected for examination, will be exempted from the full surveillance requirements, and will be subjected only to lift-off testing at the accessible end. Due to tendon configuration, lift-off values may differ considerably at the two ends. Therefore, when only one end is accessible, it is considered that up to a 4% tolerance from the predicted lower limit is acceptable.

The required Special Reports from any engineering evaluation of containment abnormalities shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, the results of the engineering evaluation, and the corrective actions taken.

The submittal of a Special Report for a failed tendon surveillance is considered an administrative requirement and it does not impact the plant operability. The administrative requirements for Special Reports are defined in Technical Specifications section 6.9.2.

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The containment purge supply and exhaust isolation valves are required to be closed during a LOCA. When not purging, power to the purge valve actuators will be removed (sealed closed) to prevent inadvertent opening of these valves. Maintaining these valves sealed closed during plant operation ensures that excessive quantities of radioactive materials will not be released via the Containment Purge System.

Leakage integrity tests with a maximum allowable leakage rate for containment purge supply and exhaust supply valves will provide early indication of

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Some containment tendons are inaccessible at one end due to personnel safety considerations at potential steam exhaust locations. These tendons, if selected for examination, will be exempted from the full examination requirements, and the following alternative examinations shall be performed:

1. The accessible end of each exempt tendon shall be examined in accordance with IWL-2524 and IWL-2525.
2. For each exempt tendon, a substitute tendon shall be selected and examined in accordance with IWL requirements.
3. In addition, an accessible tendon located as close as possible to each exempt tendon shall be examined at both ends in accordance with IWL-2524 and IWL-2525.