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SUBJECT: Forwards response to NRC Bulletin 96-002, "Movement of Heavy Loads Over Spent Fuel, Over Fuel in Reactor Core or Over Safety-Related Equipment."

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L-96-121

10 CFR §50.54(f)

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

Gentlemen:

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Response to NRC Bulletin 96-02  
Movement of Heavy Loads Over Spent Fuel, Over Fuel in the  
Reactor Core, or Over Safety-Related Equipment

On April 11, 1996, the NRC issued NRC Bulletin (NRCB) 96-02, "Movement of Heavy Loads Over Spent Fuel, Over Fuel in the Reactor Core, or Over Safety-Related Equipment," requesting licensees to review plans and capabilities for handling heavy loads (e.g., spent fuel casks, reactor cavity biological shield blocks) in accordance with existing regulatory guidelines [specifically NUREG-0612 (Phase I) and Generic Letter (GL) 85-11] and within their licensing basis as previously analyzed in the final safety analysis report (FSAR).

Each addressee was requested to file a report within 30 days of the date the bulletin was issued. NRCB 96-02 also required this report to state to what extent Florida Power and Light Co. (FPL) has complied with the requested actions of the bulletin.

The attached information is provided pursuant to the requirements of Section 182a of the Atomic Energy Act of 1952, as amended, and 10 CFR 50.54(f).

Should there be any questions on this response, please contact us.

Very truly yours,

R. J. Hovey  
Vice President  
Turkey Point Plant

JEK

Attachment

cc: S. D. Ebnetter, Regional Administrator, Region II, USNRC  
T. P. Johnson, Senior Resident Inspector, USNRC, Turkey  
Point Plant

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Q PDR

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STATE OF FLORIDA       )  
                                  ) ss.  
COUNTY OF 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.

Mill

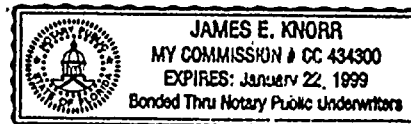
R. J. Hovey

Subscribed and sworn to before me this

13<sup>th</sup> day of May, 1996.

James E. Knorr  
James E. Knorr

Name of Notary Public (Type or Print)  
NOTARY PUBLIC, in and for the County of  
Dade, State of Florida



My Commission expires 1-22-99  
Commission No. CC 434300

R. J. Hovey is personally known to me.

ATTACHMENT  
RESPONSE TO NRC BULLETIN 96-02  
MAY 1996

NRC Required Response:

- (1) For licensees planning to implement activities involving the handling of heavy loads over spent fuel, fuel in the reactor core, or safety-related equipment within the next 2 years from the date of this bulletin, provide the following:

A report, within 30 days of the date of this bulletin, that addresses the licensee's review of its plans and capabilities to handle heavy loads while the reactor is at power (in all modes other than cold shutdown, refueling, and defueled) in accordance with existing regulatory guidelines. The report should also indicate whether the activities are within the licensing basis and should include, if necessary, a schedule for submission of a license amendment request. Additionally, the report should indicate whether changes to Technical Specifications will be required.

FPL Response (1):

**Background:**

Turkey Point Units 3 and 4 conducted a review for compliance to NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," in the early 1980's. The NRC requested that the review be conducted in two phases as discussed within unnumbered NRC generic letter dated December 22, 1980. The Florida Power and Light Co. (FPL) review culminated in the issuance of an NRC Safety Evaluation Report (SER) on November 1, 1983, summarizing the review and steps taken by FPL to comply with NUREG-0612, Phase I. The SER concluded that FPL had satisfactorily complied with Phase I. NUREG-0612, Phase II was subsequently retracted by the NRC as discussed in Generic Letter 85-11, based on the favorable results of the Phase I implementation.

Phase I implementation included identification of safe load paths; load handling procedures; operator training; requirements for special lifting devices; requirements for standard lifting devices; requirements for crane inspection, testing and maintenance; as well as a design review of the applicable cranes. In addition to the above, the SER acknowledged that deviations from safe load paths were occasionally necessary, and that approved procedures were necessary to deviate from designated safe load paths. At the present time, heavy load handling is performed in accordance

with procedures that maintain compliance with the Updated Final Safety Analysis Report (UFSAR), Technical Specifications, and SER commitments.

### **Bulletin Applicability**

Procedure 0-ADM-717, "Heavy Load Handling," identifies the safe load paths that were defined under the Phase I implementation to satisfy NUREG-0612 guideline number 1. The safe load paths were primarily based on restricting heavy load lifts over the reactor core and operable safety-related equipment.

In cases where a heavy load lift was required over the core, such as the reactor missile shields, reactor head, etc., special procedures were developed which included the required equipment, required inspection and acceptance criteria, required steps and sequence, and load paths and special instructions as required by NUREG-0612, guideline 2. The intent of the special procedure guideline was to ensure that the potential for a load drop was minimized consistent with the defense-in-depth philosophy of NUREG-0612. Note that the provisions of Phase II, which included use of single failure proof cranes/rigging, or evaluation of load drops, were not implemented for these lifts based on the reduced load drop potential realized by implementation of Phase I as discussed above.

At the present time, all routine heavy load lifts evaluated under Phase I are made within the safe load paths or covered by a special approved written procedure as specified in the SER. As provided in the SER, deviations from the safe load paths described above require written alternatives which are approved by the "Maintenance Superintendent" (now Maintenance Manager) who, in turn, determines if a full Plant Nuclear Safety Committee (PNSC) review is required. Note that the only heavy load lifts addressed by the Technical Specifications are in the spent fuel pool area. No deviations are allowed in this area as specified in procedure 0-ADM-717.

Written instructions are prepared in the unusual event that it is necessary to make a heavy load lift that deviates from the safe load paths. These instructions include the provisions of NUREG-0612 Phase I guideline 2, which was the method approved by the NRC for lifts over irradiated fuel in the containment structure as described above. In addition, provisions are taken for single failure proof or duality criteria in accordance with section 5.1.6 of NUREG-0612 (Phase II). Examples of measures taken to meet this provision include:

1. For heavy load lifts proposed outside the safe load path, a load evaluation, and all plant procedures related to NUREG-0612 Phase I, follow guidelines 1 through 7. In addition, the crane to be used is inspected immediately prior to the lift in accordance with plant procedures satisfying NUREG-0612 Phase I Guideline 6 criteria.
2. Load paths, sequence, and steps for the lift are identified. In addition, any special precautions such as maximum allowable wind speed for outdoor lifts, guying requirements, restrictions for raising and lowering the load, etc., are specified.
3. Required rigging is specified, inspected, and tested prior to the lift.
4. Load attachment points are specified and evaluated for applicable loading conditions. In addition, load attachment points are inspected prior to the lift.
5. Load is limited to 1/2 of the rated capacity of the crane hook to be used. This adds an additional factor of 2 to the safety factors already built into each of the crane components being used for the lift.

Lifts that have occurred in the past and are planned for the next two years, have met and will continue to meet the above steps 1 through 5, and have required and will continue to require special written procedures. They include,

1. lifts of the Unit 3 low pressure turbine upper casings which traverse over the operating Unit 4 switchgear room,
2. lifting of Containment Structure air conditioning chiller units used during refueling outages over the Auxiliary Building roof,
3. equipment necessary for Containment Structure tendon surveillances.



Other lifts that are not planned but may be necessary include,

1. various components such as component cooling water and residual heat removal pumps over the Auxiliary Building roof,
2. hydrogen recombiner over the Auxiliary Building roof.

The basis for the special procedures is to minimize the potential for a load drop, which is consistent with Phase I criteria. In accordance with the NUREG-0612 SER, the written instructions are subsequently approved by the Maintenance Manager and PNSC, as required. Note that in this case a load drop accident is not postulated based on the reduced load drop potential resulting from the implementation of these measures. In accordance with plant procedures and Technical Specifications, deviations from the approved load paths are not allowed in the spent fuel pool area.

FPL concludes that the described methodology is consistent with Turkey Point's NUREG-0612 commitments as documented in the SER. Therefore, no license amendments or Technical Specifications revisions are required.

As discussed above, heavy load lifts at Turkey Point are performed within the provisions of the referenced SER, UFSAR, and applicable Technical Specification requirements. Routine lifts evaluated under NUREG-0612 Phase I are performed within the approved safe load paths or performed in accordance with specially approved procedures.

As required by the SER, deviations from the safe load paths require written alternative instructions which are approved by the Maintenance Manager and PNSC. The basis for the alternative procedures is NUREG-0612 section 5.1.1 guideline 2 and, to the extent practical, the provisions for single failure proof or duality criteria of section 5.1.6.

NRC Required Response:

- (2) For licensees planning to perform activities involving the handling of heavy loads over spent fuel, fuel in the reactor core, or safety-related equipment while the reactor is at power (in all modes other than cold shutdown, refueling, and defueled) and that involve a potential load drop accident that has not

previously been evaluated in the FSAR, submit a license amendment request in advance (6-9 months) of the planned movement of the loads so as to afford the staff sufficient time to perform an appropriate review.

FPL Response (2):

Heavy load operations are performed in accordance with the Turkey Point Units 3 & 4 NUREG-0612 SER, UFSAR, and Technical Specifications as discussed above; therefore, no new potential load drop accidents are postulated for planned load lifts.

NRC Required Response:

(3) For licensees planning to move dry storage casks over spent fuel, fuel in the reactor core, or safety-related equipment while the reactor is at power (in all modes other than cold shutdown, refueling, and defueled) include in item 2 above, a statement of the capability of performing the actions necessary for safe shutdown in the presence of a radiological source term that may result from a breach of the dry storage cask, damage to the fuel, and damage to safety-related equipment as a result of a load drop inside the facility.

FPL Response (3):

Turkey Point Units 3 and 4 have adequate capacity to store the anticipated fuel assemblies which will be used for the remainder of the licensed period of operation. Therefore, Turkey Point Units 3 & 4 do not plan to move any dry storage casks over spent fuel, fuel in the reactor core, or safety-related equipment while the reactor is at power. Furthermore, deviations from safe load paths are not allowed by plant procedures in the spent fuel pool area.

NRC Required Response:

(4) For licensees planning to perform activities involving the handling of heavy loads over spent fuel, fuel in the reactor core, or safety-related equipment while the reactor is at power (in all modes other than cold shutdown, refueling, and defueled), determine whether changes to Technical Specifications will be required in order to allow the handling of heavy loads (e.g., the dry storage canister shield plug) over fuel assemblies in the spent fuel pool and submit the appropriate information in advance (6-9 months) of the



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planned movement of the loads for NRC review and approval.

FPL Response (4):

Plant procedures do not allow lifting of heavy loads over spent fuel assemblies. Any deviations from these requirements would require a change to the Technical Specifications. No such deviations are currently planned.

Conclusion:

Turkey Point is performing heavy load lifts in accordance with its licensing basis.

FPL understands that discussions are taking place between the NRC staff and personnel from the Nuclear Energy Institute, concerning Bulletin 96-02. If clarification results from these discussions, FPL will evaluate the clarification and respond as necessary.

