

October 10, 1995

Mr. J. H. Goldberg
President - Nuclear Division
Florida Power and Light Company
Post Office Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: TURKEY POINT UNITS 3 AND 4 - GL 88-20, SUPPLEMENT 4 - IPEEE -
REQUEST FOR ADDITIONAL INFORMATION (TAC Nos. M83687 AND M83688)

Dear Mr. Goldberg:

Based on our ongoing review of the Turkey Point Individual Plant Examination of External Events (IPEEE) submittal and its associated documentation, we have developed the attached request for additional information (RAI). The RAI is related to the external event analyses in the IPEEE, including the seismic analysis, the fire analysis, and the analyses on effects of high winds, floods, and others. The RAI was developed by our contractor, Energy Research, Inc., and reviewed by the "Senior Review Board" (SRB). The SRB is comprised of RES and NRR staff and RES consultants (Sandia National Laboratory) with probabilistic risk assessment expertise for external events.

We request that you provide your response within 60 days from the date of receipt of this request.

The requirement affects nine or fewer respondents and, therefore, is not subject to the Office of Management and Budget review under P.L. 96-511.

Sincerely,
(Original Signed By)
Richard P. Croteau, Project Manager
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Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-250
and 50-251

Enclosure: As stated

cc w/enclosure: See next page

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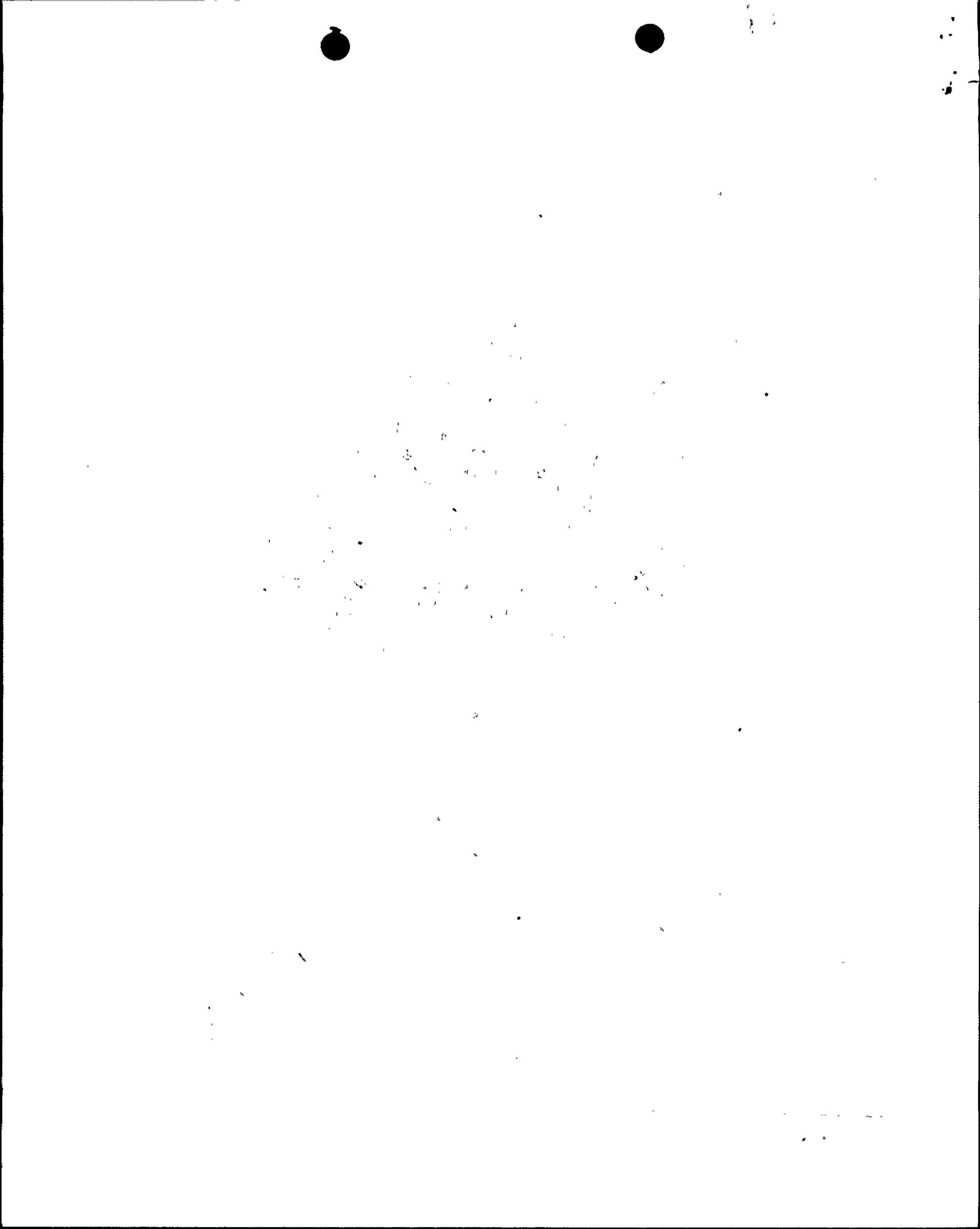
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Mr. J. H. Goldberg
Florida Power and Light Company

Turkey Point Plant

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REQUEST FOR ADDITIONAL INFORMATION
ON TURKEY POINT IPEEE SUBMITTALI. Seismic

1. In a safety evaluation dated February 9, 1995, the staff concluded that the approach to achieve and maintain hot shutdown for 72 hours during a seismic event (seismic induced transient) was acceptable for purposes of resolving unresolved safety issue A-46. A seismic induced small break LOCA is normally considered in IPEEE evaluations. Was a seismic induced small break LOCA considered in the Turkey Point evaluation? If not, please provide the justification for omitting this evaluation. If this event was considered, please provide the list and the walkdown findings of those components associated with the hot shutdown success paths. Also, please provide success path logic diagrams that illustrate the basis for their selection.
2. Please provide a list of components that were (would be) considered in the containment performance walkdown for Turkey Point Nuclear Plant, describe the basis for developing this list, and provide the walkdown results.
3. Please provide a discussion of the process for addressing seismic-fire interaction concerns at Turkey Point Nuclear Plant. List all walkdown-related findings pertaining to potential seismic-fire interactions involving IPEEE components.
4. Please provide a discussion of your resolution pertaining to GI-131, with respect to potential seismic vulnerabilities (or interaction concerns) associated with the in-core flux mapping system. Please describe the configuration of the flux mapping systems at Turkey Point, a demonstration of adequacy of lateral restraint of the systems, and evaluation findings pertaining to potential seismic interactions.
5. For all instances of seismic interaction concerns related to block walls that were noted by the SRT, please provide calculations which demonstrate adequate seismic capability of these walls.

II. Fire

1. Did the analysis team conduct a walkdown of the plant prior to the completion of the fire analysis portion of the IPE? If a walkdown was conducted, provide information regarding team composition, areas surveyed, scope of the walkdown, and a summary of the walkdown findings.



2. The IPEEE does not address the initiating events (e.g., LOCAs, loss of offsite power, etc.) as a separate subject. No list is provided as to which initiating events were analyzed and no description is provided concerning final conclusions as to which initiating events are possible. Provide the list of initiating events that were addressed, as well as the conclusion and basis as to which initiating events could occur from which compartment.
3. Table 3.7-1 of the Turkey Point IPE/PRA (June 1991) provides a list of fire zones, systems present in each fire zone, and the reason for screening out the specific fire zone. The following fire zones have been screened out based on criteria "B" which states that the area does not contain any equipment that may lead to either a trip or a demand for safe shutdown functions (the nomenclature in parentheses denote the systems present in the fire zone):

Zone	12	(CCW and CVCS)
Zone	32	(CCW, CVCS, HVAC, and RCS)
Zone	33	(CCW, CVCS, HVAC, and POWER)
Zone	41	(CCW, CVCS, HVAC, ICW and POWER)
Zone	47	(HVAC, ICW, POWER, and RCS)
Zone	51	(CCW, HVAC, ICW and POWER)
Zone	54	(CCW, CVCS, and POWER)
Zone	62	(AFW, CCW, CVCS, HVAC, ICW, INST, POWER, RCS and RPS)
Zone	76	(ICW)
Zone	78	(AFW and POWER)
Zone	79	(AFW, CCW, CVCS, HVAC, ICW, INST, POWER, and RCS)
Zone	121	(ICW and POWER)
Zone	122	(CCW, ICW and POWER)
Zone	124	(CCW, CVCS, HVAC, ICW and POWER)
Zone	133	(CCW, HVAC, ICW and POWER)
Zone	135	(CCW, HVAC, ICW and POWER)
Zone	139	(CCW, ICW and POWER)
Zone	140	(CCW, ICW and POWER)

It is difficult to envision how loss of the combination of systems listed for these zones would not create a demand for safe shutdown functions. The IPEEE does not provide sufficient information for proper evaluation of the screening effort. Provide further information justifying the reasons for screening these fire zones.

4. In Table 3.7-1 of the Turkey Point PRA fire analysis, the containment related screening statement has been used for fire zones 81, 82, 86, 87? Provide a discussion explaining the basis for screening out these areas.
5. No quantitative analysis of the fire initiating event is discussed in the Turkey Point IPEEE and IPE/PRA submittals. Provide the approach (i.e., choice of weighing factors, ignition sources, etc.) and a list of fire zones and respective fire occurrence frequencies.

6. A plant-specific fire events data base has not been used. This can be an optimistic practice if Turkey Point Units 3 and 4 have experienced fire events in safety related areas. If such events have taken place in any safety related area since commercial operation, provide an assessment of the effect of these events on the fire frequencies.
7. If the potential for cross-zone fire and smoke spread was not considered, provide justification for its exclusion. Please provide an analysis of the effect on fire-induced CDF if the potential for the failure of active barrier components such as doors and dampers for all fire areas, and the potential for cross-zone fire propagation is considered for high hazard areas such as the turbine building, diesel generator room, cable spreading room, switchgear rooms, and lube oil storage areas.
8. A single value is used to model the possibility of detection and suppression failure; for the majority of cases, a probability of 0.1 is used. It is not apparent that this method addresses all the factors that affect the likelihood of failure to suppress the fire before critical damage has occurred using area specific information. For example, if cables and equipment are in close proximity, fire may cause critical damage before successful suppression. Provide justification for using the specific probability values.
9. Human recovery actions are identified as one of the most critical event in the fire scenario importance ranking list provided in the IPEEE submittal report. However, no details are provided concerning how probabilities of recovery failure were assessed. Provide a detailed description of how fire event recovery actions were assessed, including how factors such as sequence timing, elevated environmental stressors (e.g., reduced visibility, impaired communications, and impaired accessibility) were accounted for. If IPE values were assumed, were they adjusted to reflect reduced reliability during a fire event and, if so, how were they adjusted? If IPE values were used directly, provide a justification for not having adjusted the values.
10. The results of the screen-out computations for fire compartments listed in Table 3.7-1 have not been provided in the IPEEE submittal. Please provide a summary of the computed results for each of those fire zones with screening criterion "D" (per Table 3.7-1 definition).
11. There is no discussion in the IPEEE of fire-suppression-induced damage in any of the phases of the analysis (i.e., damage to equipment as a result of the activation of the fire suppression system in extinguishing a small fire in a given area). Are there any compartments where equipment (e.g., motors and electrical cabinets) are susceptible to water damage, and yet the fire impact analysis has considered these equipment as available after the successful operation of the fire suppression system? Provide a summary discussion on how this issue has been addressed.
12. Control system interaction is addressed via the use of an alternate shutdown panel and isolation switches. A simple model is used for the operators failing to control the plant from this panel, in the event of

a control room or cable spreading room fire. Also, there are no indications in the IPEEE that the analysts have considered the possibility of a fire hindering access to the isolation switches or alternate shutdown panels. Provide a discussion on how the remote shutdown panel is used to mitigate the effects of fire scenarios that lead to control room abandonment, which may include such scenarios as cable spreading room fire, control room fire, and smoke in the control room.

13. A qualitative analysis is presented in the IPEEE for the Reactor Control Rod Equipment Room, where the cables for MOVs that govern the Reactor Coolant Pump seal injection are located. It is claimed that the operators will take control of CCW and Charging Pump RCP seal injection, by manually opening the proper valves via hand wheels. Provide the basis for not taking into account the possibility that fire, smoke, and loss of lighting will hinder access to the areas needed to accomplish the procedure, and whether there is sufficient time available to complete the necessary actions.
14. Fire Zone 79A is a cable riser with a large array of cables in it. The licensee does not indicate whether there are any power cables in this riser. The area is screened out by assuming a frequency of fire damage less than $10^{-6}/\text{yr}$. Given that a fire in such a compartment can indeed cause severe damage, it is important for the licensee to show how the screening conclusion is reached. Are there any power cables in this zone? If yes, has the possibility of fire initiation from these cables been considered in the analysis. Provide the computations used in the screening analysis. Provide a discussion as to whether fires in adjoining rooms have been considered as a source for damage and fire in the riser.
15. Provide accident sequence related information, per Appendix 3 of GL 88-20, Supplement 4. As a minimum, such information should be made available for all compartments for which the core damage frequency is greater than $10^{-6}/\text{yr}$.

III. High Winds, Floods, and Others

1. Provide a summary of the walkdown findings related to HFOs.

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