December 20, 19[illegible]

Docket Nos. 50-250
and 50-251

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

Dear Mr. Goldberg:

SUBJECT: TURKEY POINT UNITS 3 AND 4 - AUDIT OF STRUCTURES AND CIVIL ENGINEERING FEATURES (TAC NOS. M81313 AND M81314)

The NRC intends to perform a structural audit at Turkey Point during the week of January 13, 1992. The objective of this audit is to obtain information about performance of structures at Turkey Point and to draw some generic conclusions based on the information obtained from this and other plant visits. Enclosed is the plan and the agenda for our site visit to Turkey Point. The scope of these agenda items and FPL assistance during the audit has already been discussed with your licensing staff at the Turkey Point site.

If you have any questions, please call me at (301) 504-1471.

Sincerely,

/s/
Rajender Auluck, Sr. Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:
Agenda

cc w/enclosures:
See next page

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Turkey Point Plant

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ENCLOSURE

PLAN FOR TURKEY POINT VISIT
January 13 - 17, 1992

VISITING TEAM MEMBERS:

NRC STAFF: R. ROTHMAN, H. ASHAR, J. LENAHAN

NRC CONSULTANTS: J. BRAVERMAN, R. MORANTE

JANUARY 13, 1992:

The team plans to arrive at the site at approximately 2:00 p.m. to complete necessary HP training. Some staff members have already received a formal site access training course at NRC Headquarters. Therefore, their training need may be minimal, if any.

JANUARY 14, 1992:

8:00 a.m. - 5:00 p.m. (with one hour break for lunch)

Meeting with the licensee to understand Turkey Point's past experience with structural integrity maintenance, surveillance, degradations, modifications/repairs of safety related structures, including:

- Brief presentation of seismic design criteria adopted for the development of in-structure floor response spectra, design codes/standards used for design of Category I structures against various loads, and design criteria for wind (including hurricane and tornado), tornado missiles, safety related tanks and flood.

- Containment tendons surveillance (grease leakage, anchor heads, most recent surveillance report/key findings, tendon force measured vs. predicted, tendon relaxation over time, tendon corrosion, effects of grease seepage into concrete on concrete strength, etc.).

- Support anchorages (installation and maintenance experience on expansion anchors, dispositions of IE Bulletin 79-02 and IEN 80-21 issues, examples of observed anchorage failures and their safety evaluations, experience on other types of anchor failures, etc.).

- Spent fuel pool and racks (general integrity of pool structure, liner and fuel racks, status of fuel rack modification to increase storage capacity, if any, concrete cracking and pool leakage, fuel rack geometry maintenance, heavy loads control, etc.).

- Intake structure (maintenance and observation of submerged structural elements, concrete cracking, spalling, rebar corrosion, past repairs/safety assessment, observed unexpected displacements, etc.).

- Masonry walls (brief summary of past fixes (IE Bulletin 80-11), maintenance and surveillance, through bolt monitoring and trending, interface with main structures, piping attachments, expansion anchors, joints and through block crackings, examples of fixes and modifications since 1980, new data on any II/I interference issues, new additions/deletions, etc.).

- Results of past observations or measurements of free spaces provided between adjacent structures and the verticality of those structural boundaries, if any, to ensure no physical interference between structures during earthquakes, otherwise, discuss the rationale for not having such data.

- Describe the cathodic protection system (CPS) used to protect the containment liner plate, reinforcing bars, and tendon trumplate. Discuss the extent to which the design relies on the effectiveness of the CPS (e.g. was a lower corrosion rate assumed for the liner plate) and describe the performance history of the CPS.

- Break for lunch (approx. at noon) and staff caucus.

- Summarize geology/foundation conditions and ground water effects on structures, foundations, and buried systems (piping, electrical systems, etc.). Ground water problems such as seepage through foundation walls or floors, containment lower elevation ponding/seepage, if any, tendon qallery water seepage, design adequacy and condition of flood retaining structures (including doors, louvers, stop logs, exterior walls, flood embankments, etc.).

- Piping supports anchorage issues (examples of problems encountered in concrete embedded anchors for piping and equipment) and buried piping integrity and inspection/repairs.

- Description of any surveillance or inspection programs which identify and monitor concrete cracking or steel corrosion in Category I structures. Summarize the results of pre-ILRT visual examination of containments (e.g. cracking, liner corrosion, liner bulging).

- Settlement issues (examples of abnormal or unexpected structural foundation settlements observed and their engineering dispositions, repairs, monitoring programs, etc.).

- Seismic instrumentation (operability and functionality maintenance, difficulties experienced and records retrieved, instrumentation maintenance specs., upgrading plan, if any, etc.).

- Safety related storage tanks (operating and maintenance experience, integrity of anchor bolts, tank leakage and corrosion, if any, unexpected settlements, earthquake experience, integrity of tank appurtenances, cracking of tank foundation, etc.).

- Civil Structural LERs: See page 6.

- Licensee discussion of past dispositions of structural issues identified in previous NRC staff inspection reports.

- List of civil/structural related 10 CFR 50.59 evaluations and key summary of the evaluations (the staff plans to select a few 50.59 evaluations for subsequent audit at the site).

- Plant safety procedures in the event of a high flood, earthquake, explosion, hurricane or tornado.

- Additional licensee suggested items for discussion.

- Additional staff identified items for discussion.

- Staff caucus.

- Reiteration of action/follow-up items.

A brief presentation by the licensee covering each of the above items should be scheduled (generally, each briefing should not exceed 10 minutes supported by a few slides followed by questions/discussions). Pertinent 10 CFR 50.59 documents should be made readily available for staff selection of key documents for detailed review. Staff caucuses of 30 minutes duration are planned right after the lunch break and prior to the last task (reiteration of action/follow-up items.) The licensee is requested to allocate presentation time for each item with strict time control and the

staff is requested to limit its questions to the essential ones such that the entire agenda can be hopefully covered prior to 5:00 p.m.

JANUARY 15, 1992:

8:00 a.m. - 5:00 p.m.

The team will walkdown the plant including the following structures/areas:

- Walkdown and examination of exterior parts of the containment (containment - wall, dome, junction with basemat, buttresses/tendons), tendon gallery, stack, and interfacing areas with other Category I structures.

- Walkdown of auxiliary, control, fuel, and diesel buildings. Items to be examined are basemat; concrete walls, floors, and roof; building structural steel; masonry walls; key cable trays and conduits; equipment and piping anchorages; tanks; and areas of water-seepage, ponding, corrosion or other signs of degradation.

- Walkdown and examination of turbine building and outside periphery of the power block structures.

Licensee assistance is requested to develop an efficient walkdown routing plan to cover the above listed structures/areas in 5 to 6 hours with time allowance for lunch and staff caucus. The staff may change or modify the routing plan during the day in order to maximize gathering of pertinent information regarding the integrity, functionality, degradation, maintenance/surveillance, repair and modification of structures at Turkey Point. During the walkdown, licensee support and provision of personnel who are familiar with the above listed information and able to respond to related staff questions are requested. At the end of the walkdown, the staff will hold a caucus and may also hold a meeting with the licensee depending on the availability of time.

JANUARY 16, 1992:

8:00 a.m. - 12:00 p.m.

The staff will continue walkdown of the following items with the licensee assistance in preparing a routing plan to complete the task by noon:

- Walkdown and examination of intake structure.

- Walkdown and examination of water retaining structures, earth work (canal, dike, etc.), heat sink/dam complex, as applicable, including any settlement/water table/flow monitoring devices.

- Walkdown and examination of special areas of interest identified during the January 14, 1992 meeting.

During the morning walkdown session a subgroup will be selected to review a few 50.59 documents previously chosen at the January 14, 1992 meeting (licensee to provide a private on-site office for staff use).

JANUARY 16, 1992, cont'd

12:00 p.m. - 3:00 p.m.

- Lunch break and staff caucus.

3:00 p.m. - 5:00 p.m.

- Discuss with the licensee significant findings and observations identified during the plant walkdown.

- Discuss with the licensee questions/issues identified in the review of 50.59 evaluations, surveillance and inspection reports, plant safety procedures and other safety assessment documents.

- Identification of licensee commitments and follow-up items as well as staff action items.

JANUARY 17, 1992:

8:00 a.m. - 10:00 a.m.

- Exit meeting with licensee.

COMPLETION OF PLANT VISIT

PRELIMINARY

TURKEY POINT 3&4 - CIVIL/STRUCTURAL RELATED LERS 1980 TO PRESENT

LER	
80-021	Discharged battery of the seismograph.
81-013	Void in concrete below equipment hatch.
82-010	Pipe support no longer contacting the ground due to grout cracking.
82-009	Surveillance test of seismograph not completed on schedule.
83-006	Masonry walls do not comply with designs (e.g. no internal grout/reinforcing steel).
88-026	Flood protection deficiencies for diesel oil transfer pumps, near the EDG building, auxiliary building, North/South/West side of plant.
81-014	Defective area in concrete containment.
83-001	Installation deficiencies of framing steel and supports inside containment.
83-002	Fuel assembly drop into spent fuel rack.