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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of	)	Docket Nos. 50-250 OLA-2
	)	50-251 OLA-2
Florida Power & Light Co.	)	
	)	Spent Fuel Pool Expansion
Turkey Point, Units 3 & 4	)	

INTERVENORS' MEMORANDUM IN SUPPORT OF  
CONDITIONING LICENSE AMENDMENTS

INTRODUCTION AND BACKGROUND

On April 19, 1988, the Atomic Safety and Licensing Board issued their Initial Decision in the above captioned proceeding, which concluded that License Amendment Nos. 111 and 105 to License Nos. DPR-31 and DPR-4, respectively issued by the Office of Nuclear Reactor Regulation on November 21, 1984 should remain in full force and effect without modification.

Subsequently, on June 27, 1988, the Atomic Safety and Licensing Appeal Board issued an Order in the proceeding which stated that it appeared that the Board had placed considerable reliance upon two commitments by the applicant in reaching their initial decision in this operating license proceeding, and posed the question whether the Licesning Board should have imposed license conditions embracing those commitments.

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ARGUMENT

Intervenors, the Center for Nuclear Responsibility and Joette Lorion, contend that the Board did place entirely too much faith in the commitments of the Licensee, Florida Power and Light Company, and that the Board should have required that the License Amendments be conditioned to assure that the Licensee would keep these commitments.

However, before Intervenors argue the merits of this contention, Intervenors would like to raise the question as to whether or not the Board would now have jurisdiction to condition the amendments should it be decided that this is necessary to protect the public health and safety.

Under NRC case law, once the Licensing Board issues a decision in which it disposes of a particular issue on the merits and a notice of appeal from that decision is filed, the Licensing Board no longer has jurisdiction to act further with regard to that issue. See Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit No. 1), ALAB-699, 16 NRC 1324, 1327 (1982). Jurisdiction over that matter rests with the Appeal Board. Appeal Board sua sponte review authority can include the imposition of license conditions. See, e.g. Sacramento Municipal Utility District (Rancho Seco Nuclear Generating Station), ALAB-746, 18 NRC 749 (1983), and Georgia Power Co., et al, (Vogtl Electric Generating Plant, Unit 1 and 2), 25 NRC 23 (1987).

Thus, Intervenors contend that should this Appeal Board decide after reviewing the record of this proceeding that

conditions should have been imposed on the license amendments, this Appeal Board has the authority to impose such conditions.

For instance, in a similar case, Sacramento Municipal Utility District, (Rancho Seco Nuclear Generating Station), 18 NRC 749 (1983), the Appeal Board upon sua sponte review of the record affirmed the Licensing Board's initial decision in the proceeding and affirmed it subject to the imposition of a license condition requiring additional radiographic inspections of certain high pressure injection nozzles. In their decision at 752, the Appeal Board ordered the Director of Nuclear Reactor Regulation (NRR) to impose an inspection regime as a condition on the licensee's operating license. Further, the Appeal Board required that certain of the Licensee's commitments be formalized by urging the staff to require that certain procedures be incorporated into the technical specifications for the plant. Id. at 754.

Thus, it is clear that there are many avenues that this Appeal Board can take should the members become convinced that the Board erred by not conditioning the license amendments.

PUBLIC SAFETY DEMANDS CONDITIONING

Public safety is the first, last, and a permanent consideration in any decision on the issuance of a construction permit or a license to operate a nuclear facility. Power Reactor Development Corp. v. International Union of Electrical Radio and Machine Workers, 367 U.S. 396, 402 (1961). The Commission must have reasonable assurance that the public health and safety are not

endangered by its licensing actions.

Part of the Commission's responsibility in license amendment proceedings, such as the spent fuel expansion, is to see that the General Design Criteria (GDC) is met. In the proceeding at hand, there was a great amount of discussion as to whether the requirements of GDC 62 would be met.

General Design Criterion (GDC) 62, PREVENTION OF CRITICALITY IN FUEL HANDLING AND STORAGE AND HANDLING, according to Laurence A. Kopp of the NRC, states that criticality in the fuel storage and handling system shall be prevented by the use of geometrically safe configurations. Mr. Kopp goes on to state that the NRC's acceptance criterion for assuring that GDC 62 is met is found in the Standard Review Plan, Section 9.1.2, which requires, which requires maintaining a storage array neutron multiplication factor ( $k_{eff}$ ) less than or equal to 0.95 in spent fuel pools in normal and accident conditions. (Kopp testimony at pg. 3). And, according to both Staff and FPL witnesses at the hearing, this standard must be met with unborated water, because they cannot take credit for the boron in the spent fuel pools in their calculations. (Transcript at 268 and 330, 331, 340). Thus, it is clear from the transcript of the proceeding that boron, is a secondary safety measure in the spent fuel pool, while boraflex is the primary safety measure and the only material that can be considered in calculating ( $k_{eff}$ ).

Thus, if one reviews the record in this light, it is clear that should the boraflex at Turkey Point develop gaps at certain enrichments, it is clear that (GDC) 62, which requires a ( $k_{eff}$ )

less than or equal to 0.95 will not be met. (Transcript at pp. 270-71, 281-283, 340-342). Intervenors believe that this is the reason that the Licensee stated in a letter to the Commission dated August 31, 1987, that Turkey Point would not store fuel with an enrichment of 4.1 percent prior to the completion of the next surveillance testing of Boraflex in approximately three years. Although the NRC Staff (transcript at Wing testimony at pg 16) and the Licensing Board in their initial decision considered this to be a commitment not to store the more highly enriched fuel, Counsel for the licensee made it clear that there is no limit in Florida Power & Light's license that would prevent them from doing so. (Transcript at 282). In fact, Licensee has requested and been granted a license amendment that would allow them to use the more highly enriched fuel in their reactors.\*

NRC Information Notice No. 87-43, Gaps in Neutron Absorbing Material in High Density Spent Fuel Storage Racks, dated September 8, 1987, made it clear that the gaps identified in the Boraflex at Quad Cities is a potentially significant problem. It also stated that the safety concern is that certain gaps might excessively reduce the margin of nuclear subcriticality in the pool. Intervenors demonstrated at hearing that should gaps develop in the boraflex at Turkey Point in fuel enriched more than 4.1, that GDC 62 would not be met. The Board should have conditioned the license amendments to require that the Licensee not store any fuel with an enrichment greater than 4.1 weight percent U-235 prior to completion of the next surveillance. Since the Board did not, the Appeal Board must now act to protect the public health and safety.

\* See ASLBP No. 84-505-08 LA

Finally, as to Licensee's assurances that they will undertake to establish a surveillance program that will evaluate Boraflex specimens in Regions 1 and 2 of the spent fuel pool and perform blackness testing on the Boraflex, Intervenors feel that the Board has again erred by not asking the Staff to request that the Licensee submit their formal program and incorporate the surveillance program into the technical specifications of the plant. Especially since the deterioration of the boraflex in the spent fuel pool could pose a threat to the public health and safety. According to Mr. Wing of the NRC Staff, substantial degradation can alter the neutron attenuation properties of the Boraflex panels and consequently decrease the margin of subcriticality in the fuel pool. (Transcript at 350).

The Appeal Board should also take official notice of the fact that Florida Power and Light Company is currently under close scrutiny by the NRC because of poor management practices at the Turkey Point plant. And should consider whether or not this utility can be relied upon to meet their commitments if they are not formalized. (See attachment A and B).

#### CONCLUSION

For all of the above stated reasons, Intervenors believe that the Board erred by not conditioning the license amendments to formalize the two commitments of Licensee on which they appear to have made their decision.

However, Intervenors have reason to believe that the Board cannot now condition these amendments, since it is out of their

jurisdiction, and that the authority to condition them now rests with the Appeal Board. Thus, Intervenors respectfully suggest that this Appeal Board consider placing the following conditions on the license amendments:

1. That the Licensee not store any fuel with an enrichment greater than 4.1 weight percent U-235 prior to completion of the next surveillance in December 1989;
2. That the Licensee conduct a safety analysis after the December 1989 surveillance to be submitted to the NRC Staff which provides reasonable assurance that spent fuel with enrichment up to 4.5 weight percent U-235 can be stored in the Turkey Point spent fuel pools and maintain the 0.95  $k_{eff}$  acceptance criterion before storing such fuel;\*
3. That the Licensee submit to the NRC Staff a formalized program for surveillance of the Boraflex in the spent fuel pools, including blackness testing, which would be conducted in December 1989, and five year intervals or sooner if industry experience indicates a shorter period for surveillance is warranted; and that this program be incorporated into the technical specifications.

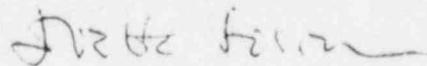
\* See McCracken testimony, transcript at 358-360.

The NRC, by regulation (10 C.F.R. 54.57 (a) (3) (i)), requires reasonable assurance that all license activities be conducted without endangering the health and safety of the public. Intervenors believe that the Board's failure to condition the license amendments to include the two

commitments by the Licensee that would assure the integrity of the Boraflex material would cause the NRC to violate this regulation. Should the Boraflex material in the pool breakdown, the chances of a criticality accident would increase at certain enrichments. A criticality accident in the resultant release of radioactivity from the spent fuel pool is one of the most feared nuclear accidents and according to NUREG/CR 4982, Severe Accidents in Spent Fuel Pools in Support of Generic Issue 82 , such a worst case accident in a spent fuel pool could permanently contaminate a 224 square mile radius of land with long-lived radioactivity. (Transcript at P. 89).

In short, Intervenor believe that because the Board erred by not conditioning these license amendments, that it is now the responsibility of the Appeal Board to act immediately so that the public health and safety will not be jeopardized by the Board's failure to act conservatively in affirming the subject license amendments without formalizing the commitments of the utility.

Respectfully submitted,



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Dated. July 13 , 1988



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	Docket Nos. 50-250
	)	50-251
FLORIDA POWER AND LIGHT COMPANY	)	License Nos. DPR-31
	)	DPR-41
(Turkey Point Nuclear Plant	)	EA 87-85
Units 3 and 4)	)	

ORDER (EFFECTIVE IMMEDIATELY)

I

Florida Power and Light Company is the holder of operating Licenses No. DPR-31 and DPR-41 issued by the Nuclear Regulatory Commission (NRC/Commission) on July 19, 1972 and April 10, 1973 respectively. The licenses authorize the licensee to operate Turkey Point Nuclear Plant Units 3 and 4 in accordance with conditions specified therein.

II

Between July 1983 and May 1987, the licensee has been cited for 32 violations for failure to implement or to follow procedures. Lack of management controls in these and other areas has resulted in multiple escalated enforcement actions including seven civil penalties since July 20, 1984 and two additional civil penalties in the brief period since July 21, 1987. Overall poor performance by the licensee additionally resulted in the Turkey Point Performance Enhancement Program. A Confirmatory Order was issued on July 13, 1984 to confirm the implementation of this program. Subsequently to that, numerous additional violations were identified and the Phase II Assessment Program was developed by FP&L to be implemented in conjunction with the Performance Enhancement Program. This was addressed in the Confirmatory Order issued on August 12, 1986.

Routine inspections of the licensee's activities were conducted during May 18 - July 20, 1987. The results of these inspections indicated that the licensee again had not conducted its activities in full compliance with NRC requirements. In conjunction with this Order, a written Notice of Violation and Proposed Imposition of Civil Penalty is being served upon the licensee. The Notice of Violation details a number of examples of the failure to adhere to approved procedures and maintain configuration control over safety-related systems.

### III

The first two violations described in the Notice detail a number of occasions where plant personnel manipulated valves without the use of approved procedures or approval of licensed supervisory personnel. The major areas of concern included operations personnel departing from approved procedures, failing to notify the control room of changes in system lineups, the loss of configuration control over the safety-related emergency boration system, and system engineers directing plant operators to perform valve operations without first obtaining the proper authorization from the control room staff and without using approved procedures. These failures to adequately establish or implement procedures to assure configuration control of the safety-related emergency boration system resulted in the loss of boric acid flow paths which were required by Technical Specifications. Additionally, a turbine operator closed valves which he thought were misaligned. The operator was unaware of the proper valve lineup configuration, failed to report the system realignment to the control room, failed to implement the approved system lineup procedure, and failed to document

the perceived misalignment and his subsequent realignment. At least one plant operator also failed to identify or promptly inform the control room staff of the status of the valves. The improper manipulation of these valves resulted in the isolation of the nitrogen backup system for the Auxiliary Feedwater System (AFW) flow control valves. The AFW flow control valves normally use the non-safety-related, non-seismic instrument air system for automatic valve positioning; therefore, the failure to have the nitrogen back-up system available is unlikely to have prevented the AFW system from operating. Nevertheless, these failures by plant personnel indicate a lack of appreciation for procedural compliance, system configuration control, and receiving appropriate authorization for realignments from the control room.

The third violation described in the Notice addresses an event involving operation of the Intake Cooling Water (ICW) system outside the plant design basis, another example where communications of required information to supervisory personnel was a contributing factor. On December 1, 1986, a performance test conducted on the Unit 3 Component Cooling Water (CCW) heat exchangers indicated degraded performance. Revised data and proposed immediate cleaning schedule were forwarded to the Shift Technical Advisors on December 4, 1986, but the changes required by the revised performance data were not implemented and the cleaning schedule was not adhered to. As a result of this failure to perform corrective action, with the 3B CCW heat exchanger out of service for cleaning during a seventeen hour period on December 11, 1986, the two CCW heat exchangers remaining in service would not have been able to dissipate the maximum hypothetical heat load even with the ICW flow provided by two ICW

pumps as described in safety evaluation JPE-L-85-38, Rev. 2, and the turbine plant cooling system isolated.

In addition, on September 13, 1987, a licensed operator permitted an unauthorized, non-licensed individual to manipulate the reactor dilution controls in Unit 3 control room, and although a management representative on shift observed and reported the incident, neither the Site Vice-President nor management at the Corporate Office were informed of the event until a week later. The XRC is continuing to evaluate the circumstances surrounding this event, but it is clear that an attitude that permits an unauthorized, non-licensed individual to perform such actions is unacceptable. The XRC will consider whether further action is necessary on this issue subsequent to the completion of our evaluation.

#### IV

The nature and number of deficiencies that have been identified over the past few years at Turkey Point described in Section II together with the more recent issues in Section III raise questions regarding the ability of Florida Power and Light to adequately control activities at Turkey Point. In contrast, the licensee's St. Lucie facility has performed well with few of the weaknesses evident at Turkey Point. Continued operation of the Turkey Point facility may require significant personnel and procedural changes at both Turkey Point and the Florida Power and Light corporate office in order to ensure a consistent level of adequate performance.

Florida Power and Light has taken the initiative in developing a number of

basis of selected systems, a review and revision of all operating procedures, making a number of management changes, a management on-shift program and contracting with an outside consultant to review its activities. The last two initiatives which the licensee committed to in a letter dated October 7, 1987 and further described in meetings on September 25, 1987 and October 8, 1987, as well as in a letter dated October 19, 1987 appear necessary to provide assurance that proper controls are in place, along with qualified and committed management, and staff to properly perform licensed activities. Therefore, I have determined that public health and safety require that Florida Power and Light's plan for an independent evaluation be confirmed as revised by this Order. Pending the NRC evaluation of the results of the independent evaluation, I have also determined that the public health and safety requires that an on-shift oversight program be confirmed as revised by this Order.

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In view of the foregoing pursuant to Section 103, 161(1), 161(o) and 182 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.204 and 10 CFR Part 50, IT IS HEREBY ORDERED EFFECTIVE IMMEDIATELY THAT:

- A. Within 30 days of the date of this Order, the licensee shall submit to the Region II Administrator for review and approval a plan for an independent written appraisal of site and corporate organizations and activities that would develop recommendations, where necessary, for improvements in management controls and oversight to provide assurance that personnel will comply with required procedures. Upon approval

dates shall not be extended without good cause and the concurrence of the Region II Administrator. The appraisal shall be completed as called for in the above plan, but in any case, within six months of the date this Order. The plan shall include at least the elements itemized below:

- 1) An independent organization retained by the licensee shall evaluate current organizational responsibilities, management controls, improvement and upgrade programs, staffing levels and competence, communications, the safety review process, and operating practices both at Turkey Point and the corporate office. The licensee's programs for personnel motivation such as incentive and disciplinary programs shall be examined in the appraisal. Where applicable, the practices at the St. Lucie facility shall be reviewed and compared with those at Turkey Point.
- 2) The appraisal shall include a review of the licensee's site and corporate management supervisory personnel as well as a representative number of site working level personnel to determine their understanding of both regulatory and administrative requirements in the areas of procedural implementation and compliance. Additionally, a determination of the level of commitment of the personnel to such goals should be made.
- 3) The appraisal report shall include the views of the independent organization on the causes of the past failures to meet regulatory requirements referenced in Section II and III of the Order and an

programs and management changes to achieve lasting safety improvements in compliance with Commission requirements. Past efforts to improve procedures relating to security and operations shall be reviewed. Recommendations shall be made for procedural, organizational, personnel, or other changes to improve the safety of plant operations and compliance with Commission requirements.

- 4) A description of the appraisal program, the qualification of the appraisal team, a discussion of how the appraisal is to be documented, and a schedule with appropriate milestones.
  - 5) Periodic meetings shall be provided between the outside organization and the licensee to alert the licensee of potential safety issues that may need immediate correction.
- B. The final report, as well as interim findings, will be communicated to a senior-level review board consisting of the FP&L Chairman and Chief Executive Officer, the President and Chief Operating Officer, and the Group Vice President Nuclear Energy Department.
- C. The licensee shall direct the outside organization to submit to the Region II Administrator a copy of the report of the appraisal recommendations resulting from the appraisal, and any and all drafts thereof, at the same time they are sent to the licensee or any of its employees or contractors. Prior notice shall be given the Region II Administrator of any meeting between the licensee and the organization to discuss the results,

Administrator may designate a member of his staff to attend any such meetings as an observer. In addition the licensee shall consider the recommendations resulting from the appraisal and provide to Region II Administrator within 30 days of the receipt of the appraisal an analysis of each such recommendation and the action to be taken in response to recommendation. The licensee shall also provide at that time a schedule for accomplishing these actions. Justification shall be provided for any recommendation of the appraisal not adopted.

- C. Pending the completion of the review of the results of the above independent appraisal program, the licensee shall implement a continuous on-shift oversight program to monitor the safety of plant operations, both in and out of the control room. The oversight program shall be implemented prior to either unit entering Mode 2 (Startup) following the current outages.
- 1) At least one evaluator, whether licensee employee or contractor, on each shift shall have held a senior reactor operator license or have experience in auditing or appraising commercial nuclear plant operations and not have been an employee at the Turkey Point facility within the last two years.
  - 2) A guidance document will be issued which identifies the purpose of the program, the responsibilities of the personnel assigned to the program, reporting requirements, and the authority given to the evaluators to act where necessary to prevent personnel error and to

shall be provided to the NRC. At a minimum the evaluators shall report observations of immediate safety significance to the shift supervisor and his direct supervisor. Daily reports of all activities addressing questionable operating practices shall be made to the Site Vice President with same day copies provided to the President of FP&L. The President of FP&L shall be directly responsible for the oversight program. A weekly summary report along with a compilation of daily reports shall be provided to the Region II Administrator.

- 3) Following the licensee's review of the results of the independent appraisal program the licensee may seek to terminate the oversight program. Written justification of the termination shall be provided to the Region II Administrator, explaining the basis for termination after considering the significance of any appraisal or oversight findings in the area of plant operations.

F. The Regional Administrator, Region II, may relax or terminate in writing any of the preceding provisions for good cause.

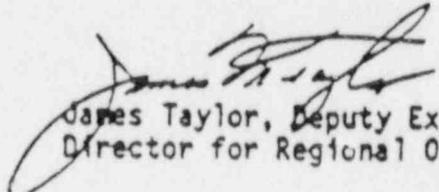
## VI

The licensee or any person adversely affected by this Order may request a hearing within 30 days of the date of this Order. A request for hearing should be clearly marked as a "Request for Hearing" and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with copies to the Assistant General Counsel for

Enforcement, Regional Administrator, Region II, and the NRC Resident Inspector, Turkey Point Nuclear Plant.

If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If a hearing is held, the issue to be considered shall be whether this Order should be sustained. If a person other than the licensee requests a hearing, that person shall set forth with particularity the manner in which the petitioner's interest is adversely affected by this Order and should address the criteria set forth in 10 CFR 2.714(d). Upon the failure of the licensee and any other person adversely affected by this Order to answer or request a hearing within the specified time, this Order shall be final without further proceedings. AN ANSWER TO THIS ORDER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

  
James Taylor, Deputy Executive  
Director for Regional Operations

Dated at Bethesda, Maryland  
This 19<sup>th</sup> day of October 1987

Attachment B

# U.S. presses FP&L execs over Turkey Point safety

**DONNA GEHRKE**  
Miami News Reporter

The Nuclear Regulatory Commission says a private consultant's assessment of problems at Turkey Point nuclear plant does not go far enough in laying the blame at the feet of Florida Power & Light Co.'s corporate management.

The federal regulatory agency is giving FP&L until Aug. 15 to come up with a long-range plan to solve the nuclear power plant's "significant problems and their root causes."

NRC spokesman Ken Clark in Atlanta said the language in his agency's report is unusually strong so Turkey Point executives will stop certain practices, such as running machinery until it breaks down.

"This kind of activity decreases the margin of safety," Clark said. While the NRC does not think the plant should be shut down, he said, "Turkey Point can operate much better."

In going beyond the written recommendations of the private consultant, which found too-frequent equipment breakdowns and poorly trained staff, the NRC is calling for Turkey Point executives to hire more workers, improve security, establish better accident prevention methods and reorganize the

maintenance department, including offering better training to workers.

FP&L spokesman Gary Mehalik said executives are aware of problems at the plant, but stressed that none of them pose any dangers to the community.

"There have been some problems at Turkey Point, and this company is going to fix them," he said.

Already, the plant has incorporated some improvements, such as hiring several top-level and highly respected nuclear plant managers to run Turkey Point, Mehalik said.

After being fined more than \$900,000 for Turkey Point violations in the past four years, FP&L commissioned a study last year to find out what was wrong at the South Dade nuclear plant.

In April, Tulsa-based Enercon Services issued a report that found the plant lacked key personnel who had adequate nuclear-energy training and experience, even though it began operating as a nuclear facility more than 16 years ago.

It called for FP&L to hire experts and to quit bringing in executives to work only a year or two before being transferred to other departments. It also recommended an end to too much overtime that was tiring workers and creating a "higher risk of human error."

Fearing that utility executives would overreact

and create an even worse work atmosphere, the private consultants did not include "too many details" to FP&L management, according to the NRC report, dated July 1.

The NRC team found the Enercon report "hard-hitting," but it "under-reported" the faults of corporate management, according to the federal study.

The private report "did not acknowledge the responsibility of corporate management for maintenance shortcomings," the NRC study said. "For example, high plant availability (keeping it operating) was emphasized rather than high plant reliability. This led to practices such as fixing things quickly rather than correctly, building up excessive maintenance backlogs and running equipment until it breaks."

The NRC report also credited the more successful operation of FP&L's St. Lucie nuclear plant to its "resisting over-managing by the corporate office."

The NRC team also found that Turkey Point's trainers included those who had failed the tests they were trying to teach.

FP&L spokesman Mehalik said utility officials are discussing the NRC's recommendations and deciding how they could be implemented.