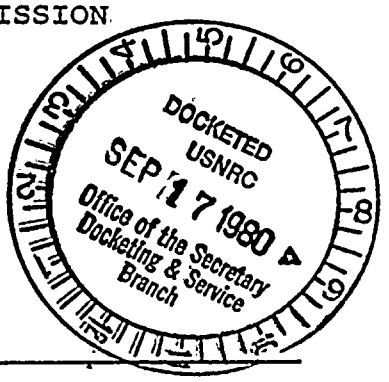
July 30, 80

BEFORE THE U. S. NUCLEAR REGULATORY COMMISSION



IN THE MATTER OF:

FLORIDA POWER & LIGHT COMPANY
TURKEY POINT NUCLEAR POWER PLANT
UNIT NO. 3

NRC DOCKET NO. 50-250

MOTION FOR ORDER TO SHOW CAUSE WHY TURKEY POINT UNIT 3 SHOULD NOT BE SHUT DOWN BY JULY 31, 1980, TO PERFORM A STEAM GENERATOR INSPECTION AND REPAIR

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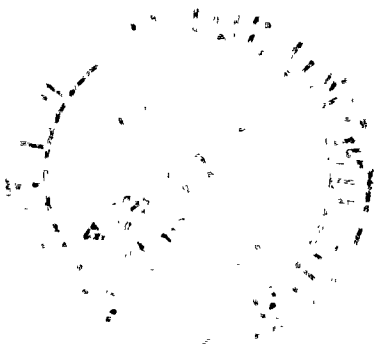

INTRODUCTION

Florida Power and Light has been troubled by problems of steam generator tube degradation and decay at its Turkey Point Nuclear Power Plants Units 3 and 4 for a period in excess of three (3) years. In June of 1977, Florida Power and Light, in concert with its Nuclear Steam Supply Vendor, (Westinghouse) embarked upon a plan of steam generator tube inspection and preventive tube plugging which has, with Commission approval, permitted until this day full power operation of the Turkey Point Nuclear Units as allowed by amendments to the facility operatling license (DPR-31). The most recent, Facility Operating License Amendment No. 52 to Facility Operating License No. DPR-31 Florida Power and Light Company. Turkey Point Nuclear Generating Unit No. 3 Docket No. 50-250 was issued on January 25, 1980 permitted operation of the Unit 3 facility for an additional six (6) months equivalent interval ending on July 31, 1980.

The Company had originally requested ten (10) months uniterrupted operation. The Commission denied this, granting only six (6) equivalent months because the Commission found that "they did not have an adequate technical basis to predict steam generator performance for period longer than six (6) months at a time".[1] One June 30, 1980 Florida Power and Light requested permission to delay the steam generator inspection of Turkey Point Unit 3 until

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1 See Safety Evaluation by the Office of Nuclear Reactor Regulation Supporting Amendment No. 44 to Facility. Operating License No. DPR-31, Florida Power and Light Company Turkey Point Nuclear Generating Unit No. 3 Docket No. 50-250, dated February 22, 1980.

October 6, 1980. This would result in an operation interval of about 8 and one half equivalent months. This is beyond the period of time in which the Commission professes to be able to predict safe steam generator system. Amendment No. 52 to operating license DPR-31 requires a cold shut down of Unit 3 at the end of six (6) months equivalent operation unless:

> "(1) an inspection of the steam generator system is performed within this period as a result of the requirements in 2, 3, and 4 above, or (2) an acceptable analysis of the susceptibility for stress corrosion cracking of tubing is submitted to explicitly justify continued operation of Unit 3 beyond the authorized period of operation. Any analysis justifying continued operation must be submitted at least forty five (45) days prior to the expiration date of the authorized period of operation". (Florida Power and Light Company Docket No. 50-250 Turkey Point Nuclear Generating Unit No. 3 Amendment to Facility operating license, Amendment No. 52, License No. DPR-31).

MOTION

The movants are residents and home owners in South Florida all of whom live in sufficiently close proximity to the Turkey Point Nuclear Plants to have their health, welfare, safety, property and enjoyment of the environment, jeopardized by the unsafe operation of the Turkey Point Nuclear Power Plant Unit No. 3. Therefore, pursuant to the Provisions of 10 CFR Part 2.200(a) of the Rules of Practice of the Commission, movants ask that the Commission issue and order to show cause why Turkey Point should not be shut down by July 31, 1980, to perform a steam generator inspection and repair.

ARGUMENT ON TECHNICAL AND SAFETY ASPECTS

The technical staff of the Commission in their appraisal of their ability to predict the safety and reliability of the Turkey Point Unit 3 generator states:

> "We did not have an adequate technical basis to predict steam generator performance for periods longer than six (6) months at a time".

When issuing Amendment No. 44 for Turkey Point Unit No. 4 on February 22, 1980, the reiterated:

> "We continue to have reservations about the validity of extropolating the prediction methodology beyond the operating of six (6) months". Amendment No. 44 Turkey Point Unit No. 4. Extension requested.

The NRC Rules of Practice provide that the party seeking facility operating license or its amendment bears the burden of proof of compliance with health and safety requirements. Additionally, in Amendment No. 52 of Operating License DPR-31, January 25, 1980, the Commission imposed a special requirement that Unit 3 be shut down "within six (6) equivalent months of operation from January 24, 1980, or at the next refueling shut down which ever occurs first unless: (1) an inspection of the steam generators is performed within this period or (2) an acceptable analysis of the susceptibility for stress corrosion cracking of tubing is submitted. Amendment No. 52 to DPR-31, January 25, 1980.

The Company has utterly failed to meet these conditions by neglecting to provide any technical basis for an extension of the period of operation. By this inaction, they have not only failed to carry the burden of proof, they have abandoned it.

Their sole reliance on arguments of service and economics considerations are legally inappropriate and devoid of any technical assessment of the safety of operation of Unit 3.

This Motion is being filed before the Nuclear Regulatory Commission as it is the action of the Staff in extending Florida Power and Light's operating license that must be reviewed.

Florida Power and Light has willfully ignored each of these conditions. The utility company has declined to perform any inspection of the Unit 3 steam generator. This was done despite the knowledge that the Company failed to inspect certain areas of the tubes in Unit 3, specifically, R12-C80 and the surrounding tubes in steam generator B and R22-C13 in steam generator A (the tubes surrounding R22-C13 in steam generator A were inspected).[2]

In January 1979, two (2) tubes in the uninspected area were observed to restrict passage of a .650 probe. (Amendment 52, Page 5, supra.) Further the Company neglected to submit any "acceptable analysis of the susceptibility for stress corrosion cracking of tubing . . . to explicitly justify operation of Unit No. 3 beyond the authorized period of operation."[3]

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2 See Page 2 of Safety Evaluation by the Office of the Nuclear Reactor Regulation related to Amendment No. 52 to facility operating license No. DPR-31, Florida Power and Light Company, Turkey Point Unit No. 3 Nuclear Regulatory Commission Docket No. 50-28.

3 See Amendment No. 52 License No. DPR-31, Page Two, Item 3. 5., Supra.

Because the Company failed to perform a complete inspection of all the Unit 3 generator tubes and also failed to re-inspect certain tubes known to be in a state of degradation, it is presently operating Unit 3's steam generators without having satisfied even the minimal surveillance standards of the Nuclear Regulatory Commission. These unsafe conditions are conceded by the parties to exist inside the Unit 3 steam generator. They raise unusual and serious safety questions that cannot be left unresolved beyond that period which the technical staff of the Commission conceeds it is unable to predict the safe operation of the Unit 3 steam generator.

Furthermore, during the Unit 3 inspection and shut down of December, 1979, "foreign material was observed on the 'as found' 3B steam generator tube sheet photographs. Subsequent inspection by both licensee and NSSS vendor personnel resulted in discovery and retrieval of additional foreign material".[4] According to movants technical advisor, Robert Pollard, of the Union of Concerned Scientists, it is common knowledge among nuclear engineers that loose metallic fragments inside a reactor coolant system pose a special and significant hazard to safe reactor operation.

The Unit 3 licensee event report states that while some metal particles found in the reactor coolant system were of unknown origin, other pieces were established to have originated from the

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4 Licensee event report, Turkey Point event date December 3, 1979, No. 8002130542.

failure of a tube plug during the plugging process. This special hazard, which is directly associated with tube failure, coupled with the failure of a MIMS to detect, prior to performance of tubesheet photographs on shut down, in and of itself, dictates that the Commission should insist on its original six (6) month interval for re-inspection of Unit 3. Such fragments have the propensity to cause tube failure.

Dr. Henry W. Kendall of the Union of Concerned Scientists states that "there is a serious threat that tube rupture can wholly compromise ECCS performance in the event of an accident."[5]

On May 20, 1980 in a letter to Turkey Point Intervenor, Mark Oncavage, Steven A. Varga, Chief operating reactors branch No. 1, Division of Licensing assured Intervenor Oncavage:

> "As far as the short term is concerned we have discussed with Florida Power and Light in a meeting on March 4, 1980, the basis for steam generator inspection frequency. We have made it clear that we do not expect to have applications for periods longer than six months *and they will adjust the reload cycles of both Unit 3 and Unit 4 accordingly. *Emphasis Supplied.[6]

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5. Nuclear Power Risks, a review of American Physical Society Study Group on light water Reactor Safety, Dr. Henry W. Kendall, Union of Concerned Scientists, Cambridge, Mass., June 1975, Page 15.

6. Letter Stephen A. Varga, Chief Operating Reactors Branch No. 1, Division of Licensing to Mark P. Oncavage, Miami, Florida, Nuclear Regulatory Commission Docket Nos. 50-250, 50-251, Turkey Point Units 3 and 4, dated May 20, 1980 (signed Marshall Grautenhuis).

In the face of these recent and firm assurances by Commission Director of Licensing, Varga, that they have made it "clear" that "they do not expect to have applications for periods longer than six months . . ." the Florida Power and Light Uhrig - Adomat Amendment extention request to the Commission on June 30, 1980, comes as virtual afrontery to that federal regulatory body. Therefore, the existance of these technical problems poses both special and unique safety hazards if there be continued Unit 3 operation.

The very existance of these problems not only supports but legally requires that the Commission adhere to the original conditions of Amendment No. 52 that Turkey Point Unit 3 be shut down and re-inspected after an equivalent six month interval period of operation.

ARGUMENT IN RESPONSE TO FLORIDA POWER AND LIGHT

NEED FOR POWER AND ECONOMIC ARGUMENT

Florida Power and Light supported their request for an Extention of Amendment No. 52 to Operating License DPR-31 by an affidavit prepared by E. A. Adomat, Executive Vice Presidnet of Florida Power and Light. The Adomat affidavit which is the sole supporting document attached to the Florida Power and Light Amendment request, fails entirely to address the technical, scientific assurances of safe steam generator operation required by the Commission. Instead, the Adomat Affidavit relies entirely on legally inappropriate and hence irrelevent and immaterial economic and service considerations.

In Amendment No. 52, the Commission decided that the National Environmental Policy Act of 1969, (NEPA) requirements of 10 CFR, Part 51 need not be met for extending the Unit 3 operating license. Economics and need for power are not proper elements of health and safety consideration under the Act, except where there is the requirement of a NEPA cost benefit analysis under Part 51. When the Commission has made a determination that NEPA cost-benefit analysis be excluded in determination of a license amendment proceeding, arguments such as those advanced in the Adomat Affidavit in support of the amendment based on NEPA considerations must fail. In performance of its reactor safety regulatory function, it is not the responsibility of the Commission to compensate for poor planning on the part of the Florida Power and Light Company by allowing it to postpone necessary inspection and repair of a faulty nuclear plant.

Certain representations made by the utility company in the Adomat Affidavit appear to be grossly understated and misleading as they treat Florida Power and Light system reserve margins and system capacity. Assuming arguendo, the legal relevance of the Adomat Affidavit, a close examination of those arguments becomes mandatory. By the presentation in Table 2 of the Adomat Affidavit, Florida Power and Light Company distorts the facts and misleads the Commission by gerrymandering its operational system into seemingly isolated regional districts. They would seem to pretend that they do not operate a totally intigrated system, but rather one that is divided into isolated regional entities with substantial capacity disparities. By separately treating a "southeast reagion" that is represented to be served by only those generators located within its geographical confines, the Company creates an illusion that it can barely satisfy current load conditions. Seemingly, it would have the Commission believe that a severe power shortage would occur in this southeast region if the Unit 3 inspection takes place as scheduled. A closer look at the Florida Power and Light system will show this is not the case.

Table 2 failes to treat in sufficient depth, the existance of cold standby reserves in the Florida Power and Light system, the availability of surplus generation among other Florida companies (i.e., Florida Power Corporation's Crystal River Nuclear Plant is scheduled to come on line early August, 1980), nor is there adequate discussion of the option for deferral of scheduled gas turbine maintenance or the duration of outage for the units should present schedules be maintained.

A close reading of Item 5, Table 2, indicates that, in actuality, Florida Power and Light Company operates a totally integrated electrical system with a strong transmission backbone consisting, longitudinally in Florida, of 240 kv and 500 kv transmission line combinations. This interconnecting network allows transmission of approximately 5000 mw into the area described as "Southeast Florida". But it is not an isolated entity, dependent only on its own generating capacity, the fact is, that the entire Florida Power and Light transmission system is designed to and does supply power with great flexibility and ample reserves throughout its length and breadth. The suggestion in Table 2 that the total capacity for bringing power into south Florida is limited to 804 mw is incorrect.

The most seriously misleading aspect of Table 2 in the Adomat Affidavit is its consideration of generation capabilities and available reserve margins.

First, in assessing total power load, Florida Power and Light does not exclude the power that it supplies to outside utilities for resale. This results that Florida Power and Light assigns an unknown quantity of excess power to load rather than reserve capacity. Any calculation which fails to establish a value for sales of power outside the system for purposes of capacity calculations is defective on its face. That Florida Power and Light has ample surplus power to vend is attested to by the Company itself in its press releases where it has recently boasted that even on days of record peak consumption it has been able to vend surplus power.[7]

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7 See Florida Power and Light Company Press Release of July 10, 1980, Reproduced herein as Appendix A.

Florida Power and Light suggests that it will arbitrarily subtract 257 mw from its system wide generating capacity to shut down and perform non-critical maintenance of its operating gas burgines (Table 2), even though the potential consequences of postponing the critical inspection and maintenance of a malfunctioning nuclear generator looms ominously, Florida Power and Light suggests that it cannot service Turkey Point's corroded tubes and leaking generator because of the inconvenience of rescheduling routine turbine maintenance, the timing of which must be classified as discretionary. Postponing this routine maintenance until after the Turkey Point repairs would increase system reserves by 50% according to Table 2. The Table 2 data allows the Commission to draw the incorrect inference that gas turbine maintenance normally is of brief duration might be off line for the entire two month interval.

The system-wide figures Florida Power and Light presents in the upper half of Table 2 grossly understate actual reserve capacity. The table first subtracts the total generating capacity of Florida Power and Light's largest generation (St. Lucie No. 1 at 777 MW) from its transmission import capacity. Florida Power and Light then compensates for that generators theoretical outage in their spinning reserve calculation. Finally, Florida Power and Light insists that it must have sufficient reserve to cover a theoretical outage of the same largest plant.

It should be noted that the flat and/or declining peak load means that Florida Power and Light has only a limited need for excess capacity to meet system wide peak requirements. With its flexible transmission system and innovative and ultra modern computerized load dispatch center in Miami, Florida Power and Light has demonstrated that it can and is fully capable of operating flexibly with its reserves at lower than 20% margins.

A 15% reserve is normally more than adequate in a system such as Florida Power and Light's. The operating experience of Florida Power and Light and other utilities shows a 5 - 7% reserve margin is adequate. A close look at the figures supplied, show that the actual reserve approaches or may even exceed 15%.

Even if safety were not the sole issue and economics could be considered, Florida Power and Light has not presented a threshold case on that issue. In any balancing test, health and safety issues must be weighed against a luxurious reserve cushion.

One final pragmatic consideration madates adhearance to the original Unit 3 operation and shut down schedule. Florida Power and Light has presently scheduled Turkey Point Nuclear Plant Unit 4 for shut down and inspection in October, 1980, under its Nuclear Regulatory Commission license agreements. If the Unit 3 license extention is granted there would result a potentially more difficult reserve situation wherein two of the Company's largest nuclear plants (Combined 1322 mw) would be off line at the same time.

Therefore, for all of the foregoing reasons, the operating license extention request to Amendment No. 52 of operating license DPR-31 by Florida Power and Light Company of June 30, 1980, should

be denied and the Commission should adhere to the provisions of Amendment No. 52 or show cause as to why such adherence is not required.

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Appendix A

Florida Power & Light Company
Corporate Communications Department
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July 10, 1980

FOR IMMEDIATE RELEASE

FPL CUSTOMER DEMAND FOR ELECTRICITY
SETS NEW RECORD FOR SUMMER PEAK LOAD

MIAMI — Florida Power & Light reported an all-time high summer peak demand for electricity occurred Wednesday (July 9) between 5 and 6 p.m. when the "load" on the Company's system reached 8.976 million kilowatts — 223 thousand kilowatts higher than the previous peak set June 25.

FPL officials cited hot weather and lack of rain throughout the utility's service area as the prime reason for the record demand.

A spokesman said that, with all major generating units running, there was sufficient generation to service customers' record power needs and, also, provide limited sales to other utilities in the state, which also were experiencing high demand.

All three of FPL's nuclear units were operating at full power, serving to dampen the high fuel costs associated with oil-fired plants, and particularly "peaking" units — small generating units which burn high-priced distillate oil, and are used only during peak periods and emergency situations.

The Company's refueling and maintenance schedules call for the nuclear units to be operational throughout the hot summer months, barring unforeseen problems, the FPL spokesman noted.

"This also will be true for the summer of 1981," he said, "which will lead up to the planned replacement of the steam generators for the Turkey Point nuclear unit #4, scheduled to begin in October of 1981." Replacement of the steam generators for Turkey Point nuclear unit #3 is scheduled to begin in October 1982, and each repair will take approximately nine months.

# # #

AFB:sw

APPENDIX "A"

CERTIFICATE OF SERVICE

We Martin H. Hodder and Cheryl Anderson Flaxman Attorneys for Movants certify that the foregoing MOTION TO SHOW CAUSE was served on the following parties this 30 day of July 1980 by express mail service and/or deposit in the U.S. mail first class postage prepaid.

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July 29, 1980

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Washington, D.C. 20555

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