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FROM:	DATE OF DOC	DATE REC'D	LTR	TWX	RPT	OTHER
Florida Power & Light Co. Miami, Fla. Robert E. Uhrig	5-15-75	5-28-75	XX			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
Mr. A. Giambusso	3 signed	40		XX	XX

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XX			43	50-335

DESCRIPTION: Ltr notarized 5-15-75 trans the following:

ENCLOSURES: Revision 1 to the St. Lucie Enviro Tech Specs .....

(40 cys encl rec'd)

ACKNOWLEDGE

Do Not Remove

PLANT NAME: St. Lucie Plant Unit 1

FOR ACTION/INFORMATION DHL 5-29-75

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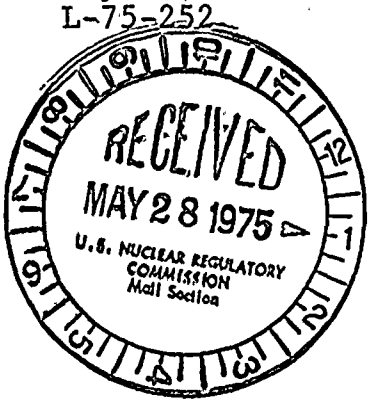
(1)

FLORIDA POWER & LIGHT COMPANY

Regulatory Docket File

May 15, 1975
L-75-252



Mr. Angelo Giambusso, Director
Division of Reactor Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Giambusso:

Re: St. Lucie Plant Unit No. 1 - Docket No. 50-335
Environmental Technical Specification Change

Florida Power & Light Company hereby submits for your review three signed originals and 40 copies of proposed revision 1 to the St. Lucie 1 Environmental Technical Specifications.

The meteorological program and the Environmental Radiological Surveillance program are currently being drafted and should be ready for submission within the next 45 days.

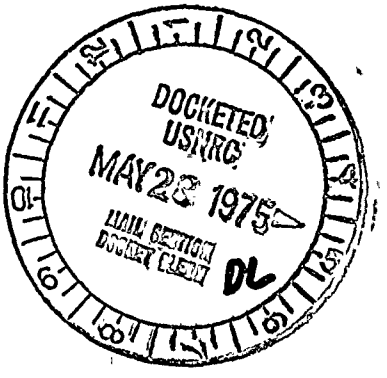
Yours very truly,

Robert E. Uhrig

Robert E. Uhrig
Vice President

REU:nch

cc: Mr. Jack R. Newman



5836

STATE OF FLORIDA)
) SS
COUNTY OF DADE)

ROBERT E. UHRIG, being first duly sworn, deposes and says:

That he is a Vice President of Florida Power & Light Company, the Applicant herein;

That he has executed the foregoing instrument; that the statements made in this said instrument are true and correct to the best of his knowledge, information and belief; and that he is authorized to execute the instrument on behalf of said Applicant.

Robert E. Uhrig

Subscribed and sworn to before me

this 15 day of May, 1975

Rebecca H. Powell

Notary Public in and for the County of Dade, State of Florida

My Commission expires NOTARY PUBLIC, STATE of FLORIDA at LARGE MY COMMISSION EXPIRES APRIL 2, 1976 BONDED THRU MAYNARD BONDING AGENCY

TABLE OF CONTENTS

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1.0 DEFINITIONS

The definitions for terms used in these environmental technical specifications are listed below.

1.1 National power emergency

Shall mean any event causing authorized Federal officials to require or request that Florida Power & Light supply electricity to points within or without the State of Florida.

1.2 A regional emergency

Shall mean any of the following occurrences within the State of Florida: (1) a catastrophic natural disaster including hurricanes, floods, and tidal waves; or (2) other emergencies declared by State, county, municipal, or Federal authorities during which an uninterrupted supply of electric power is vital to public health and safety.

1.3 Reactor emergency

Shall mean an unanticipated equipment malfunction necessitating prompt remedial action to avoid endangering the public health or safety.

1.4 Circulating water system

Comprised of the following; velocity cap, intake pipe, intake canal, discharge canal, discharge pipe, "Y" port discharge and miscellaneous mechanical devices. The recirculation canal is included, if constructed.

1.5 Frequency definitions follow:

Daily - Not less than 360 times per annum.

Weekly - Not less than 48 times per annum - interval may vary by 3 days.

Monthly - Not less than 12 times per annum - interval may vary by 15 days.

Quarterly - Not less than 4 times per annum - interval may vary by 30 days.

Semi-annually - Not less than 2 times per annum - interval may vary by 60 days.

Refueling - at refueling intervals not to exceed 24 months.

2.0 LIMITING CONDITIONS

General

2.0.1 The circulating water system shall be operated to result in an acceptable environmental impact. Flexibility of operation is permitted, consistent with consideration of health and safety, to ensure that the public is provided a dependable source of power even under unusual operating conditions which may set forth in this specification, as provided below in 2.0.2 and 2.0.3.

2.0.2 During a national power emergency, a regional emergency, reactor emergency, or any time when the health or safety, of the public may be endangered by the inability of Florida Power & Light to supply electricity from any other sources available to it, the operating limits provided in this specification shall be inapplicable. However, during such emergencies, the operating limits shall not be exceeded except as is necessitated by the emergency.

2.0.3 Whenever, in accordance with paragraphs 2.0.1 and 2.0.2 above, Florida Power & Light exceeds the operating limits otherwise imposed, notification hall be made to the Director of the Region II Regional Office of the Office of Inspection and Enforcement, in accordance with 5.6.2.a.

Rev. 1 5/15/75
FEB. 14, 1975

2.1 THERMAL

Maximum Discharge Temperature

Objective:

The purpose of this specification is to limit thermal stress to the aquatic ecosystem by limiting the temperature rise in the Atlantic Ocean, in the area of the subaqueous discharge, due to the plant discharge during operation.

Specification:

The thermal discharge of St. Lucie Unit No. 1 into the Atlantic Ocean shall be limited to a maximum of 111°F and shall not cause a temperature rise in excess of 1.5°F above ambient surface temperature outside a 400 acre zone of mixing during the months of June through September, nor a 4°F rise during the remaining months. In addition, the surface temperature conditions within the zone of mixing shall not exceed a rise of 5.5°F over ambient temperature nor a maximum temperature of 93°F as an instantaneous maximum at any point.

Thermal defouling of the intake pipeline is allowed subject to a maximum release temperature of 120°F, and a maximum surface temperature rise of 2°F.

Under the following conditions; which may be expected to cause the discharge temperature to be higher than design, the maximum discharge temperature shall be limited to 115°F: 1) Condenser and/or circulating water pump maintenance; 2) Throtling circulating water pumps to minimize use of chlorine; 3) Fouling of circulating water system.

Temporary transients due to accidental loss of circulating water system components may cause temperature rises in excess of limitations stated above. Variances due to these transients shall be limited to no more than 7 hours per month.

Monitoring Requirement:

A continuous temperature measurement system shall be installed in the discharge canal at mid-depth. Temperatures shall be transmitted to the control room.

A continuous temperature monitoring station located within 500 feet from the primary monitoring device, shall be used as a backup system if the primary system fails. In this event this station shall be checked every 8 hours until the primary system is restored. See section 3.1.A.6 for complete details of the monitoring program.

Bases:

The limitations provide reasonable assurance that the overall aquatic ecosystem in the area of the thermal plume will experience an acceptable environmental impact. The placement of the temperature monitoring instrument in the discharge canal will give the temperature of the discharge water before mixing with the receiving water.

2.2 CHEMICAL

Objective:

The purpose of these specifications is (1) to minimize impacts to the quality of the Atlantic Ocean, (2) to protect the local biota from lethal and sublethal effects of exposure to chemical discharges due to operation of the plant, (3) to assure that continued multiple use of the receiving waters by human populations is protected, and (4) to control the quality of the receiving medium.

2.2.1 Biocides

Specification:

Free available Chlorine in the discharge canal shall not exceed 0.2 mg/l on an average, or 0.5 mg/l at any one time. If this level is exceeded, adjustments to the injection system shall be made to reduce the concentration and each suceeding chlorination period shall be monitored until the concentration is within the specification.

Monitoring Requirements:

A grab sample of condenser cooling water shall be taken weekly in the discharge canal and analyzed for total residual chlorine and free available chlorine. The samples shall be taken during the period of chlorination. The time of beginning the chlorination and when the sample was taken shall be logged.

Bases:

When injected, chlorine is diluted by the cooling water and consumed in the process of controlling slime. To be sure that enough chlorine is injected to control the slime, the residual chlorine concentration will be approximately 1 mg/l at the condenser

outlet. This concentration corresponds to a concentration in the immediate vicinity of the discharge of less than 0.2 mg/l. The limits set forth provide reasonable assurance of an acceptable environmental impact.

2.2.2 pH

Specification:

The pH of the cooling water in the discharge canal shall not be less than 6.0 nor greater than 9.0 pH units.

Monitoring Requirement:

pH shall be measured on a daily basis in the discharge canal, and it shall be accomplished using either a grab sample or recorder.

Basis:

The pH limits set forth will provide reasonable assurance of an acceptable environmental impact when discharging waters to the Atlantic Ocean.

3.0 ENVIRONMENTAL SURVEILLANCE

3.1 Non-radiological Surveillance

3.1.A ABIOTIC

3.1.A.1 Biocides

Objective

The purpose of this surveillance is to monitor Total Residual Chlorine and Free Available Chlorine in the discharge canal to insure that no adverse impact on the environment is occurring.

Specification

Total Residual Chlorine and Free Available Chlorine shall be monitored in the discharge canal on a weekly basis while a condenser section is being chlorinated. See Section 2.2.1 for limiting conditions.

Reporting Requirement

Total Residual and Free Available Chlorine concentrations shall be reported in the Annual Environmental Operating Report.

3.1.A.2 Heavy Metals

Objective

The purpose of this study is to monitor heavy metals concentrations in the intake and discharge canals to detect any measurable increase in heavy metals.

Specification

Grab samples shall be taken on a monthly basis at the intake and discharge canals and analyzed for Mercury, Arsenic, Chromium, Copper, Iron, Lead, Nickel, and Zinc.

Reporting Requirement

Concentrations shall be reported in the Annual Environmental Operating Report.

3.1.A.3 pH

Objective

The purpose of this surveillance is to monitor pH in the receiving waters to insure that pH is not being raised or lowered from the specified limits, in order to prevent an adverse environmental impact.

Specification

pH shall be monitored daily using grab samples or a recorder in the discharge canal. See Section 2.2.2 for limiting conditions.

Reporting Requirements

pH measurements shall be reported in the Annual Environmental Operating Report.

3.1.A.4 Dissolved Oxygen

Objective

The purpose of this surveillance is to monitor dissolved oxygen (DO).

Specification

DO shall be monitored weekly, using grab samples, in the intake and discharge canals.

Reporting Requirements

Concentrations shall be reported in the Annual Environmental Report.

3.1.A.5 Salinity

Objective

The purpose of this specification is to measure salinity concentrations in receiving waters.

Specification

Salinity shall be monitored by grab samples on a weekly basis in the discharge canal.

Reporting Requirements

Salinity concentrations shall be reported in the Annual Environmental Operating Report.

3.1.A.6 Temperature

Objective

To provide temperature data to limit thermal stress to the aquatic ecosystem.

Specification

A continuous temperature measurement system shall monitor circulating water temperature at the intake to Unit 1 and in the discharge canal. Both intake and discharge water temperature monitors shall have an overall accuracy of 1°F. Signals shall be transmitted to the control room and displayed. The system shall have an alarm function to alert the control room operator of circulating water temperatures being at the maximum allowable limit.

A back up system shall also be operable to monitor temperatures whenever the primary system fails. The back-up system does not have to transmit temperatures to the control room. Its overall accuracy shall also be 1°F.

The maximum discharge temperature limitations shall be as described in Section 2.1.

In order to demonstrate compliance with the temperature rise limitations outside the zone of mixing, infrared aerial photography shall be employed, along with field measurements for ground truth. Four flights shall be scheduled during the first year of operation of Unit No. 1 after the unit is available for loading above 80% power level. Flights shall be spaced at approximately three month intervals, weather permitting, when the unit is operating at a power level of 80% or greater.

To demonstrate compliance with the temperature rise limitations within the zone of mixing, two self-contained recording thermographs shall be used. One thermograph shall be located at the surface of the water, at the point of maximum surface temperature of the Unit NO. 1 discharge. This point has been determined by previous modeling studies. A second thermograph shall be located at the surface near the intake velocity cap of Unit No. 1 to determine ambient temperature. These thermographs shall have a sensitivity of 0.5°F in a range from 40°F to 100°F.

Reporting Requirement

Results of this thermal monitoring program shall be summarized in the Annual Environmental Operating Report.

3.1.B BIOTIC

Objective

To determine the effects of plant operation on the planktonic, nektonic, and benthic populations of the Atlantic Ocean near the discharge during plant operation.

Specification

The biological conditions shall be assessed, 1) in terms of abundance and compositions of the marine biotic community, and 2) the relationship between certain chemical and physical properties of the waters and the character of the biological community.

The five sampling locations established during a pre-operational baseline biology program will be utilized for plankton, trawl, and benthic collections. The sampling schedule will be as follows:

a) Benthic Organisms - Benthic organisms will be collected quarterly and inventoried as to type and abundance of major taxonomic groups present.

b) Plankton - Plankton samples will be collected monthly. Both zooplankton and phytoplankton species will be identified as to kind and abundance. Chlorophyll "a" analysis will be performed as a measure of primary productivity.

c) Nektonic Organisms - Samples will be collected monthly by trawling, seining, or other suitable method. Types and numbers of organisms present will be determined, including species of migratory fish of commercial and sports fisheries value such as blue fish and mackerel.

d) Macrophytes - Macroscopic aquatic vegetation will be collected quarterly and identified as to species and abundance.

e) Water Quality - Analysis will be made on water samples taken at bottom, mid-depth, and surface levels at the same time as the biotic samples are collected. Parameters studied will be temperature, salinity, dissolved oxygen content, turbidity, and selected nutrients.

f) Migratory Sea Turtles - The species, numbers, and nesting characteristics of sea turtles that migrate in from the sea and nest along the east coast of Florida will be determined on the FPL shoreline property, and selected adjacent control areas in 1975 and 1977. In addition, control studies on temperature stress will be conducted using turtle eggs from displaced nests.

Based on the data obtained, predictions will be made on the impact of the plant's operation on baseline biological conditions and current uses of the waters.

Florida Power & Light will review the data after two years of plant operation. If effects attributable to the plant are found acceptable, the results shall be reviewed by NRC to determine if the biotic program, or any portion thereof, should be terminated.

Reporting Requirement

Results of the biological program shall be reported in the Annual Environmental Operating Report.

4.0 SPECIAL SURVEILLANCE AND SPECIAL STUDY ACTIVITIES

4.1 Entrainment of Aquatic Organisms

Objective

The purpose of this study is to assess the effects upon organisms due to passage through the plant condensers. This program will also determine the seasonal abundance of fish eggs and larvae in the intake and discharge canals compared to a control area.

Specification

Samples shall be collected from the intake and discharge canals at monthly intervals when the unit is in operation to identify the organisms involved, and to quantify how many of each organism are potentially affected.

Reporting Requirements

Results of this study shall be summarized in the Annual Environmental Report.

4.2 Impingement of Aquatic Organisms

Objective

The purpose of this study is to assess the impingement of aquatic organisms on intake screens and the environmental impact of the impingement.

Specification

Intake screens washings shall be examined for a consecutive twenty-four hour period, twice a week whenever the Unit 1 circulating water pumps are operating. The collected washings shall be analyzed for the species present, number of each individual species caught, total biomass of each species, and the average size of the individuals caught.

Reporting Requirements

Data collected shall be analyzed monthly for the first year of operation and a report sent to the NRC within 45 days of each monthly period. After the first year of operation, the data shall be analyzed every six months, and a report filed within 60 days after January 1 and July 1 of each year.

Vice President, Environmental Department on all matters related to environmental quality.

B. Membership

1. Manager, Environmental Engineering - Chairman
2. Manager, Environmental Affairs
3. Senior Environmental Engineer, Environmental Engineering
4. Power Resources Test Group Supervisor
5. Environmental Department Biologist
6. Environmental Department Senior Project Coordinator
7. Plant supervisor (Plant Involved)

C. Alternates

Alternate members shall be appointed in writing by the CERG Chairman. No more than two alternates shall participate in CERG activities at any one time.

D. Meeting Frequency

The CERG shall meet at least semiannually and as convened by the CERG Chairman or designated acting Chairman.

E. Quorum

A quorum of the CERG shall consist of the Chairman, or designated acting Chairman and three members including alternates.

F. Responsibilities

1. Review of all Environmental Department procedures required by Environmental Technical Specifications and changes thereto. Review of any other proposed procedures or changes thereto determined by the Plant Manager to potentially affect the environment.
2. Review results of the environmental monitoring programs prior to their submittal to the NRC.
3. Review of all proposed test and experiments determined by the Plant Manager to potentially affect the environment.

5.4.4 Each instance whereby a Limiting Condition is exceeded shall be reported to the Company Nuclear Review Board.

5.4.5 A report for each occurrence shall be prepared as specified in Section 5.6.2.

5.5 Procedures

5.5.1 Detailed written procedures, including applicable check lists and instructions, shall be prepared and followed for activities involved in carrying out the environmental technical specifications. Procedures shall include sampling, data recording and storage, instrument calibration, measurements and analyses, and actions to be taken when limits are exceeded. Testing frequency of any alarms shall be included.

5.5.2 Plant operating procedures shall include provisions to ensure that plant systems and components are operated in compliance with the environmental technical specifications.

5.6 Reporting Requirements

5.6.1 Routine Reports

Annual Environmental Operating Report

A report on the environmental surveillance programs for the previous 12 months of operation shall be submitted to the Director of the Regional Office of Inspection and Enforcement with a copy to the Director of the Office of Inspection and Enforcement within 90 days after January 1 of each year. The period of the first report shall begin with the date of initial criticality. The report shall include summaries and interpretations of the results of the environmental monitroing programs required by Limiting Conditions for Operation. This should also include a comparison with preoperational studies, operational controls (as appropriate), and previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. If harmful effects or evidence or irreversible damage are detected by the monitoring, the licensee shall provide an analysis of the problem and a proposed course of action to alleviate the problem.

Results of the radiological environmental monitoring program should be summarized on an annual basis following the format shown in Table 1 of Guide 4.8. Missing data shall be discussed in this summary.

A report on the radioactive discharges released from the site during the previous 12 months of operation shall include the following:

Analyses of Effluent releases from sections 2.4.1 and 2.4.3 shall be summarized on a quarterly basis and reported on the format similar to Table 5.6.1-A, B, C, & D.

Supplemental information shall be included covering topics similar to those itemized in Data Sheet 5.6.1-1.

Abnormal releases should be handled as batch releases for accounting purposes and also reported as shown on Data Sheet 5.6.1-1 according to 5.6.2.

Solid wastes shall be summarized on a quarterly basis and reported in a format similar to that of Table 5.6.2-E.

The following information should be reported for shipments of solid waste and irradiated fuel transported from the site during the report period:

1. The annual total quantity in cubic meters and the annual total radioactivity in curies for the categories or types of waste.

    a. Spent resins, filter sludges, evaporator bottoms;
    b. Dry compressible waste, contaminated equipment, etc.;
    c. Irradiated components, control rods, etc.;
    d. Other (furnish description).

2. An estimate of the total activity in the categories of waste in 1) above.

3. The disposition of solid waste shipments. (Identify the number of shipments, the mode of transport, and the destination).

4. The disposition of irradiated fuel shipments. (Identify the number of shipments, the mode of transport, and the destination).

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