

November 18, 1993

Docket Nos. 50-250
and 50-251

DISTRIBUTION
See attached sheet

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 - ISSUANCE OF AMENDMENTS RE:
RADIOLOGICAL EFFLUENT RELEASES - 10 CFR 20 REQUIREMENTS
(TAC NOS. M87043 AND M87044)

The Commission has issued the enclosed Amendment No. 157 to Facility Operating License No. DPR-31 and Amendment No. 151 to Facility Operating License No. DPR-41 for the Turkey Point Plant, Units Nos. 3 and 4, respectively. The amendments consist of changes to the Technical Specifications in response to your application dated July 20, 1993 to implement new 10 CFR 20 requirements relating to radiological effluent releases. The amendments also change the frequency of reporting the release of radioactive effluents from semi-annual to annual, in accordance with 10 CFR 50.36a.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,



L. Raghavan, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 157 to DPR-31
2. Amendment No. 151 to DPR-41
3. Safety Evaluation

cc w/enclosures:

See next page *See previous concurrence

OFC :LA:PDII-2 :PM:PDII-2 :D:PDII-2 :OGC * :PRPB * :

NAME :E. Tana :L. Raghavan:H. Berkow : S. Horn :LCunningham:

DATE :10/15/93:10/16/92 :10/17/93 :10/5/93 :10/5/93 :

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PDR ADOCK 05000250
P PDR

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A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,



L. Raghavan, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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- 3. Safety Evaluation

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See next page

OFC :LA:PDII-2 :PM:PDII-2 :D:PDII-2 :OGC :PRRB :
 NAME :E. Tana :L. Raghavan:H. Bellows :S. Horn :LCunningham:
 DATE :10/19/93:10/20/93 :10/20/93 :10/05/93 :10/28/93 :
ETT *change to letter* *and ASE*

OFFICIAL RECORD COPY

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

Turkey Point Plant

cc:
Harold F. Reis, Esquire
Newman and Holtzinger, P.C.
1615 L Street, N.W.
Washington, DC 20036

Mr. Joe Myers, Director
Division of Emergency Preparedness
Department of Community Affairs
2740 Centerview Drive
Tallahassee, Florida 32399-2100

Jack Shreve, Public Counsel
Office of the Public Counsel
c/o The Florida Legislature
111 West Madison Avenue, Room 812
Tallahassee, Florida 32399-1400

Regional Administrator,
Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W. Suite 2900
Atlanta, Georgia 30323

John T. Butler, Esquire
Steel, Hector and Davis
4000 Southeast Financial Center
Miami, Florida 33131-2398

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, Florida 32304

Mr. Thomas F. Plunkett, Site
Vice President
Turkey Point Nuclear Plant
Florida Power and Light Company
P.O. Box 029100
Miami, Florida 33102

Plant Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
P.O. Box 029100
Miami, Florida 33102

Joaquin Avino
County Manager of Metropolitan
Dade County
111 NW 1st Street, 29th Floor
Miami, Florida 33128

Mr. H. N. Paduano, Manager
Licensing & Special Projects
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

Senior Resident Inspector
Turkey Point Nuclear Generating
Station
U.S. Nuclear Regulatory Commission
P.O. Box 1448
Homestead, Florida 33090

Mr. Bill Passeti
Office of Radiation Control
Department of Health and
Rehabilitative Services
1317 Winewood Blvd.
Tallahassee, Florida 32399-0700

FILENAME: November 18, 1993
DATED: _____

AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO. DPR-31-TURKEY POINT UNIT 3
AMENDMENT NO. 151 TO FACILITY OPERATING LICENSE NO. DPR-41-TURKEY POINT UNIT 4

Distribution

Docket File

NRC & Local PDRs
PDII-2 Reading
S. Varga, 14/E/4
H. Berkow
E. Tana
L. Raghavan
OGC
D. Hagan, 3302 MNBB
G. Hill (2), P-137
C. Grimes, 11/F/23
ACRS (10)
OPA
OC/LFDCB
M. Sinkule, R-II

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-250

TURKEY POINT PLANT UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 157
License No. DPR-31

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power and Light Company (the licensee) dated July 20, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

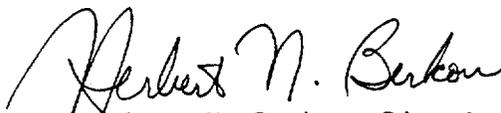
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-31 is hereby amended to read as follows:

(B) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 157, are hereby incorporated in the license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented by January 1, 1994.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 18, 1993



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-251

TURKEY POINT PLANT UNIT NO. 4

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 151
License No. DPR-41

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power and Light Company (the licensee) dated July 20, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-41 is hereby amended to read as follows:

(B) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 151, are hereby incorporated in the license. The Environmental Protection Plan contained in Appendix B is hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented by January 1, 1994.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 18, 1993

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 157 FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 151 FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

Revise Appendix A as follows:

Remove pages

xxiii
1-3
1-5
1-6
3/4 3-50
3/4 3-54
3/4 11-1
3/4 11-16
3/4 11-18
B 3/4 11-1 thru B 3/4 11-7
5-1
5-2
6-16
6-18
6-19
6-22
6-23
6-24

Insert pages

xxiii
1-3
1-5
1-6
3/4 3-50
3/4 3-54
3/4 11-1
3/4 11-16
3/4 11-18
B 3/4 11-1 thru B 3/4 11-7
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DEFINITIONS

FREQUENCY NOTATION

1.12 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.

GAS DECAY TANK SYSTEM

1.13 A GAS DECAY TANK SYSTEM shall be any system designed and installed to reduce radioactive gaseous effluents by collecting Reactor Coolant System off gases from the Reactor Coolant System and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

IDENTIFIED LEAKAGE

1.14 IDENTIFIED LEAKAGE shall be:

- a. Leakage (except CONTROLLED LEAKAGE) into closed systems, such as pump seal or valve packing leaks that are captured and conducted to a sump or collecting tank, or
- b. Leakage into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of Leakage Detection Systems or not to be PRESSURE BOUNDARY LEAKAGE, or
- c. Reactor Coolant System leakage through a steam generator to the Secondary Coolant System.

MEMBER(S) OF THE PUBLIC

1.15 MEMBER(S) OF THE PUBLIC shall mean individual(s) in a controlled or unrestricted area. However, an individual is not a member of the public during any period in which the individual receives an occupational dose.

OFFSITE DOSE CALCULATION MANUAL

1.16 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses due to radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring Alarm/Trip Setpoints, and in the conduct of the Environmental Radiological Monitoring Program.

DEFINITIONS

QUADRANT POWER TILT RATIO

1.23 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. With one excore detector inoperable, the remaining three detectors shall be used for computing the average.

RATED THERMAL POWER

1.24 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 2200 Mwt.

REPORTABLE EVENT

1.25 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 of 10 CFR Part 50.

SHUTDOWN MARGIN

1.26 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full-length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

SITE BOUNDARY

1.27 The SITE BOUNDARY shall mean that line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee.

SOLIDIFICATION

1.28 SOLIDIFICATION shall be the conversion of wet wastes into a form that meets shipping and burial ground requirements.

SOURCE CHECK

1.29 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a source of increased radioactivity.

STAGGERED TEST BASIS

1.30 A STAGGERED TEST BASIS shall consist of:

- a. A test schedule for n systems, subsystems, trains, or other designated components obtained by dividing the specified test interval into n equal subintervals, and
- b. The testing of one system, subsystem, train, or other designated component at the beginning of each subinterval.

DEFINITIONS

THERMAL POWER

1.31 THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

TRIP ACTUATING DEVICE OPERATIONAL TEST

1.32 A TRIP ACTUATING DEVICE OPERATIONAL TEST shall consist of operating the Trip Actuating Device and verifying OPERABILITY of alarm, interlock and/or trip functions. The TRIP ACTUATING DEVICE OPERATIONAL TEST shall include adjustment, as necessary, of the Trip Actuating Device such that it actuates at the required setpoint within the required accuracy.

UNIDENTIFIED LEAKAGE

1.33 UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE or CONTROLLED LEAKAGE.

UNRESTRICTED AREA

1.34 An UNRESTRICTED AREA shall mean an area, access to which is neither limited nor controlled by the licensee.

VENTILATION EXHAUST TREATMENT SYSTEM

1.35 A VENTILATION EXHAUST TREATMENT SYSTEM shall be any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal absorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Features Atmospheric Cleanup Systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

VENTING

1.36 VENTING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration, or other operating condition, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

DIGITAL CHANNEL OPERATIONAL TEST

1.37 A DIGITAL CHANNEL OPERATIONAL TEST shall be the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY of alarm, interlock, and/or trip functions.

INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.5 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-7 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded. The Alarm/Trip Setpoints of these channels shall be determined and adjusted in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

APPLICABILITY: At all times, except as indicated in Table 3.3-7.

ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification, immediately suspend the release of radioactive liquid effluents monitored by the affected channel or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-7. Restore the inoperable instrumentation to OPERABLE status within 30 days and, if unsuccessful, explain in the next Annual Radioactive Effluent Release Report pursuant to Specification 6.9.1.4 why this inoperability was not corrected in a timely manner.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.5 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-5.

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.6 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3-8 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specification 3.11.2.1 and 3.11.2.5 are not exceeded. The Alarm/Trip Setpoints of these channels meeting Specification 3.11.2.1 shall be determined and adjusted in accordance with the methodology and parameters in the ODCM.

APPLICABILITY: As shown in Table 3.3-8

ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification, immediately suspend the release of radioactive gaseous effluents monitored by the affected channel, or declare the channel inoperable or change the setpoint so it is acceptably conservative.
- b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-8. Restore the inoperable instrumentation to OPERABLE status within 30 days and, if unsuccessful explain in the next Annual Radioactive Effluent Release Report pursuant to Specification 6.9.1.4 why this inoperability was not corrected in a timely manner.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.6 Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-6.

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID EFFLUENTS

CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.11.1.1 The concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS (see Figure 5.1-1) shall be limited to 10 times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} microCurie/ml total activity.

APPLICABILITY: At all times.

ACTION:

With the concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS exceeding the above limits, immediately restore the concentration to within the above limits.

SURVEILLANCE REQUIREMENTS

4.11.1.1.1 Radioactive liquid wastes shall be sampled and analyzed according to the sampling and analysis program of Table 4.11-1.

4.11.1.1.2 The results of the radioactivity analyses shall be used in accordance with the methodology and parameters in the ODCM to assure that the concentrations at the point of release are maintained within the limits of Specification 3.11.1.1.

RADIOACTIVE EFFLUENTS

GAS DECAY TANKS

LIMITING CONDITION FOR OPERATION

3.11.2.6 The quantity of radioactivity contained in each gas decay tank shall be limited to less than or equal to 70,000 Curies of noble gases (considered as Xe-133 equivalent).

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any gas decay tank exceeding the above limit, immediately suspend all additions of radioactive material to the tank, within 48 hours reduce the tank contents to within the limit, and describe the events leading to this condition in the next Annual Radioactive Effluent Release Report, pursuant to Specification 6.9.1.4.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.6 The quantity of radioactive material contained in each gas decay tank shall be determined to be within the above limit at least once per 24 hours when radioactive materials are being added to the tank and the Reactor Coolant System total activity exceeds the limit of Specification 3.4.8.

RADIOACTIVE EFFLUENTS

3/4.11.4 TOTAL DOSE

LIMITING CONDITION FOR OPERATION

3.11.4 The annual (calendar year) dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources shall be limited to less than or equal to 25 mrems to the whole body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrems.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated doses from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specification 3.11.1.2a., 3.11.1.2b., 3.11.2.2a., 3.11.2.2b., 3.11.2.3a., or 3.11.2.3b., calculations shall be made including direct radiation contributions from the units to determine whether the above limits of Specification 3.11.4 have been exceeded. If such is the case, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that defines the corrective action to be taken to reduce subsequent releases to prevent recurrence of exceeding the above limits and includes the schedule for achieving conformance with the above limits. This Special Report, as defined in 10 CFR 20.2203(a)(4), shall include an analysis that estimates the radiation exposure (dose) to a MEMBER OF THE PUBLIC from uranium fuel cycle sources, including all effluent pathways and direct radiation, for the calendar year that includes the release(s) covered by this report. It shall also describe levels of radiation and concentrations of radioactive material involved, and the cause of the exposure levels or concentrations. If the estimated dose(s) exceeds the above limits, and if the release condition resulting in violation of 40 CFR Part 190 has not already been corrected, the Special Report shall include a request for a variance in accordance with the provisions of 40 CFR Part 190. Submittal of the report is considered a timely request, and a variance is granted until staff action on the request is complete.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.4.1 Cumulative dose contributions from liquid and gaseous effluents shall be determined in accordance with Specifications 4.11.1.2, 4.11.2.2, and 4.11.2.3, and in accordance with the methodology and parameters in the ODCM.

4.11.4.2 Cumulative dose contributions from direct radiation from the units and the methodology used shall be indicated in the Annual Radioactive Effluent Release Report. This requirement is applicable only under conditions set forth in ACTION a. of Specification 3.11.4.

3/4.11 RADIOACTIVE EFFLUENTS

BASES

INTRODUCTION

The radioactive effluent controls set forth in the Technical Specifications are designed to allow operational flexibility but still maintain releases and doses "as low as is reasonably achievable"; that is, within the objectives of Appendix I, 10 CFR Part 50 and comply with the limits in 10 CFR 20.1302.

The methods specified in the OFFSITE DOSE CALCULATION MANUAL (ODCM) for calculating doses due to planned or actual releases are consistent with the guidance and methods provided in:

Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977.

Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water Cooled Reactors," Revision 1, July 1977.

Regulatory Guide 1.113, "Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I," April 1977.

The required detection capabilities for radioactive materials in liquid and gaseous waste samples are tabulated in terms of the lower limits of detection (LDDs). Detailed discussion of the LLD, and other detection limits, can be found in Currie, L. A., "Lower Limit of Detection: Definition and Elaboration of a Proposed Position for Radiological Effluent and Environmental Measurements," NUREG/CR-4077 (September 1984), in HASL Procedures Manual, HASL-300 and in Hartwell, J. K., "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA-215 (June 1975).

3/4.11.1 LIQUID EFFLUENTS

3/4.11.1.1 CONCENTRATION

This specification applies to the release of radioactive materials in liquid effluents from all units at the site.

The specification of "10 times the concentration levels specified in 10 CFR Part 20, Appendix B, Table 2, Column 2" provides the datum against which the liquid effluent monitor setpoints are determined pursuant to Specification 3.3.3.5. In essence, Specification 3.11.1.1 is an instantaneous limit.

The concentration limit for "dissolved or entrained noble gases" is based upon the assumption that Xe-135 is the controlling radioisotope and its MPC in air (submersion) was converted to an equivalent concentration in water using the methods described in International Commission on Radiological Protection (ICRP) Publication 2.

RADIOACTIVE EFFLUENTS

BASES

CONCENTRATION (Continued)

Adherence to Specifications 3.11.1.2 and 3.11.1.3 provide assurance that levels of radioactive materials in bodies of water in UNRESTRICTED AREAS will, on the average, be a small fraction of the concentration limits and result in exposures to MEMBERS OF THE PUBLIC within the objectives of Appendix I of 10 CFR Part 50 and 40 CFR 190.

Specification 3.11.1.1 permits the flexibility of operation, compatible with considerations of health and safety, to provide a dependable source of power even under circumstances that temporarily result in elevated releases, but still within the limit as specified in 10 CFR Part 20.1302 (b)(2)(ii).

3/4.11.1.2 DOSE

This specification applies to the release of radioactive materials in liquid effluents from each unit at the site. For units with shared Radwaste Systems, the liquid effluents from the shared system are to be proportional among the units sharing that system.

This specification is provided to implement the requirements of Appendix I, 10 CFR Part 50. The Limiting Condition for Operation implements the guides set forth in Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Appendix I to assure that the releases of radioactive material in liquid effluents to UNRESTRICTED AREAS will be kept "as low as is reasonably achievable." The dose calculation methodology and parameters in the ODCM implement the requirements in Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data, such that the actual exposure of a MEMBER OF THE PUBLIC through appropriate pathways is unlikely to be substantially underestimated. The equations specified in the ODCM for calculating the doses due to the actual release rates of radioactive materials in liquid effluents are consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.113, "Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I," April 1977.

3/4.11.1.3 LIQUID RADWASTE TREATMENT SYSTEM

This specification applies to the release of radioactive materials in liquid effluents from each unit at the site. For units with shared Radwaste Systems, the liquid effluents from the shared system are to be proportioned among the units sharing that system.

The OPERABILITY of the Liquid Radwaste Treatment System ensures that this system will be available for use whenever liquid effluents require treatment prior to release to the environment. The requirement that the appropriate portions of this system be used when specified provides assurance that the

RADIOACTIVE EFFLUENTS

BASES

LIQUID RADWASTE TREATMENT SYSTEM (Continued)

releases of radioactive materials in liquid effluents will be kept "as low as is reasonably achievable." This specification implements the requirements of 10 CFR 50.36a, General Design Criterion 60 of Appendix A to 10 CFR Part 50 and the objectives given in Section II.D of Appendix I to 10 CFR Part 50. The specified limits governing the use of appropriate portions of the Liquid Radwaste Treatment System were specified as a suitable fraction of the dose design objectives set forth in Appendix I, 10 CFR Part 50 for liquid effluents.

3/4.11.2 GASEOUS EFFLUENTS

3/4.11.2.1 DOSE RATE

This specification applies to the release of radioactive materials in gaseous effluents from all units at the site.

The specified gamma and beta dose rates, above background, provides the datum against which the gaseous effluent monitor setpoints are determined, using the methods described in the ODCM, pursuant to Specification 3.3.3.6. In essence, Specification 3.11.2.1 is an instantaneous limit.

Adherence to Specifications 3.11.2.2 through 3.11.2.5 provide assurance that levels of radioactive materials in air in UNRESTRICTED AREAS will, on the average, be a small fraction of the concentration limits and result in exposures to MEMBERS OF THE PUBLIC within the objectives of Appendix I to 10 CFR Part 50 and 40 CFR 190.

Specification 3.11.2.1 permits the flexibility of operation, compatible with considerations of health and safety, to provide a dependable source of power even under circumstances that temporarily result in elevated releases, but still within the limit as specified in 10 CFR Part 20.1302 (b)(2)(ii).

3/4.11.2.2 DOSE - NOBLE GASES

This specification applies to the release of radioactive materials in gaseous effluents from each unit at the site. For units with shared radwaste treatment systems, the gaseous effluents from the shared system are proportioned among the units sharing that system.

This specification is provided to implement the requirements of Appendix I, 10 CFR Part 50. The Limiting Condition for Operation implements the guides set forth in Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Appendix I to assure that the releases of radioactive material in gaseous effluents to UNRESTRICTED AREAS will be kept "as low as is reasonably achievable." The Surveillance Requirements implement the requirements in Appendix I that

RADIOACTIVE EFFLUENTS

BASES

DOSE - NOBLE GASES (Continued)

conformance with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of a MEMBER OF THE PUBLIC through appropriate pathways is unlikely to be substantially underestimated. The dose calculation methodology and parameters established in the ODCM for calculating the doses due to the actual release rates of radioactive noble gases in gaseous effluents are consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water Cooled Reactors," Revision 1, July 1977. The ODCM equations provided for determining the air doses at and beyond the SITE BOUNDARY are based upon the historical average atmospheric conditions.

3/4.11.2.3 DOSE - IODINE-131, IODINE-133, TRITIUM, AND RADIOACTIVE MATERIAL IN PARTICULATE FORM

This specification applies to the release of radioactive materials in gaseous effluents from each unit at the site. For units with shared radwaste treatment systems, the gaseous effluents from the shared system are proportioned among the units sharing that system.

This specification is provided to implement the requirements of Appendix I, 10 CFR Part 50. The Limiting Conditions for Operation are the guides set forth in Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Appendix I to assure that the releases of radioactive materials in gaseous effluents to UNRESTRICTED AREAS will be kept "as low as is reasonably achievable." The ODCM calculational methods specified in the Surveillance Requirements implement the requirements in Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of a MEMBER OF THE PUBLIC through appropriate pathways is unlikely to be substantially underestimated. The ODCM calculational methodology and parameters for calculating the doses due to the actual release rates of the subject materials are consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors," Revision 1, July 1977. These equations also provide for determining the actual doses based upon the historical average atmospheric conditions. The release rate specifications for Iodine-131, Iodine-133, tritium, and radionuclides in particulate form with half-lives greater than 8 days are dependent upon the existing radionuclide pathways to man in the areas at and beyond the SITE BOUNDARY. The pathways that were examined in the development of the calculations were: (1) individual inhalation of airborne radionuclides, (2) deposition of radionuclides onto green

RADIOACTIVE EFFLUENTS

BASES

DOSE - IODINE-131, IODINE-133, TRITIUM, AND RADIOACTIVE MATERIAL IN PARTICULATE FORM (Continued)

leafy vegetation with subsequent consumption by man, (3) deposition onto grassy areas where milk animals and meat producing animals graze with consumption of the milk and meat by man, and (4) deposition on the ground with subsequent exposure of man.

3/4.11.2.4 GASEOUS RADWASTE TREATMENT SYSTEM

This specification applies to the release of radioactive materials in gaseous effluents from each unit at the site. For units with shared radwaste treatment systems, the gaseous effluents from the shared system are proportioned among the units sharing that system.

The OPERABILITY of the GAS DECAY TANK SYSTEM and the VENTILATION EXHAUST TREATMENT SYSTEM ensures that the systems will be available for use whenever gaseous effluents require treatment prior to release to the environment. The requirement that the appropriate portions of these systems be used, when specified, provides reasonable assurance that the releases of radioactive materials in gaseous effluents will be kept "as low as is reasonably achievable." This specification implements the requirements of 10 CFR 50.36a, General Design Criterion 60 of Appendix A to 10 CFR Part 50 and the objectives given in Section II.D of Appendix I to 10 CFR Part 50. The specified limits governing the use of appropriate portions of the systems were specified as a suitable fraction of the dose objectives set forth in Appendix I, 10 CFR Part 50, for gaseous effluents.

3/4.11.2.5 EXPLOSIVE GAS MIXTURE

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the GAS DECAY TANK SYSTEM (as measured in the inservice gas decay tank) is maintained below the flammability limits of hydrogen and oxygen. Maintaining the concentration of hydrogen and oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

3/4 11.2.6 GAS DECAY TANKS

The tanks included in this specification are those tanks for which the quantity of radioactivity contained is not limited directly or indirectly by another Technical Specification. Restricting the quantity of radioactivity contained in each Gas Decay Tank provides assurance that in the event of an uncontrolled release of the tank's contents, the resulting whole body exposure to a MEMBER OF THE PUBLIC at the nearest SITE BOUNDARY will not exceed 0.5 rem.

RADIOACTIVE EFFLUENTS

BASES

3/4.11.3 SOLID RADIOACTIVE WASTES

This specification implements the requirements of 10 CFR 50.36a and General Design Criterion 60 of Appendix A to 10 CFR Part 50. The process parameters included in establishing the PROCESS CONTROL PROGRAM may include, but are not limited to, waste type, waste pH, waste/liquid/SOLIDIFICATION agent/catalyst ratios, waste oil content, waste principal chemical constituents, and mixing and curing times. These requirements apply to dewatering to meet the requirements of the licensed consignee of the shipment.

3/4.11.4 TOTAL DOSE

This specification is provided to meet the dose limitations of 40 CFR Part 190 that have been incorporated into 10 CFR 20.1301(d). The specification requires the preparation and submittal of a Special Report whenever the calculated doses due to releases of radioactivity and to radiation from uranium fuel cycle sources exceed 25 mrems to the whole body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrems. For sites containing up to four reactors, it is highly unlikely that the resultant dose to a MEMBER OF THE PUBLIC will exceed the dose limits of 40 CFR Part 190 if the individual reactors remain within twice the dose design objectives of Appendix I, and if direct radiation doses from the units are kept small. The Special Report will describe a course of action that should result in the limitation of the annual dose to a MEMBER OF THE PUBLIC to within the 40 CFR Part 190 limits. For the purposes of the Special Report, it may be assumed that the dose commitment to the MEMBER of the PUBLIC from other uranium fuel cycle sources is negligible, with the exception that dose contributions from other nuclear fuel cycle facilities at the same site or within a radius of 8 km must be considered. If the dose to any MEMBER OF THE PUBLIC is estimated to exceed the requirements of 40 CFR Part 190, the Special Report with a request for a variance (provided the release conditions resulting in violation of 40 CFR Part 190 have not already been corrected), in accordance with the provisions of 40 CFR 190.11 and 10 CFR 20.2203, is considered to be a timely request and fulfills the requirements of 40 CFR Part 190 until NRC staff action is completed. The variance only relates to the limits of 40 CFR Part 190, and does not apply in any way to the other requirements for dose limitation of 10 CFR Part 20, as addressed in Specifications 3.11.1.1 and 3.11.2.1. An individual is not considered a MEMBER OF THE PUBLIC during any period in which he/she is engaged in carrying out any operation that is part of the nuclear fuel cycle.

5.0 DESIGN FEATURES

5.1 SITE

EXCLUSION AREA

5.1.1 The Exclusion Area shall be as shown in Figure 5.1-1.

LOW POPULATION ZONE

5.1.2 The Low Population Zone shall be as shown in Figure 5.1-1.

MAP DEFINING UNRESTRICTED AREAS AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS

5.1.3 Information regarding radioactive gaseous and liquid effluents, which will allow identification of structures and release points shall be as shown in Figure 5.1-2. The UNRESTRICTED AREAS and SITE BOUNDARY shall be as shown in Figure 5.1-1.

5.2 CONTAINMENT

CONFIGURATION

5.2.1 The containment building is a steel-lined, reinforced concrete building of cylindrical shape, with a dome roof and having the following design features:

- a. Nominal inside diameter = 116 feet.
- b. Nominal inside height = 170.6 feet.
- c. Minimum thickness of concrete walls = 3.75 feet.
- d. Minimum thickness of concrete roof = 3.25 feet.
- e. Minimum thickness of concrete floor pad = 10.5 feet.
- f. Nominal thickness of steel liner = 0.25 inches.
- g. Nominal net free volume = 1,550,000 cubic feet.

DESIGN PRESSURE AND TEMPERATURE

5.2.2 The containment building is designed and shall be maintained for a maximum internal pressure of 59 psig and a temperature of 283°F. The containment building is also structurally designed to withstand an internal vacuum of 2.5 psig.

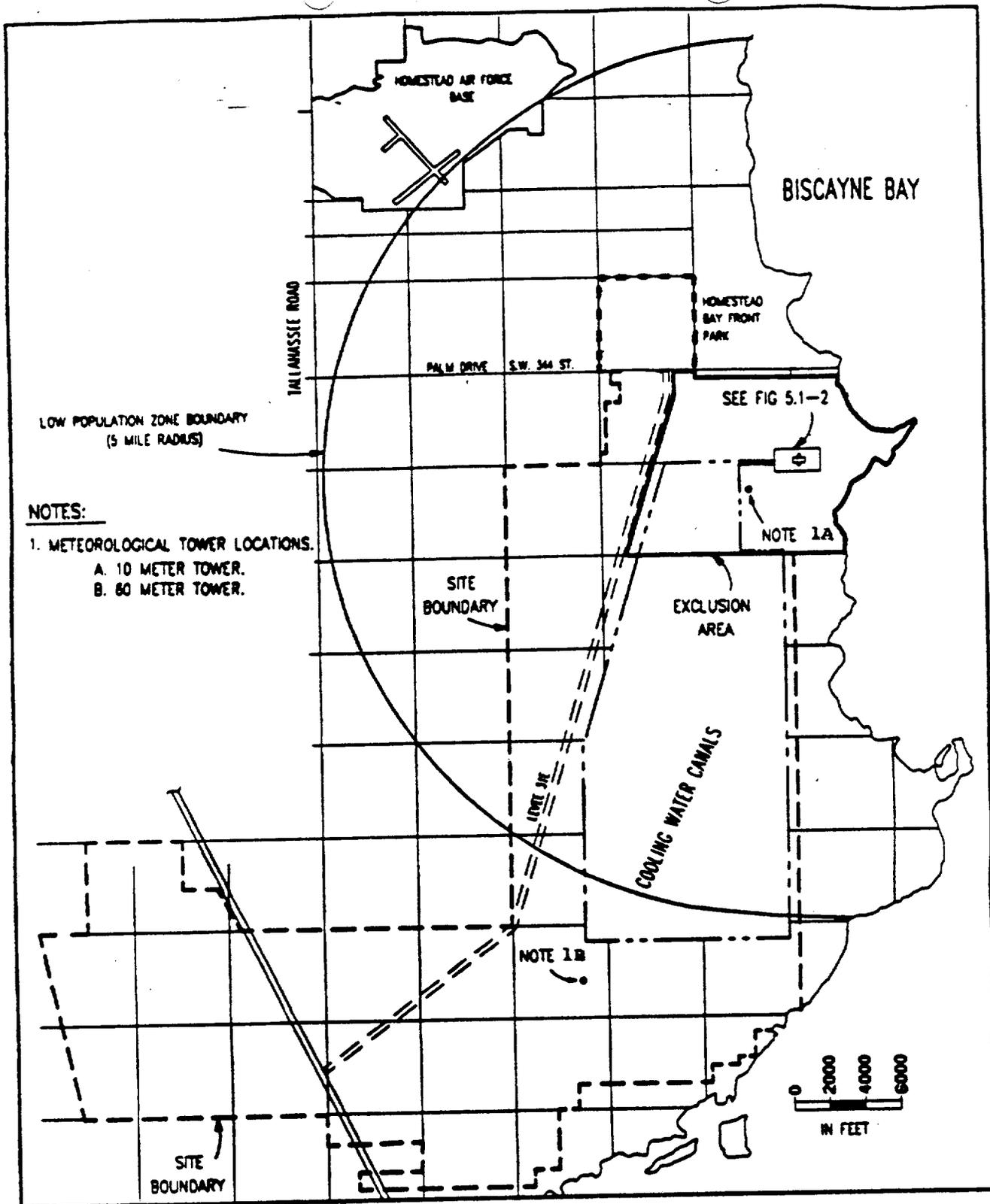


FIGURE 5.1-1 SITE AREA MAP

STARTUP REPORT (Continued)

The report shall address each of the tests identified in the FSAR and shall in general include a description of the measured values of the operating conditions of characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report. Subsequent Startup Reports shall address startup tests that are necessary to demonstrate the acceptability of changes and/or modifications.

Startup Reports shall be submitted within: (1) 90 days following completion of the Startup Test Program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of Startup Test Program, and resumption or commencement of commercial operation), supplementary reports shall be submitted at least every 3 months until all three events have been completed.

ANNUAL REPORTS*

6.9.1.2 Annual Reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year.

Reports required on an annual basis shall include:

- a. A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) for whom monitoring was required, receiving annual deep dose equivalent exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions** (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling). The dose assignments to various duty functions may be estimated based on pocket dosimeter, thermoluminescent dosimeter (TLD), or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total deep dose equivalent received from external sources should be assigned to specific major work functions;
- b. The results of specific activity analyses in which the primary coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded (in graphic and tabular format); (2) Fuel burnup by core region; (3) Clean-up flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) History of degassing operations, if any, starting 48 hours prior to the first sample in which the limit was exceeded; and (5) The time duration when the specific activity of the primary coolant exceeded 1.0 microcurie per gram DOSE EQUIVALENT I-131.

*A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

**This tabulation supplements the requirements of § 20.2206 of 10 CFR Part 20.

ADMINISTRATIVE CONTROLS

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT*

6.9.1.4 An Annual Radioactive Effluent Release Report covering the operation of the unit during the previous 12 months of operation shall be submitted by April 1 of each year.

The Annual Radioactive Effluent Release Report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof. For solid wastes, the format for Table 3 in Appendix B shall be supplemented with three additional categories: class of solid wastes (as defined by 10 CFR Part 61), type of container (e.g., strong tight package, Type A, Type B) and SOLIDIFICATION agent or absorbent (e.g., cement).

The Annual Radioactive Effluent Release Report to be submitted by April 1 of each year shall include an annual summary of hourly meteorological data collected over the previous year. This annual summary may be either in the form of an hour-by-hour listing on magnetic tape of wind speed, wind direction, atmospheric stability, and precipitation (if measured), or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.** This same report shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. This same report shall also include an assessment of the radiation doses from radioactive liquid and gaseous effluents to MEMBERS OF THE PUBLIC due to their activities inside the SITE BOUNDARY (Figure 5.1-1) during the report period. All assumptions used in making these assessments, i.e., specific activity, exposure time, and location, shall be included in these reports. The meteorological conditions concurrent with the time of release of radioactive materials in gaseous effluents, as determined by sampling frequency and measurement, shall be used for determining the gaseous pathway doses. Approximate and conservative methods may be used in lieu of actual meteorological measurements. The assessment of radiation doses shall be performed in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

*A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

**In lieu of submission with the Annual Radioactive Effluent Release Report, the licensee has the option of retaining this summary of required meteorological data on site in a file that shall be provided to the NRC upon request.

ADMINISTRATIVE CONTROLS

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (Continued)

The Annual Radioactive Effluent Release Report to be submitted by April 1 of each year shall also include an assessment of radiation doses to the likely most exposed MEMBER OF THE PUBLIC from reactor releases from the previous calendar year and other nearby uranium fuel cycle sources, including doses from primary effluent pathways and direct radiation, for the previous calendar year to show conformance with 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operation." Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Revision 1, October 1977.

The Annual Radioactive Effluent Release Report shall include a list and description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The Annual Radioactive Effluent Release Report shall include any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) and to the OFFSITE DOSE CALCULATION MANUAL (ODCM), pursuant to Specifications 6.13 and 6.14, respectively, as well as any major change to Liquid, Gaseous, or Solid Radwaste Treatment Systems pursuant to Specification 6.15. It shall also include a listing of new locations for dose calculations and/or environmental monitoring identified by the Land Use Census pursuant to Specification 3.12.2.

The Annual Radioactive Effluent Release Report shall also include the following: an explanation as to why the inoperability of liquid or gaseous effluent monitoring instrumentation was not corrected within the time specified in Specification 3.3.3.5 or 3.3.3.6, respectively; and description of the events leading to liquid holdup tanks or gas storage tanks exceeding the limits of Specification 3.11.1.4 or 3.11.2.6.

MONTHLY OPERATING REPORTS

6.9.1.5 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORVs or safety valves, shall be submitted on a monthly basis to the U.S. Nuclear Regulatory Commission, Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator of the Regional Office of the NRC, no later than the 15th of each month following the calendar month covered by the report.

PEAKING FACTOR LIMIT REPORT

6.9.1.6 The $W(Z)$ function(s) for Base-Load Operation corresponding to a $\pm 2\%$ band about the target flux difference and/or a $\pm 3\%$ band about the target flux difference, the Load-Follow function $F_z(Z)$ and the augmented surveillance turnon power fraction, P_T , shall be provided to the U.S. Nuclear Regulatory Commission, whenever P_T is < 1.0 . In the event, the option of Baseload Operation (as defined in Section 4.2.2.3) will not be exercised, the submission of the $W(Z)$ function is not required. Should these values (i.e., $W(Z)$, $F_z(Z)$ and P_T) change requiring a new submittal or an amended submittal to the Peaking

RADIATION PROGRAM PROTECTION (Continued)

maintained, and adhered to for all operations involving personnel radiation exposure.

6.12 HIGH RADIATION AREA

6.12.1 Pursuant to paragraph 20.1601(c) of 10 CFR Part 20, in lieu of the "control device" or "alarm signal" required by paragraph 20.1601(a), each high radiation area, as defined in 10 CFR Part 20, in which the intensity of radiation is equal to or less than 1000 mrem/hr at 30 cm (12 in.) from the radiation source or from any surface which the radiation penetrates shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., Health Physics Technician) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates equal to or less than 1000 mrem/hr, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area; or
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them; or
- c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the Health Physics Shift Supervisor in the RWP.

6.12.2 In addition to the requirements of Specification 6.12.1, areas accessible to personnel with radiation levels greater than 1000 mrem/hr at 30 cm (12 in.) and less than 500 rads/hr at 1 meter from the radiation source or from any surface which the radiation penetrates shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the shift supervisor on duty and/or health physics supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP which shall specify the dose rate levels in the immediate work areas and the maximum allowable stay time for individuals in that area. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

HIGH RADIATION AREA (Continued)

For individual high radiation areas accessible to personnel with radiation levels of greater than 1000 mrem/hr and less than 500 rads/hr that are located within large areas, such as PWR containment, where no enclosure exists for purposes of locking, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded, conspicuously posted, and a flashing light shall be activated as a warning device.

6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 The PCP shall be reviewed by the PNSC prior to implementation.

6.13.2 Licensee-initiated changes to the PCP:

- a. Shall be submitted to the Commission in the Annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:
 - (1) Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information;
 - (2) A determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and
 - (3) Documentation of the fact that the change has been reviewed and found acceptable by the PNSC.
- b. Shall become effective upon review and acceptance by the PNSC.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 The ODCM shall be approved by the Commission prior to implementation.

6.14.2 Licensee-initiated changes to the ODCM:

- a. Shall be submitted to the Commission in the Annual Radioactive Effluent Release Report for the period in which the change(s) was made effective. This submittal shall contain:
 - (1) Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered, dated and containing the revision number, together with appropriate analyses or evaluations justifying the change(s);

OFFSITE DOSE CALCULATION MANUAL (ODCM) (Continued)

- (2) A determination that the change will not reduce the accuracy or reliability of dose calculations or Setpoint determinations; and
- (3) Documentation of the fact that the change has been reviewed and found acceptable by the PNSC.

b. Shall become effective upon review and acceptance by the PNSC.

6.15 MAJOR CHANGES TO LIQUID, GASEOUS, AND SOLID RADWASTE TREATMENT SYSTEMS*

6.15.1 Licensee-initiated major changes to the Radwaste Treatment Systems (liquid, gaseous, and solid):

- a. Shall be reported to the Commission in the Annual Radioactive Effluent Release Report for the period in which the evaluation was reviewed by the PNSC. The discussion of each change shall contain:
 - (1) A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;
 - (2) Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
 - (3) A detailed description of the equipment, components, and processes involved and the interfaces with other plant systems;
 - (4) An evaluation of the change, which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the License application and amendments thereto;
 - (5) An evaluation of the change, which shows the expected maximum exposures to a MEMBER OF THE PUBLIC in the UNRESTRICTED AREA and to the general population that differ from those previously estimated in the License application and amendments thereto;
 - (6) A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the change is to be made;
 - (7) An estimate of the exposure to plant operating personnel as a result of the change; and
 - (8) Documentation of the fact that the change was reviewed and found acceptable by the PNSC.
- b. Shall become effective upon review and acceptance by the PNSC.

*Licensees may choose to submit the information called for in this Specification as part of the annual FSAR update.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO. DPR-31
AND AMENDMENT NO. 151 TO FACILITY OPERATING LICENSE NO. DPR-41

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT UNIT NOS. 3 AND 4

DOCKET NOS. 50-250 AND 50-251

1.0 INTRODUCTION

By letter dated July 20, 1993, Florida Power & Light Company (FPL or the licensee) proposed license amendments to change the Technical Specifications (TS) for the Turkey Point Nuclear Generating Units 3 and 4 (Turkey Point or the facility) to implement the revised 10 CFR Part 20, "Standards for Protection Against Radiation."

2.0 EVALUATION

The licensee has revised the TS to include wording that is consistent with the revised 10 CFR Part 20, "Standards for Protection Against Radiation." The licensee will retain the same overall level of effluent control required to meet the design objectives of Appendix I to 10 CFR Part 50.

The proposed TS changes and evaluations follow:

a. Technical Specifications INDEX - ADMINISTRATIVE CONTROLS

The licensee proposed to change the title of the "Semiannual Radioactive Effluent Release Report" to read "Annual Radioactive Effluent Release Report."

The change is administrative in nature to implement the revised reporting requirement in 10 CFR 50.36a and is acceptable.

b. Section 1.0 "DEFINITIONS"

The licensee proposed to revise the definitions of MEMBER(S) OF THE PUBLIC, SITE BOUNDARY, and UNRESTRICTED AREA to conform to the definitions of these terms used in 10 CFR 20.1003.

These changes are administrative in nature to incorporate the corresponding revised 10 CFR Part 20 definitions and are acceptable.

c. Technical Specifications 3.3.3.5, 3.3.3.6, 3.11.2.6, and 4.11.4.2

The licensee proposed to revise the title of the "Semiannual Radioactive Effluent Release Report" to read "Annual Radioactive Effluent Release Report."

The change is administrative in nature to implement the revised reporting requirement in 10 CFR 50.36a and is acceptable.

d. Technical Specification 3.11.1.1

The licensee proposed to change the wording "limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II," to read "limited to 10 times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2."

10 CFR 20.106 "Radioactivity in effluents to unrestricted areas" specify that annual average concentrations of release of radioactive material to an unrestricted area shall not exceed concentration limits specified in 10 CFR 20 Appendix B. 10 CFR 50, Appendix I provides numerical guides for limiting conditions of operation such that the radioactive material in effluents released to unrestricted areas can be kept "as low as reasonably achievable" (ALARA).

To assure that releases of radioactive material to unrestricted areas during normal power operations, including expected operational occurrences, are kept as low as practical, 10 CFR 50.36a requires that licensees include TS for compliance with applicable provisions of 10 CFR 20.106 and indicates that compliance with these requirements will keep average annual releases of radioactive material in effluents at small percentages of the limits specified in 10 CFR 20.106.

TS 3.11.1.1 currently requires that the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2. Consistent with the present 10 CFR 20 requirements, the existing TS concentration limits relate an annual dose of 500 mrem such that the 10 CFR 50, Appendix I limits would not be exceeded. It is noted that although 10 CFR 20.106 allows effluent concentrations to be averaged over a year, the TS require that liquid effluent releases be limited to these concentrations at all times (i.e., for instantaneous releases). The restrictive limits incorporated into the present TS are intended to assure that the dose limits of 10 CFR 50, Appendix I or the dose limits of 40 CFR 190 are not exceeded.

The new 10 CFR Part 20 limits for liquid effluent concentration specified in Appendix B, Table 2, Column 2, 10 CFR 20.1001 - 20.2401, are based on a total effective dose equivalent of 50 mrem in a year. The licensee proposed to limit the instantaneous concentration limits to 500 mrem/year (per the existing 10 CFR 20 Appendix B). Accordingly, the licensee proposed to change the phrase in TS 3.11.1.1 "limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II," to

read "limited to 10 times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2." The licensee proposed this TS change on the basis that a release concentration of 500 mrem in a year which applies at all times assures that the values in 10 CFR 50, Appendix I are not likely to be exceeded and the new 10 CFR 20 Appendix B 50 mrem in a year is, therefore, not warranted.

The staff reviewed the licensee proposal. 10 CFR 50.36a, taking into consideration the need for operational flexibility, recognizes and allows, under unusual operating conditions, temporary releases (i.e. instantaneous concentrations) higher than such small percentages, but without exceeding the (annual average concentration) limits specified in 10 CFR 20.106. 10 CFR 50.36a also states that, when using operational flexibility, best efforts shall be made to keep levels of radioactive materials in effluents as low as reasonably achievable in accordance with the guidance in 10 CFR 50, Appendix I. Based on operational history at the Turkey Point Plant, the licensee indicated that the present TS limits of 500 mrem concentrations, which apply at all times, has resulted in calculated doses to a MEMBER OF THE PUBLIC that are small percentages of 10 CFR 50, Appendix I limits.

Based on the above, it is acceptable that the instantaneous limits associated with the liquid release rate TS are based on ten times the effluent concentration values given in Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2401, to apply at all times.

e. Technical Specification 3.11.4

The licensee has proposed to change the reference from "10 CFR 20.405(c)" to "10 CFR 20.2203(a)(4)."

This change is administrative in nature to incorporate the corresponding revised 10 CFR Part 20 section number and is acceptable.

f. Technical Specification 5.1.3

The licensee has proposed to change the second sentence (referring to the site area map) from "Definition of UNRESTRICTED AREAS within the SITE BOUNDARY that are accessible to MEMBERS OF THE PUBLIC, shall be as shown in Figure 5.1-1" to read "The UNRESTRICTED AREAS and SITE BOUNDARY shall be as shown in Figure 5.1-1."

The licensee controls access to the areas currently designated as UNRESTRICTED AREAS within the EXCLUSION AREA; however, these areas will not be UNRESTRICTED AREAS as defined in the revised 10 CFR Part 20.

The changes are administrative in nature and are in agreement with the revised 10 CFR Part 20. The changes are acceptable.

g. Technical Specification 5.1-1

The licensee has proposed to delete Note 1 and the reference to the note. Additionally, the site boundary is being revised to reflect additional land owned by the licensee.

The areas referred to in Note 1 are no longer considered UNRESTRICTED AREAS as defined in the revised 10 CFR Part 20. The changes to the site boundary reflect land to the north and south owned by the licensee.

The changes are administrative in nature and are in agreement with the revised 10 CFR Part 20. The changes are acceptable.

h. Technical Specification 6.9.1.2a

The licensee has proposed to revise this TS to add the words "for whom monitoring was required" and "annual deep dose equivalent," replace "whole body dose" with "deep dose equivalent," and replace the reference to "20.407" with "20.2206."

The proposed changes are administrative in nature and provide clarification of the TS consistent with the requirements of the revised Part 20. The proposed changes are acceptable.

i. Technical Specification 6.9.1.4

The licensee has proposed to revise the title of the "Semiannual Radioactive Effluent Release Report" to "Annual Radioactive Effluent Release Report."

The change is administrative in nature to implement the revised reporting requirement in 10 CFR 50.36a and is acceptable.

j. Technical Specification 6.12.1

The licensee has proposed the following revisions: (a) change the reference "20.203(c)(5)" to "20.1601(c)"; (b) change the reference "20.203(c)" to "20.1601(a)"; (c) change the intensity of radiation from "1000 mR/h at 45 cm (18 in.)" to read "1000 mrem/hr at 30 cm (12 in.)"; and (d) change the unit of measurement from "mR/h" to "mrem/hr."

The proposed changes are administrative in nature and consistent with the revised Part 20. The proposed changes are acceptable.

k. Technical Specification 6.12.2

The licensee has proposed the following revisions: (a) substitute the wording "mrem/hr at 30 cm. (12 in.) and less than 500 rads/hr at 1 meter" for the wording "mR/h at 45 cm (18 in.)" in the first paragraph; and (b)

substitute the wording "mrem/hr and less than 500 rads/hr" for the wording "mR/h" in the second paragraph.

The proposed changes are consistent with the requirements of the revised Part 20 and are acceptable.

1. Technical Specifications 6.13.2, 6.14.2, and 6.15.1

For the TS, the licensee has proposed to revise the title of the "Semiannual Radioactive Effluent Release Report" to the title "Annual Radioactive Release Report."

The change is administrative in nature to implement the revised reporting requirement in 10 CFR 50.36a and is acceptable.

m. BASES Section 3/4.11 "RADIOACTIVE EFFLUENTS"

The licensee has revised the BASES for Sections 3.0 and 4.0 to reflect the proposed changes to the TS.

The changes are consistent with the requirements of the revised Part 20 and are acceptable.

3.0 STATE CONSULTATION

The Florida State official was notified of the proposed issuance of the amendment. The Florida State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The amendments also relate to changes in recordkeeping, reporting, or administrative procedures or requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 43926). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

Based on the staff evaluation in Section 2.0 above, the staff concludes that the proposed Technical Specifications changes are acceptable.

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principle Contributor: S. Klementowicz, PRPB

Date: November 18, 1993