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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 59 TO FACILITY OPERATING LICENSE NO. DPR-67

ST. LUCIE PLANT, UNIT NO. 1

FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

1.0 INTRODUCTION

To comply with Section V of Appendix I of 10 CFR Part 50, the Florida Power & Light Company has filed with the Commission plans and proposed technical specifications developed for the purpose of keeping releases of radioactive materials to unrestricted areas during normal operations, including expected operational occurrences, as low as is reasonably achievable. The Florida Power & Light Company filed this information with the Commission by letter dated March 29, 1983, which requested changes to the Technical Specifications appended to Facility Operating License No. DPR-67 for St. Lucie Plant, Unit No. 1 (St. Lucie 1). The proposed technical specifications update those portions of the technical specifications addressing radioactive waste management and make them consistent with the current staff positions as expressed in NUREG-0472. These revised technical specifications would reasonably assure compliance, in radioactive waste management, with the provisions of 10 CFR 50.36a, as supplemented by Appendix I to 10 CFR Part 50, with 10 CFR 20.105(c), 106(g), and 405(c); with 10 CFR Part 50, Appendix A, General Design Criteria 60, 63, and 64; and with 10 CFR Part 50, Appendix B.

2.0 BACKGROUND AND DISCUSSION

2.1 Regulations

10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities", Section 50.36a, "Technical Specifications on Effluents from Nuclear Power Reactors", provides that each license authorizing operation of a nuclear power reactor will include technical specifications that (1) require compliance with applicable provisions of 10 CFR 20.106, "Radioactivity in Effluents to Unrestricted Areas"; (2) require that operating procedures developed for the control of effluents be established and followed; (3) require that equipment installed in the radioactive waste system be maintained and used; and (4) require the periodic submission of reports to the NRC specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and gaseous effluents, any quantities of radioactive materials released that are significantly above design objectives, and such other information as may be required by the Commission to estimate maximum potential radiation dose to the public resulting from the effluent releases.

10 CFR Part 20, "Standards for Protection Against Radiation," Sections 20.105(c), 20.106(g), and 20.405(c), require that nuclear power plant and other licensees comply with 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations" and submit reports to the NRC when the 40 CFR Part 190 limits have been or may be exceeded.

10 CFR Part 50, Appendix A - General Design Criteria for Nuclear Power Plants - contains Criterion 60, Control of releases of radioactive materials to the environment; Criterion 63, Monitoring fuel and waste storage; and Criterion 64, Monitoring radioactivity releases. Criterion 60 requires that the nuclear power unit design include means to control suitably the release of radioactive materials in gaseous and liquid effluents and to handle radioactive solid wastes produced during normal reactor operation, including anticipated operational occurrences. Criterion 63 requires that appropriate systems be provided in radioactive waste systems and associated handling areas to detect conditions that may result in excessive radiation levels and to initiate appropriate safety actions. Criterion 64 requires that means be provided for monitoring effluent discharge paths and the plant environs for radioactivity that may be released from normal operations, including anticipated operational occurrences and postulated accidents.

10 CFR Part 50, Appendix B, establishes quality assurance requirements for nuclear power plants.

10 CFR Part 50, Appendix I, Section IV, provides guides on technical specifications for limiting conditions for operation for light-water-cooled nuclear power reactors licensed under 10 CFR Part 50.

2.2 Standard Radiological Effluent Technical Specifications

NUREG-0472 provides radiological effluent technical specifications for pressurized water reactors which the staff finds to be an acceptable standard for licensing actions. Further clarification of these acceptable methods is provided in NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants." NUREG-0133 describes methods found acceptable to the staff of the NRC for the calculation of certain key values required in the preparation of proposed radiological effluent technical specifications for light-water-cooled nuclear power plants. NUREG-0133 also provides guidance to licensees in preparing requests for changes to existing radiological effluent technical specifications for operating reactors. It also describes current staff positions on the methodology for estimating radiation exposure due to the release of radioactive materials in effluents and on the administrative control of radioactive waste treatment sytems.

The above NUREG documents address all of the radiological effluent technical specifications needed to assure compliance with the guidance and requirements provided by the regulations previously cited. However, alternative approaches to the preparation of radiological effluent technical specifications and alternative radiological effluent technical specifications may be acceptable if the staff determines that the alternatives are in compliance with the regulations and with the intent of the regulatory guidance.

The standard radiological effluent technical specifications can be grouped under the following categories:

(1) Instrumentation

(2) Radioactive effluents

(3) Radiological environmental monitoring

(4) Design features

(5) Administrative controls.

Each of the specifications under the first three categories is comprised of two parts: the limiting condition for operation and the surveillance requirements. The limiting condition for operation provides a statement of the limiting condition, the times when it is applicable, and the actions to be taken in the event that the limiting condition is not met.

In general, the specifications established to assure compliance with 10 CFR Part 20 standards provide, in the event the limiting conditions of operation are exceeded, that without delay conditions are restored to within the limiting conditions. Otherwise, the facility is required to effect approved shutdown procedures. In general, the specifications established to assure compliance with 10 CFR Part 50 provide, in the event the limiting conditions of operation are exceeded, that within specified times corrective actions are to be taken, alternative means of operation are to be employed, and certain reports are to be submitted to the NRC describing these conditions and actions.

The specifications concerning design features and administrative controls contain no limiting conditions of operation or surveillance requirements.

Table 1 indicates the standard radiological effluent technical specifications that are needed to assure compliance with the particular provisions of the regulations described in Section 1.0.

3.0 EVALUATION

The attached Technical Evaluation Report EG&G-PHYS-6241 (TER) was prepared for the staff by EG&G Idaho, Inc. (EG&G) as part of the NRC technical assistance contract program. This report provides the technical evaluation of the compliance of the licensee's submittal with NRC provided criteria. The staff has reviewed this TER and agrees with the evaluation.

3.1 SAFETY CONCLUSIONS

The proposed radiological effluent technical specifications for St. Lucie 1 have been reviewed, evaluated, and found to be in compliance with the requirements of the NRC regulations and with the intent of NUREG-0133 and NUREG-0472 and thereby fulfill all the requirements of the regulations related to radiological effluent technical specifications.

The proposed changes will not remove or relax any existing requirement related to the probability or consequences of accidents previously

Table 1. Relation Between Provisions of the Regulations and the Standard Radiological Effluent Technical Specifications for Pressurized Water Reactors and Boiling Water Reactors

● Indicate the specifications that are needed to assure compliance with the identified provision of the regulations.

Provisions of Title 10 Code of Federal Regulations	Standard Radiological Effluent Technical Specifications: Instrumentation — Rad. Liquid Effl. Monitoring	Instrumentation — Rad. Gas. Effl. Monitoring	Radioactive Effluents: Liquid — Effluent Concentration	Liquid — Dose	Liquid — Radwaste Treatment	Liquid — Liquid Holdup Tanks	Gaseous: PWR/BWR — Dose Rate	Gaseous: PWR/BWR — Dose Noble Gases	Gaseous: PWR/BWR — Dose I-131, Trit. and Part.	Gaseous: PWR/BWR — Explosive Gas Mixture	Gaseous: PWR — Gaseous Radwaste Treatment	Gaseous: PWR — Gas Storage Tanks	Gaseous: BWR — Gaseous Radwaste Treatment	Gaseous: BWR — Ventilation Exhaust Treatment	Gaseous: BWR — Main Condenser	Gaseous: BWR — Mark I, or II Containment	Solid Radioactive Waste — Solid Radioactive Waste	Solid Radioactive Waste — Total Dose	Rad. Envir. Monitoring — Rad. Env. Monitoring Program	Rad. Envir. Monitoring — Land Use Census	Rad. Envir. Monitoring — Interlab. Comparison Program	Design Features — Site Boundaries*	Administrative Control — Review and Audits	Administrative Control — Procedures	Administrative Control — Reports	Administrative Control — Record Retention	Administrative Control — Process Control Program	Administrative Control — Offsite Dose Calc. Manual	Administrative Control — Major Changes to Rad. Systems
§ 50.36a Technical specifications on effluents from nuclear power reactors																												
Remain within limits of § 20.106			●		●		●					●				●												
Establish and follow procedures to control effluents			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							●				●	
Maintain and use radioactive waste system equipment				●	●			●	●		●		●	●														●	
Submit reports, semi-annual and other	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●									●	●	●
§§ 20.105(c), 20.106(g), 20.405(c) Compliance with 40 CFR 190																		●	●	●	●							●	
Part 50 Appendix A - General Design Criteria																													
Criterion 60 - Control of releases of radioactive materials to the environment	●	●			●	●			●		●	●	●	●	●	●	●							●			●	●	
Criterion 61 - Fuel storage and handling and radioactivity control	●	●																											
Criterion 63 - Monitoring fuel and waste storage	●	●																											
Criterion 64 - Monitoring radioactivity releases	●	●													●					●								●	
Part 50 Appendix B - Quality Assurance Criteria	●	●																			●			●	●		●		
Part 50 Appendix I - Guides to Meet "As Low As Is Reasonably Achievable (ALARA)"																													
Maintain releases within design objectives				●	●			●	●		●		●	●														●	
Establish surveillance & monitoring program to provide data on:																													
(1) quantities of rad. matls. in effluents	●	●																											
(2) radiation & rad. matls. in the environment																					●				●	●			
(3) changes in use of unrestricted areas																						●							
Exert best efforts to keep releases "ALARA"				●	●			●	●		●		●	●															●
Submit report if calculated doses exceed the design objective				●				●	●		●		●	●												●			
Demonstrate conform. to des. obj. by calc. proced.				●				●	●		●		●	●														●	
Part 100																													

*Note: Needed to fully implement other specifications.

considered or needed to provide reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner.

4.0 ENVIRONMENTAL CONSIDERATION

The staff has determined that the issuance of the proposed amendment to the Technical Specifications appended to Facility Operating License No. DPR-67 for St. Lucie 1 would not authorize a significant change in the types, or a significant increase in the amounts, of effluents or in the authorized power level, and that the amendment will not result in any significant environmental impact. Having made these determinations, the staff has further concluded that the amendment involves an action that is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR 51.5(d)(4), that an environmental impact statement, negative declaration, or environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

5.0 GENERAL CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: AUG 18 1983

Attachment: TER

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