

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

October 14, 1980

Docket No. 50-302

Mr. J. A. Hancock Director, Nuclear Operations Florida Power Corporation P. O. Box 14042, Mail Stop C-4 St. Petersburg, Florida 33733

Dear Mr. Hancock:

On May 29, 1980, the Commission published a proposed rule, a new paragraph 50.4 and Appendix R to 10 CFR Part 50, concerning fire protection, which sets forth the minimum acceptable fire protection requirements necessary to resolve contested areas of concern for nuclear power plants operating prior to January 1, 1979.

We have reviewed all the information you have provided to date regarding your fire protection program at Crystal River Unit No. 3. Several of the open items indicated in our Safety Evaluation Report issued July 27, 1979 remain unresolved.

Enclosure 1 presents our position on modifications that would have to be made at your facility to resolve these open items, in a manner that would meet the requirements of the proposed Appendix R.

Enclosure 2 provides our evaluation of those items we have found acceptable. Provide your schedule for completion of these items within 15 days of your receipt of this letter.

Sincerely,

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Robert W. Reid, Chief Operating Reactors Branch #4 Division of Licensing

Enclosures: 1. NRC Position 2. Evaluation of Acceptable Items

cc w/enclosures: See next page

Florida Power Corporation

cc w/enclosure(s):

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Mr. Wilbur Langely, Chairman Board of County Commissioners Citrus County Iverness, Florida 36250

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Enclosure 1

NRC STAFF POSITION FIRE PROTECTION CRYSTAL RIVER NO. 3 DOCKET NO. 50-302

Fire Detection Signaling System, Section 3.2

In our Fire Protection Safety Evaluation Report of July 27, 1979 we were concerned that emergency power was not supplied to those portions of the detection and signaling system serving areas containing safety-related equipment.

By letter dated December 6, 1979, the licensee provided additional information on emergency power to the fire detection system.

We have reviewed the information and conclude that the information is not acceptable because it does not meet our Branch Technical Position (BTP) 9.5-1. To meet the guidelines of Section E(1) of Appendix A to BTP-APCSB 9.5-1 the licensee should provide emergency power by:

- Using normal offsite power as the primary supply with a four-hour battery supply as secondary supply; and
- Providing capability for manual connection to the Class IE emergency power bus within four hours of loss of offsite power. Such connection should follow the applicable guidelines in Regulatory Guides 1.6 "Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems", 1.32 "Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants", and 1.75 "Physical Independence of Electrical Systems".

Steam Driven Emergency Feedwater Pump, Section 3.18

In the Fire Protection SER, the concern was that a fire in the area would damage redundant safety-related equipment and cables.

By letter dated December 6, 1979, the licensee proposed to provide fire detection and a one-hour rated fire barrier around safety-related cables and motor operated valves.

We have determined that the proposed fire rated barrier is not acceptable. No fire barrier has been provided for the motor operated valves. The barrier provided for the cable trays does not provide adequate assurance for the integrity of the circuits for 1 hour.

To meet the requirements of Section III.G. of proposed Appendix R to 10 CFR Part 50 the licensee should provide a 1 hour rated barrier for the safety related cables and motor operated valves for the steam driven emergency feedwater pump area. The barrier should be tested against an ASTME-119 fire and should protect the motor and circuit integrity/equipment of that system for one hour under the preceding fire conditions.

Evaluation and Corrective Action for Fire Consequences in Certain Areas, Sections 3.25, 3.27, 3.28, 3.29, 3.30, and 3.31.

In the Fire Protection Safety Evaluation Report, we were concerned that a fire could damage redundant safety related equipment and cables necessary to achieve safe shutdown.

By letter dated December 6, 1979, the licensee provided additional information on the electrical circuits and the effects of their loss upon safe shutdown due to an unsuppressed fire. The licensee proposed to install a wet pipe fusible link sprinkler system in the following areas:

1. Auxiliary Building, Elevation 95, Fire Zones 1, 5 and 16.

2. Auxiliary Building, Elevation 119, Fire lones 1 West End, 7 and 18.

The licensee also proposed to install barriers in the makeup pump rooms, and the wet pipe fusible link water spray system in the Intermediate Building at Elevation 119', to protect the cable trays above the personnel airlock shield structure.

Based on our review, we conclude that the proposed modifications are not adequate to provide an acceptable level of fire protection because damage to redundant safety related equipment and cables may result due to thermal lag of the sprinkler system.

The licensee has not demonstrated that adequate protection features have been provided for cables and equipment of redundant systems important to achieving safe shutdown conditions to ensure that at least one means of achieving such conditions survives postulated fires.

To meet our fire protection guidelines, alternate shutdown capability should be provided when safe shutdown cannot be ensured by barriers and detection and suppression systems because of the exposure of redundant safe shutdown equipment, cabling, or components in a single fire area, to an exposure fire, or fire suppression activities, or runture or inadequate operation of fire suppression systems.

To meet Section III, Paragraph G of the proposed Appendix R to 10 CFR Part 50, the licensee should provide an alternate shutdown capability independent of these areas. The alternate shutdown system should meet the requirements of Paragraph L, Section III of proposed Appendix R to 10 CFR Part 50.

REACTOR CONTAINMENT BUILDING STANDPIPE SYSTEM, SECTION 3.5

By letter dated January 8, 1980, the licensee provided a drawing detailing the design of the fire service standpipe system which will be installed in the reactor containment building.

The licensee has demonstrated to our satisfaction that the proposed standpipe system will provide an adequate number of hose stations at each elevation in order that all potential fire areas of the containment can be reached by an effective fire stream. Further, the standpipe system will be installed per NFPA Standard No. 14. Based on our review, we find the licensee's proposed reactor building standpipe system acceptable.

CABLE SPREADING ROOM FLOOR, SECTION 3.14

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By letter dated January 15, 1980, the Florida Power Corporation provided information relating to a fire protection modification identified as Item 3.14 in Section 3.0 of the Safety Evaluation dated July 27, 1979.

In our SER of July 27, 1979 we stated that the cable spreading room floor assembly was to receive an additional one-hour fire resistant coating and that the metal plates in the ceiling were to receive a three-hour fire rated coating. The licensee proposed to use Flamemastic 77 on the metal plates and a UL approved intumescent sheeting for the floor. We have reviewed the proposed modification, supporting documents, and determined that an appropriate modification has been selected.

Based on our evaluation, we conclude that the installation of the fire resistant materials in the cable spreading room floor and ceiling will satisfactorily upgrade the cable spreading room floor and ceiling fire resistance and, therefore, is acceptable.

AUTOMATIC FIRE DETECTION SYSTEMS, SECTION 3.15

By letter dated December 6, 1979, the licensee confirmed that automatic fire detection systems will be installed in the following areas:

- a. Auxiliary building-elevation 119 feet in Zones 1, 5, 7, 18, 25 and 26.
- b. Auxiliary buildir g-elevation 95 feet in Zones 17, 18 and 32.
- c. Auxiliary building-elevation 75 feet in Zones 1 and 2.
- d. Intermediate building-elevation 119 feet, in the pressurizer control cabinet area and in the containment personnel access area, and Zones 1 and 4.
- Intermediate building-elevation 95 feet for the steam driven auxiliary feedwater pump area.
- f. In the reactor containment building in the vicinity of the reactor coolant pumps, in ventilation units, and near cable concentrations, throughout the reactor building.

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We find that with the licensee's confirmation regarding the installation of automatic fire detectors in the specific subject areas, the automatic fire detection system is adequate, and therefore acceptable.

CABLE TRAY FIRE STOPS, SECTION 3.17

By letter dated December 6, 1979, the licensee confirmed that cable tray fire stops will be installed in the following areas:

- a. Auxiliary building at elevation 95 feet in Zones 5 and 13.
- b. Containment electrical penetration areas on the non-safeguards instrumentation cable runs between Safeguards Channels A and B.
- c. On elevations 95 and 119 feet in the reactor building.

We find that with the licensee's confirmation regarding the installation of cable tray fire stops in the specific subject areas the fire stops are adequate, and therefore acceptable

FIRE DETECTION, SECTION 3.23

In the Fire Protection SER, it is our concern that the proposed new fire detectors would not be installed properly.

By letter dated December 6, 1979, the licensee provided information and drawings on the proposed locations of the new fire detectors to be installed.

Based on our review, we conclude that the proposed fire detectors are acceptable and meet the guidelines of Section E.1 of Appendix A to BTP-APCSB 9.5-1.