



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REVISED EMERGENCY ACTION LEVELS

ST. LUCIE PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

By letter dated August 31, 1998, Florida Power and Light Company proposed changes to the St. Lucie Plant, Unit Nos. 1 and 2, emergency action levels (EALs). These changes included clarifications to the existing EALs. These clarifications will assist the operations and emergency management staff in establishing the correct classification of emergency situations.

2.0 REGULATORY BACKGROUND

Title 10 of the Code of Federal Regulations (CFR) Section 50.47(b)(4) states, in part, "A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee. . . ."

Appendix E, Subsection IV.B states, in part "These emergency action levels shall be discussed and agreed on by the applicant and State and local government authorities and approved by the NRC." (emphasis added).

Appendix E, Subsection IV.C states, in part "Emergency action levels (based not only on onsite and offsite radiation monitoring information but also on readings from a number of sensors that indicate a potential emergency, such as pressure in containment and response of the Emergency Core Cooling System) for notification of offsite agencies shall be described. . . . The emergency classes defined shall include (1) notification of unusual events, (2) alert, (3) site area emergency and (4) general emergency."

Regulatory Guide 1.101, Revision 3, "Emergency Planning and Preparedness for Nuclear Power Reactors," endorsed NUMARC/NESP-007, Revision 2, "Methodology for Development of Emergency Action Levels," as an acceptable method for licensees to meet the requirements of 10 CFR 50.47(b)(4) and Appendix E to 10 CFR Part 50.

3.0 EVALUATION

The licensee provided the proposed Emergency Classification Table 3-1, as well as a justification for the proposed changes.

The staff used NUMARC/NESP-007, Revision 2, as the basis for its review of the St. Lucie proposed EAL changes. The staff reviewed all the proposed changes. Items 3, 4.B, 5.A, 5.C, 6.A, 9.A, and 9.C represent significant changes and, therefore, are discussed below. These

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items correspond to Table 3-1 of the licensee's submittal dated August 31, 1998. They refer to various events/classes in the St. Lucie Radiological Emergency Plan.

3. Explosion

The classification for Site Area Emergency (SAE) due to explosion was expanded to include clear criteria for the meaning of severe damage to safe shutdown equipment. This enhancement will assist the operations and emergency staff in classifying an emergency condition due to explosion. The addition of these words does not change the meaning of the EAL. Therefore, the proposed change is acceptable.

4.B Fuel Handling Accident

The current plan does not provide a specific radiation dose rate threshold and requires knowledge of the extent of damage which will likely not be known. The proposed incorporation of a dose rate of 1000 mrem/hr for the area radiation monitor or vent monitor in the Fuel Handling Building or in Containment is consistent with other classification criteria on dose rates in the St. Lucie EAL classification Table 3-1. The proposed inclusion of the term "Major damage" is consistent with NUREG-0654, "Example Initiating Conditions: Site Area Emergency." Therefore, the proposed changes are acceptable.

5.A Earthquake

The current plan does not consistently identify the location of the increased seismic activity. This is inconsistent with the classification of the Unusual Event classification, which identifies the location of the increased seismic activity to be within the Owner Controlled Area. Classification of an SAE from an earthquake is expanded to give the operating staff the ability to classify an earthquake event at a higher level of emergency if the seismic activity is less than 0.1g but loss of safety-related systems have occurred. This proposed clarification will assist the operations and emergency staff in the appropriate emergency class classification due to seismic events. Therefore, the proposed change is acceptable.

5.C Tornado

The current plan did not specifically identify affected areas of the plant to be considered for a tornado strike. The proposed revision clarifies the Alert classification to include the words "striking the power block." A tornado is classified as an Unusual Event at St. Lucie if it touches down anywhere on the Owner Controlled Property. Specifying a tornado strike within the power block adequately addresses the concerns for plant safety at an Alert level. Adding this clarification does not change the meaning of the EAL. Therefore, the proposed change is acceptable.

6.A Increased Awareness or Potential Core Melt

The current plan is ambiguous as to whether the use of emergency response facilities or activation of any emergency response personnel in itself justifies an Alert or Site Area



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Emergency classification. The proposed revision is consistent with the definition of an Alert and SAE as defined in NUREG-0654 Revision 1. The proposed change does not modify the meaning of the EAL. Therefore, the proposed change is acceptable.

9.A Aircraft/Missile

The current plan does not provide reference for aircraft crashes or missile impacts on specific plant structures. The proposed revision is consistent with the Alert declaration, HA1 "Natural and Destructive Phenomena Affecting the Plant Vital Area," NUMARC/NESP-007, Revision 2, which states that at an Alert classification, the EAL is intended to address a plane crash into a plant vital area. Therefore, the proposed change is acceptable.

The SAE declaration for an Aircraft/Missile event defines the specific area of the plant where damage is considered classifiable. This change allows the Emergency Director to upgrade the status of the event from an Alert to a higher classification dependent upon damage to safe shutdown equipment. This proposed change is consistent with the SAE declaration, HS3, "Other Conditions Existing Which in the Judgement of the Emergency Director Warrant Declaration of Site Area Emergency." Therefore, the proposed change is acceptable.

9.C Toxic or Flammable Gas

The current plan is ambiguous with respect to the user differentiating between ALERT and SAE. The proposed revision provides the user with a clear difference between the ALERT and SAE. Therefore, the proposed change is acceptable.

4.0 CONCLUSION

Based on its review, the staff finds that the proposed changes to the St. Lucie Plant, Unit Nos. 1 and 2, emergency action levels do not decrease the effectiveness of the Radiological Emergency Plan, and that the plan, as changed, continues to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to Part 50. Therefore, the proposed changes are acceptable.

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Date: September 23, 1999