UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

October 31, 1994

11/5/94

MEMORANDUM TO: Kenneth P. Barr, Chief
Emergency Preparedness Section

FROM: James L. Kreh, Radiation Specialist
Emergency Preparedness Section

11-29-94

SUBJECT: REVIEW OF REVISIONS 25 AND 26 TO RADIOLOGICAL EMERGENCY PLAN FOR ST. LUCIE PLANT, DOCKET NOS. 50-335 AND 50-389

I. BACKGROUND AND DISCUSSION

By transmittal letters dated January 24 and April 6, 1994, the licensee submitted Revision 25 (effective December 30, 1993) and Revision 26 (effective March 28, 1994), respectively, to the Radiological Emergency Plan for the St. Lucie Plant. Accordingly, it can be seen that the licensee submitted each of these Plan revisions to the NRC within 30 days of the effective date, as required.

Revision 25 resulted from the licensee's annual review of the Plan. This revision incorporated many minor editorial and administrative changes and corrections which did not alter the meaning or intent of the affected statements. Revision 26 dealt primarily with implementation of the revised Federal guidance promulgated in EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents" (except dose limits for licensee emergency workers, which were modified in Revision 25). The changes in these two revisions were reviewed for their impact on the effectiveness of the Plan and/or their potential safety significance. Only those changes which actually or potentially decreased the effectiveness of the Plan are discussed in Section II below; all other changes in the subject revisions were determined to be free of negative impact upon the effectiveness of the Plan. Several telephonic discussions between the reviewer and licensee representatives (D. Mothena, F. King, and R. Walker) were conducted during July-August 1994 in a partially successful effort to resolve the questions/issues that arose during the subject review. All mentions herein of discussions between the reviewer and a licensee representative are in reference to those conversations.

Further information regarding this evaluation may be found in the reviewer's annotations of the subject revisions and in the licensee's justification package for Revision 25 (maintained in Section files). A justification document was not provided for Revision 26.

II. EVALUATION OF SUBSTANTIVE CHANGES

A. Section 5.3.1, On-Site Radiation Protection Program (Revision 25): This section was modified in an effort to incorporate the revised Federal guidance promulgated in EPA 400-R-92-001, "Manual of

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Protective Action Guides and Protective Actions for Nuclear Incidents." However, the licensee retained a restriction to the basic 5-rem dose limit for emergency workers which states, "Limits should include current annual [*sic*]."

Evaluation: This restriction quoted above means that an emergency worker's 5-rem limit during an emergency response effort would be reduced by an amount equal to that individual's current annual occupational dose. According to 10 CFR 50.47(b)(11), the licensee's Radiological Emergency Plan must include means for controlling radiological exposures to emergency workers using "exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides." Current EPA guidance applicable to this area is contained in Section 2.5 of EPA 400-R-92-001, and does not endorse the above restriction added by the licensee. The licensee's Plan therefore appears to be inconsistent with the emergency planning standard of 10 CFR 50.47(b)(11).

In response to our letter of July 28, 1994, requesting additional information on this issue, the licensee stated (letter dated September 2, 1994) that its Plan would be revised in accordance with the position presented in our letter.

B. **Section 1.2, Table 3-1, Section 5, *et al.* (Revision 26):** Section 1.2, Definitions, introduces the terms "total whole body dose" (actually presented as "whole body dose" there, but used with "total" elsewhere in the Plan) and "thyroid dose", respectively, as substitute terms for "TEDE" and "thyroid CDE", with this surrogate nomenclature subsequently used throughout the Plan.

Evaluation: In 10 CFR 20.1003, the terms "total effective dose equivalent" (TEDE) and "committed dose equivalent" (CDE) are defined as standard radiation protection terminology. The licensee's Radiological Emergency Plan defines and uses "total whole body dose" and "thyroid dose", respectively, as substitute terms for "TEDE" and "thyroid CDE" to ostensibly minimize confusion for local officials when considering the need for protective actions for the public based on offsite dose projections provided by the licensee. This usage is inconsistent with regulatory terminology as defined and used in 10 CFR Part 20 and as used in EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents." During exercises or actual emergencies, the licensee's use of the subject nonstandard terminology could lead to substantive communications problems when interfacing with the NRC and other Federal agencies. The desirability of using standard terminology wherever possible in emergency response communications has long been recognized, and is reflected most conspicuously in the requirement that all nuclear power plant licensees must use standard nomenclature for the four emergency classes associated with their classification

scheme. The licensee's adoption of the indicated nonstandard terminology decreases the effectiveness of the Plan.

In response to our letter of July 28, 1994, requesting additional information on this issue, the licensee stated (letter dated September 2, 1994) that it intended to adopt "total dose (TEDE)" in place of "total whole body dose", and "thyroid dose (CDE)" in place of "thyroid dose" in the next revision of the Plan. As of the date of preparation of this evaluation, this matter is under consideration by the Office of General Counsel for "rulemaking" (formal interpretation of regulatory requirements). The Regional Counsel indicated to the reviewer on September 28, 1994 that a response from OGC would probably take 30-60 days. The reviewer recommends that our response to the licensee's letter of September 2 should state that this issue is under review by OGC, and that a final determination relative to Plan effectiveness will be made upon issuance of OGC's ruling.

C. **Table 3-1, Classification of Emergencies (pp. 3-5, 3-7, 3-9, and 3-12) (Revision 26):** In selected Site Area and General Emergency EALs, the licensee changed mR and R units to mrem, but retained the use of dose-rates for dose projection thresholds.

Evaluation: The reviewer discussed with a licensee representative the invalidity of expressing total whole body dose (equivalent to TEDE) and thyroid dose (equivalent to thyroid CDE) as dose *rates*, as in the EALs cited above. The licensee representative indicated that this approach had been carefully considered after much technical discussion, and reflected what cognizant plant staff felt was most technically appropriate. Although the licensee should be encouraged to address this technical inconsistency, it does not affect the usability of the subject EALs in terms of appropriate numerical thresholds for the respective emergency classifications, and does not decrease the effectiveness of the Plan. [NOTE: This evaluation finding regarding impact on Plan effectiveness is the same as for the analogous finding for Revision 14 of Crystal River's Plan. In that case, however, the licensee readily agreed to modify its EALs, probably to be expressed in terms of dose thresholds based on a one-hour release.]

D. **Figure 4-1, State of Florida Notification Message Form for Nuclear Power Plants:** [The reviewer learned through discussion with the licensee representative that the form was updated in July 1994 to supposedly address EPA 400 changes. The licensee representative provided the reviewer with a copy of this latest revision of the notification form by facsimile transmission, and it was this version which was reviewed.] Most of the changes in this form were to the graphics rather than the substance. The principal substantive change was that Section 10 on "Projected Offsite Dose Rate" was revised to replace "whole body" with "total dose rate", and "child thyroid" with "thyroid dose rate".

Evaluation: The reviewer discussed with a licensee representative the invalidity of expressing total whole body dose (TEDE) and thyroid dose (thyroid CDE) as dose *rates* (same issue as discussed above in connection with the EALs). The licensee representative contended that this was what the State of Florida wanted. However, even if the technical inconsistency of expressing TEDE and thyroid CDE as dose rates is ignored (which it shouldn't be), the reviewer noted that the provision of projected dose rates alone does not allow for a direct comparison with PAGs by cognizant offsite authorities (they would have to use the estimate of release duration to calculate integrated doses). Guidance in Section II.E.4 of NUREG-0654 states that the licensee shall provide offsite authorities with projected dose rates *and* integrated doses (when appropriate and if known) at the site boundary and at 2, 5, and 10 miles. It should be pointed out that the previous revision of the notification form also provided dose rates only (no integrated doses). The current version of the notification form is not consistent with Part 20 terminology. The reviewer's recommendation is that Region II should continue to work closely with both FPC and FP&L to encourage those licensees to develop a notification message which conveys the appropriate information and uses standard radiation-protection terminology.

III. SUMMARY AND CONCLUSION

The reviewer determined that all of the changes in the subject revisions were consistent with the provisions of 10 CFR 50.54(q), 10 CFR 50.47(b), Appendix E to 10 CFR Part 50, and Section II of NUREG-0654, except as noted above in Sections II.A, II.B, and II.D. The letter to the licensee will communicate these findings in detail.

cc: C. Banks