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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO ACCEPTANCE OF REVISION 2 TO THE

OFFSITE DOSE CALCULATION MANUAL (ODCM)

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

On May 29, 1985 the staff issued Amendment No. 93 to Facility Operating License No. DPR-59 for the James A. Fitzpatrick Nuclear Power Plant (Fitzpatrick). The amendment incorporated the Radiological Effluent Technical Specifications (RETS) into the Fitzpatrick Technical Specifications (TS). Section 6.17 of the TS referenced an Offsite Dose Calculation Manual (ODCM) and prescribed the methods for its change.

2.0 EVALUATION

The docketed submittal on October 26, 1983 of an ODCM by the Power Authority of the State of New York (the licensee) received NRC approval by letter dated May 29, 1985 from Harvey I. Abelson to the licensee. Since 1983, a number of changes have been made in the Fitzpatrick ODCM, the most recent of these being reported to NRC in a complete ODCM, Revision 2, dated June 25, 1985 and submitted on February 28, 1986 with the Semiannual Radioactive Effluent Release Report. This ODCM, Revision 2 has been reviewed for us by Franklin Research Center (FRC) as part of our technical assistance contract program. Their report (the enclosed section from TER-C5506-591) provides their technical evaluation of the compliance of the licensee's submittal with NRC criteria. The staff has reviewed this report, and agrees with the evaluation that the Fitzpatrick ODCM, Revision 2, generally uses documented and approved methods that are consistent with the methodology and guidelines in NUREG-0133. Therefore, we conclude that this ODCM is an acceptable reference for use with Fitzpatrick TS 6.17. This acceptance, however, is an interim acceptance only, because one major problem involving the I-133 dose calculation, and several minor discrepancies have been identified, as listed in Attachment 1. Within six months the licensee should provide a revised ODCM for Fitzpatrick that addresses the I-133 dose calculation problem and the several discrepancies.

3.0 CONCLUSIONS

The Fitzpatrick ODCM, Revision 2 is acceptable on an interim basis. Within six months the licensee should revise the Fitzpatrick ODCM to address the listed problem and discrepancies.

Principal Contributor:
W. Meinke

Date: October 2, 1986

ATTACHMENT 1

Major problem in Fitzpatrick ODCM, Revision 2:

- The Licensee's Appendix B Technical Specification 3.2 for gaseous dose rates includes iodine-133 for dose determination. Since iodine-133 is not included in the Licensee's gaseous waste sampling and analysis program (Table 3.2-1 of Licensee's RETS), a method should be provided in the ODCM to estimate the release of iodine-133. This method is currently not included in the Licensee's submittal.

Minor discrepancies in Fitzpatrick ODCM, Revision 2:

- The Licensee has not considered the elevated noble gas plume release from the stack for calculation of the following items: gaseous setpoint for stack monitor, noble gas dose rate, and noble gas cumulative air dose at the site boundary.

- The Licensee's Table M-1 of Appendix C indicates that the maximum (X/Q) values are 2.9×10^{-7} (sec/m^3) at the northern sector (225 m) for the ground-level releases and 3.8×10^{-8} (sec/m^3) at the eastern sector (950 m) for the elevated releases. In several places of the submittal, however, such as Equation 4.5, the Licensee cites different values for maximum (X/Q).

- The Licensee has provided data for liquid pathways, such as swimming, boating, and shoreline deposit, that are not considered in NUREG-0133, but the Licensee has not provided a methodology for the derivation of these data.

- The Licensee's environmental sample locations described in Table H-1 of the submittal are found to be inconsistent with those submitted by Nine Mile Point Unit 2. Not only does the Licensee's submittal contain fewer locations, but some of the locations are not identified, and the precise descriptions (direction and distance) for the locations also differ.

- The legibility of the figures for radwaste effluent paths and environmental sampling should be improved. Figures F-1, F-2, and H-2 are particularly poor.