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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO THE PROPOSED ALTERNATE HIGH RADIATION CONTROLS

FOR THE OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

DOCKET NOS. 50-269, 50-270, AND 50-387

1.0 INTRODUCTION

By letter dated October 28, 1993, as amended by letter dated December 8, 1993, Duke Power Company submitted a request for NRC approval of alternate High Radiation Area controls for the Oconee Nuclear Station to meet the requirements of 10 CFR 20.1601. The alternate controls proposed would provide greater operational efficiency by reducing the number of areas within the plant that would be required to be maintained locked to prevent unauthorized or unintended access.

2.0 EVALUATION

As stated in 10 CFR 20.1601(a), licensees are required to institute strict controls for access to areas where an individual could receive greater than 0.001 Sv (100 mrem) in one hour (high radiation areas). A list of optional controls for high radiation areas is provided in 10 CFR 20.1601 paragraphs (a) and (b). For large complex facilities, such as a nuclear power plant, the most practical of these options is to maintain the entrances to high radiation areas locked except during periods of authorized personnel access. However, the number of high radiation areas and the need to frequently access them at nuclear power plants results in a cumbersome restriction on plant operations. In cases where the controls provided in 10 CFR 20.1601(a) and (b) unnecessarily restrict plant operations, 10 CFR 20.1601(c) provides for the licensee to propose alternative controls for access to high radiation areas.

Regulatory Position 2.4 (Part C Section 2.4) in Regulatory Guide 8.38 describes an acceptable alternative to maintaining all high radiation areas locked. Under this alternate control scheme, areas where individuals could receive doses greater that 0.001 Sv (100 mrem), but less than or equal to 0.01 Sv (1000 mrem), in 1 hour are barricaded and conspicuously posted in lieu of being maintained locked. Areas where doses in excess of 0.01 Sv (1000 mrem), but less than 5 Gy (500 rad), could be received in 1 hour are maintained locked (for special cases where individual areas cannot reasonably be enclosed, a barricade with a flashing-light warning device is provided). As a compensatory measure, access to a high radiation area may be controlled

by the issuance of a radiation work permit (or its equivalent) to insure that individuals are apprised of the known radiological conditions and protective actions required for accessing the area. Additional radiation monitoring is also required for individuals entering a high radiation area to provide for possible unanticipated exposure situations.

The Duke Power Company request, documented in the October 28 and December 8, 1993, letters is to meet the requirements of 10 CFR 20.1601(a) by controlling the high radiation areas at the Oconee Nuclear Station in accordance with the alternative high radiation area controls provided in Regulatory Guide 8.38, Part C, Section 2.4. These alternative controls in Regulatory Guide 8.38 provide reasonable assurance that individuals will not exceed the regulatory dose limits by inadvertently accessing high dose rate areas at the Oconee Nuclear Station, and are, therefore, acceptable.

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