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W. R. McCollum, Jr.
Vice President

July 24, 2001

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Oconee Nuclear Station
Docket 50-269, -270, -287
Selected Licensee Commitments Manual (SLC)

Gentlemen:

Pursuant to 10CFR 50.4 and 50.71, please find attached 7 copies of the latest revisions to the Oconee Selected Licensee Commitments Manual (SLC). The SLC Manual is Chapter 16.0 of the Oconee Updated Final Safety Analysis Report (UFSAR). This manual is intended to contain commitments and other station issues that warrant higher control, but are not appropriate for inclusion into the Technical Specifications (TS). Instead of being updated with the annual UFSAR Update, the SLC Manual will be updated as necessary throughout the year.

Very truly yours,

W. R. McCollum, Jr.
Vice President
Oconee Nuclear Station

CMB/cmb
Attachment

xc: Luis A. Reyes
Regional Administrator, Region II

D. E. LaBarge, ONRR

M. C. Shannon
Oconee Senior Resident Inspector

A001

July 24, 2001

To: Manual Holders

Subject: Oconee Selected Licensee Commitments Manual (SLC)
Revision

On July 3, 2001, Station Management approved a revision to SLC 16.11.1, Radioactive Liquid Effluents, which was implemented on July 12, 2001. This change revises the SLC to reflect the dissolved or entrained noble gases concentration limit of 2×10^{-4} microCurie/ml total activity. This is the value reflected in NUREG 1301, Offsite Dose Calculation Manual Guidance; Standard Radiological Effluent Control for Pressurized Water Reactors.

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Any questions concerning these revisions may be directed to Reene Gambrell at ext. 3364.

Regulatory Compliance
By: Conice Breazeale
Regulatory Compliance

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16.11 RADIOLOGICAL EFFLUENTS CONTROL

16.11.1 Radioactive Liquid Effluents

COMMITMENT Establish conditions for the controlled release of radioactive liquid effluents. Implement the requirements of 10 CFR 20, 10 CFR 50.36a, Appendix A to 10 CFR 50, Appendix I to 10 CFR 50, 40 CFR 141 and 40 CFR 190.

a. Concentration

The concentration of radioactive material released at anytime from the site boundary for liquid effluents to Unrestricted Areas [denoted in Figure 2.1-4(a) of the Oconee Nuclear Station Updated Final Safety Analysis Report] shall be limited to 10 times the effluent concentrations specified in 10 CFR Part 20, Appendix B, Table 2, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases the concentration shall be limited to 2×10^{-4} $\mu\text{Ci/ml}$ total activity.

b. Dose

The dose or dose commitment to a Member Of The Public from radioactive materials in liquid effluents to Unrestricted Areas shall be limited to:

1. during any calendar quarter:

≤ 4.5 mrem to the total body

≤ 15 mrem to any organ; and

2. during any calendar year:

≤ 9 mrem to the total body

≤ 30 mrem to any organ.

c. Liquid Waste Treatment

The appropriate subsystems of the liquid radwaste treatment system shall be used to reduce the radioactive materials in liquid waste prior to their discharge, if the projected dose due to liquid effluent releases to unrestricted areas, when averaged over 31 days would exceed 0.18 mrem to the total body or 0.6 mrem to any organ.

d. Chemical Treatment Ponds (CTP 1 and 2)

1. The quantity of radioactive material in the Chemical Treatment Ponds (CTP) shall be limited so that, for all radionuclides identified, excluding noble gases and tritium, the sum of the ratios of activity (in curies) to the limits in 10 CFR 20, Appendix B, Table 2, column 2 shall not exceed 1.7×10^6 .

$$\sum_j \frac{A_j}{C_j} < 1.7 \times 10^6$$

Where A_j = pond inventory limit for single radionuclide "j" (curies)

C_j = 10 CFR 20, Appendix B, Table 2, Column 2, concentration for single radionuclide "j" (curies)

2. No powdex resin shall be transferred to the CTPS unless the sum of the activity of the radionuclides identified is less than 0.1% of the limit identified in Commitment d.1.

$$\sum_j \frac{Q_j}{A_j} < 1.0 \times 10^{-3}$$

where Q_j = radionuclide activity in resin

A_j = pond inventory limit for radionuclide "j"

3. The total radionuclide inventory of used powdex resin transferred to the Chemical Treatment Ponds over the previous 13 weeks, shall not exceed 0.4% of the pond radionuclide inventory limit. Decay of radionuclides may be taken into account in determining inventory levels.

$$Q_{j1} + Q_{j2} + Q_{j3} + \dots + Q_{jn} \leq .004 \times A_j$$

where, Q_j = Total inventory of radionuclide j in a transfer

n = Number of transfers to the Chemical Treatment Ponds during the previous 13 - week period.

-----NOTE-----

Appendix I dose limits for radioactive liquid effluent releases are applicable only during normal operating conditions which include expected operational occurrences, and are not applicable during unusual operating conditions that result in activation of the Oconee Emergency Plan.

APPLICABILITY: At all times

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Concentration of radioactive material released in liquid effluents to Unrestricted Areas exceeds the limits specified in Commitment a.	A.1 Restore concentration to within the limit.	Immediately

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. Calculated dose from the release of radioactive materials in liquid effluents exceeds any of the limits in Commitment b.</p>	<p>B.1 -----NOTE----- Not required during unusual operating conditions that result in activation of the Oconee Emergency Plan. -----</p> <p>Submit report to the regional NRC Office which includes the following:</p> <ul style="list-style-type: none"> a. Cause(s) for exceeding the limit(s). b. A description of the program of corrective action initiated to: reduce the releases of radioactive materials in liquid effluents, and to keep these levels of radioactive materials in liquid effluents in compliance with the above limits, or as low as reasonably achievable. c. Results of radiological analyses of the drinking water source and the radiological impact on finished drinking water supplies with regard to the requirements of 40 CFR 141. 	<p>30 days from the end of the quarter during which the release occurred</p>

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Radioactive liquid waste is discharged without treatment and in excess of the specified limit.</p>	<p>C.1 Submit report to the regional NRC Office which includes the following:</p> <ul style="list-style-type: none"> a. Cause of equipment or subsystem inoperability. b. Corrective action to restore equipment and prevent recurrence. 	<p>30 days</p>
<p>D. Total radioactive inventory of used powdex resins transferred to the Chemical Treatment Ponds over previous 13 weeks greater than 0.4% of the pond radionuclide inventory limit.</p>	<p>D.1 Submit report to the regional NRC Office describing the reason(s) for exceeding the limit and plans for future operation.</p>	<p>30 days</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 16.11.1.1 N/A</p>	<p>N/A</p>

BASES

The concentration commitment is provided to ensure that the concentration of radioactive materials released in liquid waste effluents from the site to unrestricted areas will be less than 10 times the effluent concentration levels specified in 10 CFR Part 20, Appendix B, Table 2, Column 2. The concentration limit for noble gases is based upon the assumption that Xe-135 is the controlling radioisotope and its EC in air (submersion) was converted to an equivalent concentration in water using the methods described in International Commission on Radiological Protection (ICRP) Publication 2.

The basic requirements for Selected Licensee Commitments concerning effluent from nuclear power reactors are stated in 10 CFR 50.36a. Compliance with effluent Selected Licensee Commitments will ensure that average annual releases of radioactive material in effluents will be small percentages of the limits specified in the old 10 CFR 20.106 (new 10 CFR 20.1302). The requirements contained in 10 CFR 50.36a further indicate that operational flexibility is allowed, compatible with considerations of health and safety, which may temporarily result in releases higher than such small percentages, but still within the limits specified in the old 10 CFR 20.106 which references Appendix B, Table II concentrations (MPCs). These referenced concentrations are specific values which relate to an annual dose of 500 mrem. It is further indicated in 10 CFR 50.36a that when using operational flexibility, best efforts shall be exerted to keep levels of radioactive materials in effluents as low as reasonably achievable (ALARA) as set forth in 10 CFR 50 Appendix I. Also, for fresh water sites with drinking water supplies which can be potentially affected by plant operations, there is reasonable assurance that the operation of the facility will not result in radionuclide concentrations in the finished drinking water that are in excess of the requirements of 40 CFR 141. Therefore, to accommodate operational flexibility needed for effluent releases, the limits associated with this SLC are based on ten times the instantaneous dose rate value of 50 mrem/year to apply at all times. Compliance with the limits of the new 10 CFR 20.1001 will be demonstrated by operating within the limits of 10 CFR 50, Appendix I, 40 CFR 141 and 40 CFR 190.

Section I of Appendix I of 10 CFR 50 states that this appendix provides specific numerical guides for design objectives and limiting conditions for operation, to assist holders of licenses for light water cooled nuclear power reactors in meeting the requirements to keep releases of radioactive material to unrestricted areas as low as practical and reasonably achievable, during normal reactor operations, including expected operational occurrences. Using the flexibility granted during unusual operating conditions, and the stated applicability of the design objectives for the Oconee Nuclear Station, Appendix I dose limits for radioactive liquid effluent releases are concluded to be not applicable during unusual operating conditions that result in the activation of the Oconee Emergency Plan.

For units with shared radwaste treatment systems, the liquid effluents from the shared system are proportioned among the units sharing that system.

The requirements that the appropriate portions of this system be used when specified provides assurance that the releases of radioactive materials in liquid effluents will be kept "as low as is reasonably achievable." This SLC implements the requirements of 10 CFR Part 50.36a. General Design Criterion 60 of Appendix A to 10 CFR Part 50 and design objective Section II.D of Appendix A to 10 CFR Part 50.

The inventory limits of the chemical treatment ponds are based on limiting the consequences of an uncontrolled release of the pond inventory. The short term rate limit (2 mrem/hr) of 10 CFR 20.1301 is applied to 10 CFR 20.1302 in the following expression:

$$\frac{\frac{A_j}{1.3 \times 10^6 \text{ gal}} \times 10^6 \frac{\mu\text{Ci}}{\text{Curie}} \times \frac{\text{gal}}{3785 \text{ ml}}}{10 \times C_j} \leq \frac{2 \text{ mrem/hr}}{500 \text{ mrem/yr}} \times \frac{8760 \text{ hr}}{\text{yr}}$$

$$\frac{A_j}{C_j} \leq 1.7 \times 10^6$$

Where A_j = pond inventory limit for radionuclide "j" (curies)

C_j = 10 CFR 20, Appendix B, Table 2, Column 2, concentration radionuclide "j"

1.3×10^6 gal = estimated volume of smaller chemical treatment pond

The transfer limits provide assurance that activity input to the CTP will be minimized.

REFERENCES:

1. 10 CFR Part 20, Appendix B.
2. 40 CFR Part 141.
3. 10 CFR Part 50, Appendices A and I.
4. 40 CFR Part 190.
5. Offsite Dose Calculation Manual.
6. Regulatory Guide 1.109.
7. NUREG-1301