Docket File

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

February 8, 1991

Docket Nos. 50-269, 50-270, 50-287,
50-369, 50-370,
50-413 and 50-414

Mr. M. S. Tuckman
Vice President -
Nuclear Operations
Duke Power Company
P. O. Box 1007
Charlotte, North Carolina 28201-1007

Dear Mr. Tuckman:

SUBJECT: DUKE POWER COMPANY OFFSITE DOSE CALCULATION MANUAL REVISIONS (TACS 61824/61825/61826)

The NRC technical staff has completed a review of the Duke Power Company (DPCo) Offsite Dose Calculation Manual (ODCM) through revision 28, which consists of a generic section applicable to all of the DPCo nuclear stations, and Appendices A, B and C which contain plant specific information. Our review was performed with the technical assistance of a contractor, EG&G Idaho, Inc. Your ODCM had previously been reviewed through revision 20, with the results transmitted to you in a letter dated November 16, 1988. You had responded to our review in a letter dated May 3, 1989. Specific comments in the enclosed evaluation are numbered to correspond to responses in your May 3 letter.

The current review has identified two significant deficiencies and 17 other deficiencies which were noted in the previous review that have not been fully corrected. The first significant deficiency (No. 19 in the enclosure), which is applicable to all of the DPCo plants, concerns an inconsistency between the generic section and the appendices in the methodology used to calculate the fuel cycle dose. The second significant deficiency (No. 21) is applicable only to the Catawba plant and concerns unmonitored milk animals in locations with D/Q values higher than those that are currently listed in the Catawba ODCM. Deficiency numbers 1, 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 22 and 27, were also noted as still requiring correction. Details of all these items are included in the enclosure.

DF01
1/1

150040

You are requested to address the two significant deficiencies within six months from the date of this letter in a revision to the ODCM. The remaining unresolved items should be considered for inclusion in future revisions to the ODCM. If you have questions regarding this matter, contact me at (301) 492-0906.

Sincerely,

Bob Martin/for

L. A. Wiens, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/encl:
See next page

Distribution:

Docket File		D. Matthews	OGC	15/B/18	McGuire R/F
NRC & Local PDRs		L. Wiens	E. Jordan	MNBB 3701	Catawba R/F
PD II-3 R/F		T. Reed	ACRS (10)	P 315	
S. Varga	14/E/4	R. Martin	L. Reyes, RII		
G. Lainas	14/H/3	R. Ingram	Oconee R/F		

LA:PDII3	PM:PDII3	PM:PDII3	PM:PDII3	D:PDII3
RIngram	LWiens:lw/sa	TReed	RMartin	DMatthews
2/6/91	2/6/91	2/6/91	2/6/91	2/8/91

OFFICIAL RECORD COPY
Document Name: DUKE ODCM LETTER

Duke Power Company

Catawba Nuclear Station
McGuire Nuclear Station
Oconee Nuclear Station

cc:
Mr. A.V. Carr, Esq.
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242-0001

J. Michael McGarry, III, Esq.
Winston and Strawn
1400 L Street, N.W.
Washington, DC 20005

North Carolina MPA-1
Suite 600
P.O. Box 29513
Raleigh, North Carolina 27626-0513

Mr. Frank Modrak
Project Manager, Mid-South Area
ESSD Projects
Westinghouse Electric Corp.
MNC West Tower - Bay 241
P.O. Box 355
Pittsburgh, Pennsylvania 15230

County Manager of York County
York County Courthouse
York, South Carolina 29745

Richard P. Wilson, Esq.
Assistant Attorney General
S.C. Attorney General's Office
P.O. Box 11549
Columbia, South Carolina 29211

Piedmont Municipal Power Agency
121 Village Drive
Greer, South Carolina 29651

Mr. Alan R. Herdt, Chief
Project Branch #3
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30323

North Carolina Electric Membership
P.O. Box 27306
Raleigh, North Carolina 27611

Saluda River Electric Cooperative, Inc.
P.O. Box 929
Laurens, South Carolina 29360

Senior Resident Inspector
Route 2, Box 179N
York, South Carolina 29745

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30323

Mr. Heyward G. Shealy, Chief
Bureau of Radiological Health
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Ms. Karen E. Long
Assistant Attorney General
N.C. Department of Justice
P.O. Box 692
Raleigh, North Carolina 27602

Mr. Robert G. Morgan
Nuclear Production Department
Duke Power Company
P.O. Box 1007
Charlotte, North Carolina 28201-1007

Dr. John M. Barry
Department of Environmental Health
Mecklenburg County
1200 Blythe Boulevard
Charlotte, North Carolina 28203

cc:
County Manager of Mecklenburg County
720 East Fourth Street
Charlotte, North Carolina 28202

Mr. Stephen Benesole
Duke Power Company
P.O. Box 1007
Charlotte, North Carolina 28201-1007

Senior Resident Inspector
c/o U.S. Nuclear Regulatory Commission
12700 Hagers Ferry Road
Huntersville, North Carolina 28078

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Route 2, Box 610
Seneca, South Carolina 27611-7687

Mr. Dayne H. Brown, Director
Department of Environmental,
Health and Natural Resources
Division of Radiation Protection
P.O. Box 27687
Raleigh, North Carolina 27611-7687

Mr. Robert B. Borsum
Babcock & Wilcox
Nuclear Power Division
Suite 525
1700 Rockville Pike
Rockville, Maryland 20852

Manager, LIS
NUS Corporation
2650 McCormick Drive
Clearwater, Florida 34619-1035

Mr. Paul Guill
Duke Power Company
Nuclear Production Department
P.O. Box 1007
Charlotte, North Carolina 28201-1007

Honorable James M. Phinney
County Supervisor of Oconee County
Walhalla, South Carolina 29621

Mr. R.L. Gill, Jr.
Nuclear Production Department
Duke Power Company
P.O. Box 1007
Charlotte, North Carolina 28201-1007

Office of Intergovernmental Relations
116 West Jones Street
Raleigh, North Carolina 27603

Enclosure

EVALUATION OF DUKE POWER COMPANY ODCMS UPDATED THROUGH REV. 28

In the following discussion, items related to the Duke Power Company (DPCo) nuclear stations' ODCMs are keyed to the deficiencies and suggestions previously identified in a review of the Catawba ODCM, updated through Revision 20. (This review was documented in EGG-PHY-8214, dated October 1988, transmitted to the NRC October 4, 1988.) These deficiencies and suggestions were identified in a letter from J. B. Jabbour (NRC) to H. B. Tucker (DPCo), dated November 16, 1988. Responses by DPCo were transmitted to the NRC in a letter from H. B. Tucker (DPCo) to Document Control Desk (NRC), dated May 3, 1989.

Evaluations of the Licensee's responses to the identified deficiencies and suggestions (concerns) are numbered to correspond to the responses submitted in the Licensee's letter of May 3, 1989, and are based on the DPCo generic and site-specific appendices updated through Revision 28, dated January 1, 1990. In the discussions below, "Revision 28" is used to mean all of the generic ODCM section and site-specific sections updated through Revision 28 (to the generic section). These include Revision 27 to Appendix A (Oconee), Revision 26 to Appendix B (McGuire), and Revision 25 to Appendix C (Catawba). The complete ODCM referred to as Revision 28 includes individual pages from much earlier revisions.

Evaluation 1:

This item concerned inclusion in the ODCM of input data required for GASPAR and LADTAP. Revision 28 contains the data required for input to the gaseous effluent dose equations of Regulatory Guide 1.109, and therefore essentially all of the data required for GASPAR, although the data is not identified as being intended for GASPAR input. The methodology to calculate doses due to liquid effluents follows NUREG-0133, and therefore the input is not in the proper form for LADTAP.

The Licensee has committed to include site-specific data for input to GASPAR and LADTAP in the site-specific section of the ODCM in a future revision. If the data in the generic section of the ODCM is identified as intended for use in GASPAR and LADTAP at the time the a site-specific data is added, the deficiency related to lack ot data for GASPAR and LADTAP will be corrected.

Applicability to Oconee and McGuire: Comparable additions should be made to the Oconee and McGuire ODCMs.

Evaluation 2:

This item concerned inclusion in the ODCM of data and equations used to calculate data in Table 1.2-2 for determination of dose rates due to gaseous effluents. The Licensee has committed to furnish a NRC reference for the values of the gaseous dose rate factors in Table 1.2-2. The reviewer reproduced the Licensee's values for the inhalation pathway except for Zn-65 (which should be 9.953E+05 instead of 8.399E+04) and Te-127m (which should be 1.480E+06 instead of 1.408E+06), but could not consistently reproduce the food pathway factors.

Since recent NRC guidance (e.g., NUREG-0472, Rev. 3, Draft 7''' and later revisions) recommends calculating the dose rate to the thyroid of a child via the inhalation pathway for the purpose of determining compliance with the limit of 10 CFR 20, the Licensee will not underestimate the dose compared to the dose calculated following NRC guidance. Therefore, although the food and ground plane pathway dose rate factors in Table 1.2-2 appear to contain errors, the methodology for determining the dose rates is within the guidelines of NUREG-0133 and recent NRC guidance.

Applicability to Oconee and Mcguire: Equally applicable to Oconee and McGuire, since this concerns the generic section.

Evaluation 3:

This item concerned the inconsistency between equations for the site-specific dose factors for the cow-meat and vegetable pathways and the data tables produced using the equations. Licensee has made the equations of Section 3.1.2.2 and the data in Tables 3.1-13 through 3.1-18 consistent. Therefore, this deficiency has been corrected.

Applicability to Oconee and McGuire: Applies equally to Oconee and McGuire, since this concerns the generic section.

Evaluation 4:

This item concerned the use of a factor of 0.5 in the ground plane dose calculation to account for only 50% of the radioiodines being in elemental form. The Licensee correctly notes that there is an apparent inconsistency between Regulatory Guide 1.109 and GASPAR on the point of applying the factor of 0.5 when calculating the dose due to iodines via the ground plane pathway. The Licensee intends to keep the ODCM Table 3.1-12 consistent with GASPAR, which is the principle means of calculating doses, and is therefore being consistent with current NRC guidelines.

Applicability to Oconee and McGuire: Applies equally to Oconee and McGuire, since this concerns the generic section.

Evaluation 5:

This item concerns the use of terminology that implies air doses are doses to an individual. The Licensee has committed to making the recommended changes to Sections 3.1.2 and C4.2.2.1, and notes that the Section 3.1.2.1 is already consistent with the recommended changes.

Applicability to Oconee and McGuire: Applies equally to Oconee and McGuire, since this concerns the generic section:

Evaluation 6:

This item concerned the possibility of exceeding the concentration limits for liquid effluents by making simultaneous releases from two sets of monitor tanks. The Licensee has retained the equation in Section C2.2.1 without specifically including the possibility of making simultaneous releases from both the Waste Monitor Tanks (via EMF 49) and the Auxiliary Monitor Tanks (via EMF 57). The response to this discrepancy notes that Section C3.1.1 states that simultaneous releases from the two sets of tanks is not normal and "that station procedures have been implemented to insure that instantaneous concentration limits will not be exceeded if releases are simultaneously made from these sources." The exact wording in Section C3.1.1 is "Normally, discharges from the WL system will be limited to either EMF-49 for EMF-57. Simultaneous releases may occur, however, if proper station procedures are followed to insure that instantaneous concentration limits will not be exceeded."

Therefore, the Licensee's station procedures referenced in the ODCM appear to provide reasonable assurance that the concentration limits of 10 CFR 20 will not be exceeded.

Applicability to Oconee and McGuire: This item does not apply to Oconee or McGuire.

Evaluation 7:
This item concerned the absence of methodology for including gaseous effluents from the Auxiliary Monitor Tank Building in the calculation of offsite doses. The Licensee has committed to update Section C2.2 in a future revision of the ODCM to include gaseous releases from the Auxiliary Monitor Tank Building when determining offsite dose rates due to gaseous effluents.

Applicability to Oconee and McGuire: This item does not apply to Oconee or McGuire.

Evaluation 8:

This item recommended addition to ODCM Section C2.2 of requirements for calculating offsite organ dose rates at the frequencies required by Technical Specification 4.11.2.1.2. The Licensee's response notes that when the transfer authorized by GL 89-01 is completed these requirements will be a part of the ODCM. Since following the recommended action would result in redundancy in the ODCM after the GL 89-01 transfer there appears to be no need for action at this time.

Applicability to Oconee and McGuire: Equally applicable to Oconee and McGuire.

Evaluations 9 and 10:

This item noted the Licensee's use of 1.0E-07 uCi/mL as the maximum permitted concentration of radioactivity in liquid effluents when the effluents contain unidentified radionuclides. According to Section 3c of the Note at the end of 10 CFR 20 Appendix B, this limit applies only in cases where I-129, Ra-226, and Ra-228 are not present in the effluent. If any of these are present, the limit specified by 10 CFR 20 is 3.0E-08 uCi/mL. (Due the similarity of the sources, the presence of I-131 indicates the presence of I-129.) Notice, however, that Section 5 of the note mentioned above permits a radionuclide to be considered as "not present" in a mixture if its concentration does not exceed 1/10 of its MPC and the sum of such ratios for all radionuclides considered as not present does not exceed 1/4. The Licensee should add the rationale for assuming that I-129, Ra-226, and Ra-228 are not present in liquid effluents, since the presence of I-131 means that in the absolute sense some I-129 is also present. A brief calculation indicates that it is highly unlikely for I-129 to exceed 10% of its MPC unless I-131 far exceeds its MPC. Similarly, it is highly unlikely for Ra-226 or Ra-228 to exceed their MPC unless alpha emitters are detected in the effluents at much greater than the detection limits of 1.0E-07 uCi/mL.

Applicability to Oconee and McGuire: Equally applicable to Oconee and McGuire.

Evaluation 11:

This item stated that Figure C1.0-1 should show whether the Conventional Waste Water Treatment System Effluent Line and the Liquid Waste Effluent Discharge Line release liquids to the unrestricted area at the same point. The Licensee's response states that the releases are at different points and that Figure C1.0-1 will be clarified to show this. Additional explanation is also given.

Applicability to Oconee and McGuire: Not applicable to Oconee or McGuire.

Evaluation 12:

This item concerned the possibility of effluents released from the Turbine Building Sumps causing the concentration limits for liquids released offsite to be exceeded. The Licensee has committed to updating Section C3.1, when the new Auxiliary Monitor Tank Building is in operation, to show that the normal discharge path of radioactive Turbine Building Sump water will be batch released after having been pumped to an Auxiliary Monitor Tank, recirculated, and sampled. When this is done the deficiency identified by this item will be removed.

Applicability to Oconee and McGuire: Does not apply to Oconee or McGuire.

Evaluation 13:

This item concerned gaseous effluent monitor setpoints for the Auxiliary Monitor Tank Building. The Licensee has committed to update Section C3.2 to include the instructions as recommended in this item.

Applicability to Oconee and McGuire: This item does not apply to Oconee or McGuire.

Evaluation 14:

This item concerned lack of certain site related ingestion dose commitment factors for liquid effluents. The Licensee has committed to add the dose committemnt factors for the teenager, child, and infant age groups to Table C4.0-3, as recommended in this item.

Applicability to Oconee and McGuire: Corresponding additions should be made to the Oconee and McGuire appendices.

Evaluation 15:

This item recommended that commitments should be added to the ODCM to assign releases of radioactive material and resultant doses to the individual reactor units. The Licensee's response to this item is simply a restatement of the recommendation in Section 3.1 of NUREG-0133 concerning assignment of radioactive effluents to the individual reactor units. A committment should be added in the ODCM to follow this recommendation, including a discussion of the extent to which it is possible to specify the effluents due to each unit.

Applicability to Oconee and McGuire: This recommendation is equally applicable to Oconee and McGuire.

Evaluation 16:

This item concerned uncertainty as to the applicability of statements in Section C4.2. The Licensee furnished the clarification as recommended by this item. However, see Evaluation 19 below.

Applicability to Oconee and McGuire: Equally applicable to corresponding sections in the Oconee and McGuire ODCMs.

Evaluation 17:

This item concerned the dilution factor used in the calculation of dose due to consumption of potable water. The Licensee has committed to include, in Section C4.3.1, a reference for the value of the dilution factor (D^W) from the near field to the nearest potable water intake. This should be an accessible document, but it is not clear from the response whether or not it will be.

Applicability to Oconee and McGuire: Similar justification should be furnished in the Oconee appendix, but is not necessary for McGuire because a value of 1.0 is used for the dilution factor.

Evaluation 18:
This item recommended that methodology should be added to Sections C4.3.1 and C4.3.2 for projecting doses, including provisions to account for anticipated unusual releases. The Licensee states that clarification and additional guidance was added to the ODCM. However, no statements are included describing how releases are estimated for the period for which dose projections are being made. Such statements should be added, including provisions to account for anticipated unusual releases.

Applicability to Oconee and McGuire: Equally applicable to Oconee and McGuire.

Evaluation 19:
This item stated that the fuel cycle dose should be calculated using the methodology of Sections 3.1.1 and 3.1.2. The Licensee's response states that Section C4.4 is provided as simplified dose estimate based on Section 3.3.1(sic) and/or

Section 3.1.2. The reason for Section C4.4 to be in the ODCM is still not clear. Using the methodology of Section C4.4 to calculate the fuel cycle dose would conflict with the statement on page iii, that GASPAR and LADTAP are normally used to calculate offsite doses, or with the statement in Section 3.3.5 that the increments of dose resulting from liquid and gaseous effluent releases will be calculated using the methodology presented in Sections 3.1.1 and 3.1.2. Therefore, for consistency with the generic ODCM section, the parts of Section C4.4 that authorize the use of simplified dose estimates for calculation of the fuel cycle dose should be removed from the ODCM. Furthermore, when calculation of the fuel cycle dose is required by Technical Specification 3.11.4, the use of the methodology of Section C4.4 conflicts with Section C4.1 which states that the methodology of the generic information sections shall be used for any special reports.

The above paragraph outlines the internal inconsistencies that occur when the simplified method of Section C4.4 is used to calculate the fuel cycle dose. There are also logical reasons for not using this simplified method for calculations required by Technical Specification 3.11.4. When these calculations are required (to show compliance with 40 CFR 190), the releases of radioactive material have apparently been abnormal, and it is unreasonable to expect that the simplified method (based on normal releases) will give accurate results. Therefore, the need for accurate calculations requires the use of GASPAR and LADTAP or the methodology of Sections 3.1.1 and 3.1.2.

Note: Due to the relatively small contributions to the fuel cycle dose in the vicinity of Catawba that are due to contributions of effluents from McGuire and the fact that releases from McGuire will in all likelyhood be normal when Technical Specification 3.11.4 requires fuel cycle dose calculations to be made for Catawba, it may be defensible to use the simplified estimates for McGuire's contributions. However, if any of the fuel cycle dose calculations are done using the simplified method, the ODCM should be made internally consistent by changing page iii, Section 3.3.5, and Section C4.1 if necessary.

Applicability to Oconee and McGuire: The preceeding discussion is equally applicable to McGuire and Oconee, except the fuel cycle dose for each of these two stations contain smaller contributions from the other DPCo stations. Changes similar to those recommended above should be made in the McGuire and Oconee ODCMs.

Evaluation 20:

This item stated that equations and parameters used to calculate values in the site-specific data tables should be referenced or

given in the ODCM. The Licensee notes that Regulatory Guide 1.111 and a letter from a member of the NRC staff are referenced in the ODCM.
Applicablity to Oconee and McGuire: Corresponding references should be added for Tables A4.0-1a, A4.0-1b, A4.0-2a, A4.0-2b, B4.0-1 and B4.0-2. References are already included for A4.0-3 and B4.0-3.

Evaluation 21:

This item recommended inclusion in the ODCM of information concerning any environmental monitoring samples required by the technical specifications but not available; e.g., milk samples. The Licensee's response states, "Section 12 of the Tech Specs is to be incorporated within the ODCM and this information can be added at that time." A check of the Land Use Census for 1988 to determine what explanation might be included in the ODCM concerning milk samples showed that there are eight cows and three goats at locations with higher D/Q values than the locations from which milk samples are taken. The samples for the monitoring program are both taken from dairys. If possible, the milk samples for the monitoring program should be taken from the milk animal locations with the higher D/Q's.

Applicability to Oconee and McGuire: The report of the 1988 Land Use Census in the July-December 1988 Semi-Annual Effluent Release Report for Oconee indicates that two milk animal owners relatively near to the site refused to participate in the sampling program. These were the only other milk animals identified near Oconee for which sampling should have been performed if possible. The McGuire sampling program includes sampling locations as specified in Technical Specification 3.12.1.

The Oconee ODCM should indicate the reason for not obtaining the samples specified in Technical Specification 3.12.1.

Evaluation 22:

This item noted several erroneous dose factors in the ODCM. The Licensee has committed to correct erroneous values of inhalation and ingestion dose factors in ODCM Tables 3.1-2 through 3.1-7.

Applicability to Oconee and McGuire: Equally applicable, since this is in the generic section.

Evaluation 23:

This item noted errors in the ODCM table of stable element transfer factors. The stable element transfer data in Table 3.1-11 have been corrected as requested.

Applicability to Oconee and McGuire: Equally applicable, since this is in the generic section.

Evaluation 24:

This item noted that two bioaccumulation factors should be corrected in the ODCM. The bioaccumulation factor for Na in fish in Table 3.1-1 has been corrected as requested. The Licensee states that the P-32 sampling requirements were deleted from Catawba's Technical Specifications and P-32 data was removed from the ODCM. This response appears to meet the recommendations for this item, unless analysis for P-32 is required.

Applicability to Oconee and McGuire: Equally applicable, since this is in the generic section.

Evaluation 25:

This item stated that ingestion dose factors for P-32 should be added to ODCM Tables 3.1-2 through 3.1-5. The Licensee states that the P-32 sampling requirements were deleted from Catawba's Technical Specifications and P-32 data was removed from the ODCM. This response appears to meet the recommendations for this item, unless analysis for P-32 is required.

Applicability to Oconee and McGuire: Equally applicable, since this is in the generic section.

Evaluation 26:

This item stated that data for Mo-99 should be added to the ODCM, since it is one of the "principle gamma emitters" identified in the ODCM for which the LLD is specified. Data for Mo-99 has been added to Tables 3.1-1 through 3.1-30, as recommended.

Applicability to Oconee and McGuire: Equally applicable, since this is in the generic section.

Evaluation 27:

This item noted that the Licensee's and reviewer's values in for R_i in Tables 3.1-16 through 3.1-26 were different and recommended

that the Licensee should recheck the values. The Licensee updated pages 3-4 through 3-8 to show equations from Regulatory Guide 1.109 instead of the equations from NUREG-0133 that were shown before. Using the current equations to calculate the values of R_i in Tables 3.1-16 through 3.1-26 gave values that are much more consistent with the Licensee's values. The main discrepancies are now in the cow-milk, goat-milk, and cow-meat pathways, for which the Licensee's values are generally about 7% below the reviewer's values. This might be due to use by the Licensee of a slightly different feed mix for animals (pasture/stored) than is indicated in the ODCM. This amount of discrepancy is not considered serious, but should be resolved if possible.

Applicability to Oconee and McGuire: Equally applicable, since this is in the generic section.

Evaluation 28:

This item suggested that the Licensee may wish to exercise the option of using 1000 cfs as the dilution flow and/or using the average dilution flow for the reporting period for liquid effluent dose calculations. The Licensee will continue to use the actual dilution flow during releases for dose calculations.

Applicability to Oconee and McGuire: Not applicable to Oconee and McGuire since they use once-through main condenser cooling water systems.

Evaluation 29: Evaluation is included in Evaluation 28 above.

Evaluation 30:

This item suggested that setpoints of radiation monitors might be set to alarm before offsite dose rate limits are exceeded (the maximum setpoint permitted by the ODCM). The Licensee's response states that this suggestion is already followed in procedures and does not need to be duplicated in the ODCM.

Applicability to Oconee and McGuire: This item consisted of a suggestion. It is reasonable to assume that Oconee and McGuire use essentially the same procedures as Catawba and do not believe any change in the ODCM would be useful.

Evaluation 31:

This item suggested that the Licensee may wish to modify Sections C3.1.1 and C2.1.1 to specify radiation monitor setpoints on the

Waste Liquid Effluent Line in a way that would prevent spurious alarms. The Licensee's response states that this suggestion is already followed in procedures and does not need to be duplicatid in the ODCM.

Applicability to Oconee and McGuire: This item consisted of a suggestion. It is reasonable to assume that Oconee and McGuire use essentially the same procedures as Catawba and do not believe any change in the ODCM would be useful.

Evaluation 32:

This item suggested that the Licensee may wish to follow the recommendation of the bases statements in the CNS Technical Specifications and in NUREG-0472 (that require only fuel cycle sources within 8 km to be considered in the fuel cycle dose calculations) and eliminate the calculations for McGuire. The Licensee's response notes that McGuire contributes 4.0% to the total body dose and 21.9% to the maximum organ dose in Catawba's Fuel Cycle Calculations, and therefore Duke Power does not feel that McGuire's contribution can be ignored. Retention of calculations of McGuire's contributions appears to be necessary.

Applicability to Oconee and McGuire: The McGuire ODCM's fuel cycle dose calculation includes contributions due to gaseous effluents from Catawba. The Oconee ODCM's calculation does not include contributions from any sources other than Oconee. It is logical to assume that the choice of contributions to be included by Oconee and McGuire are bases on the same logic as the choices for Catawba, and are therefore reasonable.

Evaluation 33:

This item suggested that the Licensee may wish to change the value of t_f (transport time from pasture to receptor for the grass-cow-meat pathway) in Section 3.1.2.2 to the value recommended by Regulatory Guide 1.109. The Licensee has made this change.

Applicability to Oconee and McGuire: Equally applicable to Oconee and McGuire, since this is in the generic section.

Evaluation 34:

This item suggested that the Licensee may wish to modify Sections 1.2 and C2.2 to match the recommendations in the bases statements for CNS Technical Specification 3.11.2.1.b and NUREG-0472. This would be done by specifying the dose rate to the thyroid of a child via the inhalation pathway as the controlling dose rate for

determining compliance with the technical specification limit of 1500 mrem/yr. The Licensee's response apparently erronously states that this concern was addressed in Revision 24 dated 1/1/89. This erroneous statement does not result in a problem, since the methodology in the ODCM is at least as conservative as the methodology recommended in the bases statements referenced above.

Applicability to Oconee and McGuire: Equally applicable to Oconee and McGuire.

Evaluation 35:

This item suggested changing "activity" and "gross activity" to "concentration" and "activity concentration" in various statements in the ODCM to the improve the accuracy of the statements. The Licensee has committed to making these changes, but has not yet done so. These suggested changes (primarily in Sections C3.0, C3.1.1, C3.1.2, C3.1.3, C3.1.4, and C3.1.5) are not particularly significant, since there appears to be no reasonable chance of misinterpretation of the intended meaning.

Applicability to Oconee and McGuire: The comments above are equally applicable to Oconee and McGuire.

Evaluation 36:

This item suggested that the average dilution flow for the reporting period could be used in the liquid effluent dose calculation in Section 3.1.1 if the total volume releases in the diluting stream is reported in the semiannual reports. The Licensee has not changed to using this methodology, but states in the response that the Semi-Annual Report includes the total volume released in the diluting stream.

Applicability to Oconee and McGuire: Equally applicable to Oconee and McGuire, since this is in the generic section.