

Docket No.: 50-458

JUN 10 1985

Mr. William J. Cahill, Jr.  
Senior Vice President  
River Bend Nuclear Group  
Gulf States Utilities Company  
Post Office Box 2951  
Beaumont, Texas 77704  
ATTN: Mr. J. E. Booker

Dear Mr. Cahill:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - OFFSITE DOSE CALCULATION MANUAL

As a part of the NRC staff's review of your application for an operating license for River Bend Station, the staff has determined the need for additional information in the area of Offsite Dose Calculation Manual (ODCM). The request for information in the enclosure as Comments 1 - 10.

Please inform NRC Project Manager, Stephen Stern of your schedule for response and for clarification or further discussion on this topic.

Sincerely,

*Original signed by:*

*W. R. Butler*

Walter R. Butler, Chief  
Licensing Branch No. 2  
Division of Licensing

Enclosure:  
As stated

cc w/enclosure:  
See next page

DISTRIBUTION

Docket File  
NRC PDR  
Local PDR  
PRC System  
NSIC  
LB#2 Reading  
EHylton  
SStern  
OELD  
ACRS (16)  
JPartlow  
BGrimes  
EJordan

LB#2/DL  
SStern:dh  
05/16/85

LB#2/DL  
EHylton  
05/ /85

LB#2/DL  
WRButler  
05/28/85

8506200096 850610  
PDR ADOCK 05000458  
A PDR



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

JUN 10 1985

Docket No.: 50-458

Mr. William J. Cahill, Jr.  
Senior Vice President  
River Bend Nuclear Group  
Gulf States Utilities Company  
Post Office Box 2951  
Beaumont, Texas 77704  
ATTN: Mr. J. E. Booker

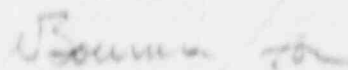
Dear Mr. Cahill:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - OFFSITE DOSE CALCULATION MANUAL

As a part of the NRC staff's review of your application for an operating license for River Bend Station, the staff has determined the need for additional information in the area of Offsite Dose Calculation Manual (ODCM). The request for information in the enclosure as Comments 1 - 10.

Please inform NRC Project Manager, Stephen Stern of your schedule for response and for clarification or further discussion on this topic.

Sincerely,

  
Walter R. Butler, Chief  
Licensing Branch No. 2  
Division of Licensing

Enclosure:  
As stated

cc w/enclosure:  
See next page

River Bend Station

Mr. William J. Cahill, Jr.  
Senior Vice President  
River Bend Nuclear Group  
Gulf States Utilities Company  
Post Office Box 2951  
Beaumont, Texas 77704  
ATTN: Mr. J. E. Booker

cc: Troy B. Conner, Jr., Esq.  
Conner and Wetterhahn  
1747 Pennsylvania Avenue, N. W.  
Washington, D.C. 20006

Ms. Linda B. Watkins/Mr. Steven Irving  
Attorney at Law  
355 Napoleon Street  
Baton Rouge, Louisiana 70802

Mr. William J. Reed, Jr.  
Director - Nuclear Licensing  
Gulf States Utilities Company  
Post Office Box 2951  
Beaumont, Texas 77704

Mr. David Zaloudek  
Nuclear Energy Division  
Louisiana Department of  
Environmental Quality  
Post Office Box 14690  
Baton Rouge, Louisiana 70898

H. Anne Plettinger  
3456 Villa Rose Dr.  
Baton Rouge, Louisiana 70806

Richard M. Troy, Jr., Esq.  
Assistant Attorney General in Charge  
State of Louisiana Department of Justice  
234 Loyola Avenue  
New Orleans, Louisiana, 70112

Mr. J. David McNeill, III  
William G. Davis, Esq.  
Department of Justice  
Attorney General's Office  
7434 Perkins Road  
Baton Rouge, Louisiana 70808

Dwight D. Chamberlain  
Resident Inspector  
Post Office Box 1051  
St. Francisville, Louisiana 70775

Gretchen R. Rothschild  
Louisianians for Safe Energy, Inc.  
1659 Glenmore Avenue  
Baton Rouge, Louisiana 70775

James W. Pierce, Jr., Esq.  
P. O. Box 23571  
Baton Rouge, Louisiana 70893

COMMENTS ON THE PROPOSED  
OFFSITE DOSE CALCULATION MANUAL  
FOR RIVER BEND STATION

1. General

(a) The title page should contain a date for the latest revision of the ODCM.

(b) Although Section 4.1 entitled, "Deviations from the RBS Environmental Operating License Stage," is listed in the Table of Contents, it is not contained in the report. Either delete § 4.1 from the Table of Contents, or provide the section.

2. Section 2.0, "Liquid Effluent Methodology"

(a) Eq. 2.4.2-1 on p. 2-4 does not contain a term for near field average dilution. If appropriate, credit for near field dilution (up to 1000 cfs) may be used in this equation provided that the basis for the dilution factor is either given in the ODCM or referenced to another document.

3. Section 3.0, "Gaseous Effluent Methodology"

(a) In § 3.3.1.2.3 (p. 3-4 & 5) equations are given for evaluating doses from exposure via three pathways to show compliance with 10 CFR 20. To show compliance with 10 CFR 20 the inhalation pathway is most limiting. Consequently, the discussion (and accompanying Tables G-2 & 3) on exposure via the ground plane, and cow milk pathways may be deleted from this section.

- (b) In Eq. 3.3.2-4 a summation over the index "i" is used to determine the set point value for the noble gas monitor. It appears that a summation is not needed in this equation; verify this equation.
4. Section 4.0, "Radiological Environmental Monitoring"
- (a) Provide a copy of the latest land use census that was used to determine the locations for collecting milk and produce samples. Provide the date of the land use census.
5. Appendix B
- (a) The liquid effluent dose parameters  $A_{it}$  presented in Table B-1 of the ODCM are about a million times or more ( $0.8$  to  $2 \times 10^6$  times) lower than the values calculated by the NRC staff. Check the  $A_{it}$  values in Table B-1 and briefly explain the basis for these values. Presumably these values were calculated using the methodology described in some of the Appendices in Regulatory Guide 1.109, Rev. 1 (October 1977) and site-specific values for a few parameters. List the site-specific values used to estimate  $A_{it}$  (e.g., the quantities of water, fish and invertebrates ingested).

If a dose calculation method other than Regulatory Guide 1.109 was used to estimate  $A_{iT}$ , then briefly describe that method, and the bases for values different than those in Regulatory Guide 1.109.

6. Appendix F

- (a) The X/Q values listed in Table F-1 for evaluating the air dose are less than the highest values listed in Table E-1 for the site boundary. Resolve this apparent inconsistency.

7. Appendix G

- (a) The  $P_i$  values in Table G-1 are too low by several orders of magnitude. Recheck these values.

8. Appendix I

- (a) The environmental pathway dose conversion factors  $R_i$  presented in Tables I-3, I-5, I-9 and I-19 of the RBS-ODCM for the principal pathways of exposures of the maximally exposed individual to airborne radioiodine and particulates are about 3 orders of magnitude ( $1$  to  $3 \times 10^3$  times) lower than the values calculated by the NRC staff. This may be due in part to a typographical error in the units used in the above tables for  $R_{(i)}$  (i.e.,

"rem/yr" should be used instead of "mrem/yr"). However, there are additional discrepancies between the  $R_i$  values calculated by the NRC staff and those presented in these tables for several radionuclides (e.g., I-131, I-133 and C-14). Check the  $R_i$  values in the tables in Appendix I and briefly explain the basis for these values in the next revision of the ODCM. Presumably these values were calculated using the methodology described in some of the Appendices in Regulatory Guide 1.109, Rev. 1 (October 1977) and site-specific values for a few parameters. List the site-specific values used to estimate the pathway dose factors (e.g., the fraction of the year that animals graze on pasture, the fraction of daily feed that is pasture grass when the animals graze, the humidity). If a dose calculation method other than Regulatory Guide 1.109 was used to estimate  $R_i$ , then briefly describe that method, and the bases for values different than those in Regulatory Guide 1.109.

9. Figures

(a) Figure 1, 3 & 5 are illegible. Provide foldout figures. Discharge points for liquid and airborne effluents should be clearly indicated on Figures 1 and/or 3. The site boundary, which is used as a basis to control airborne effluents, should be clearly indicated on Figure 3. The unrestricted area boundary, which is used as a basis to control liquid effluents, should be clearly indicated on Figure 1.

10. Section 6.0, "Interlaboratory Comparison Studies". The second sentence of subsection 6.2.1 states that the River Bend Station Environmental Services Group or a qualified contracting laboratory will participate at least annually in a nationally recognized interlaboratory comparison study. This statement should be revised to conform with the NRC's Radiological Assessment Branch Technical Position (BTP) (revision 1, October 1979). The BTP states that the licensee and licensee's contractor laboratories should participate in EPA's Environmental Radioactivity Laboratory Intercomparison Studies (Crosscheck) Program or an equivalent program. The BTP also states that this participation shall include all of the determinations (sample-radionuclide combinations) that are offered by EPA and that also are included in the licensees



environmental monitoring program. In addition, results of the Interlaboratory Program should be included in the annual environmental monitoring report to NRC. Revise § 6.2.1 accordingly.