

# The Light company

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August 23, 1985

ST-HL-AE-1327

File No.: G7.2

Mr. George W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

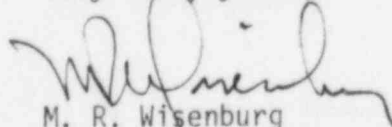
South Texas Project  
Units 1 & 2  
Docket Nos. STN 50-498, STN 50-499  
Environmental Report Dose Analysis Information

Dear Mr. Knighton:

Please find attached the information requested by the staff that is required for the staff to perform the confirmatory dose analysis for STP. This information will appear in a later Amendment to the Environmental Report and the Final Safety Analysis Report. Also find attached one copy of the Report entitled "Wyle Research Report - WR 84-24, Ingestion Pathway Data to Support Annual Dose Calculations for the South Texas Project Electric Generating Station". This report is used as the basis for some of the information provided in the attachment.

If you should have any questions on this matter, please contact Mr. M. E. Powell at (713) 993-1328.

Very truly yours,



M. R. Wisenburg  
Manager, Nuclear Licensing

SMH/as

- Attachments:
- 1) Environmental Report Dose Analysis Information
  - 2) Nearest Receptors Within Five Miles of STP
  - 3) Wyle Research Report - WR 84-24, Ingestion Pathway Data to Support Annual Dose Calculations for the South Texas Project Electric Generating Station

W2/SMH/n

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cc:

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Brazoria, TX 77422

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Office of the Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

cc without attachment 3 except as noted by an asterick(\*)

South Texas Project  
Units 1 & 2  
Environmental Report Dose  
Analysis Information

- A.1.c)\* Provide the annual vegetable production (kg/yr) with separate data for leafy and non-leafy vegetables.
- o See page 4 of the Wyle Report. There is no significant leafy vegetable production in the area.
- A.2 Indicate the fraction of the year that leafy vegetables are grown.
- o See A.1.c) above
- A.3 Indicate fraction of ingested crop that is derived from the garden.
- o All the vegetable ingestion for the maximum individual at the nearest home garden is assumed to come from the garden. Vegetable ingestion rates for the maximum individual are taken from Table E-5 of R.G. 1.109.
- A.4 Indicate the fraction of the year that cows, goats, and beef cattle are on pasture.
- o Fraction is assumed equal to one. See page 33 of the Wyle Report.
- A.5 Provide the fraction of daily intake of cows, goats, and beef cattle that is derived from pasture food while on pasture.
- o Fraction is equal to 0.84. See Table 23 of Wyle Report. Animals are on feed for 3 months but on pasture all year. While on feed, 65% intake is feed, therefore,  
$$\begin{aligned} \% \text{ of feed from grass} &= \frac{.35 \times 3 \text{ mos.} + 9 \text{ mos.}}{12 \text{ mos.}} \\ &= 0.84 \end{aligned}$$
- A.6 Provide the absolute or relative humidity over the growing season.
- o Absolute humidity (average) is  $13.05 \text{ gm/m}^3$ .

\*Corresponds to the NRC identification numbers.

- A.7 Provide the average temperature over the growing season if absolute humidity is not provided.
- o Not applicable.
- A.8 For each compass sector within 5 miles of the plant, provide the location of the site boundary, nearest residence, nearest garden, nearest milk cow, nearest milk goat, and nearest beef cattle.
- o Site boundary distances are provided in Table 6.1-22 of the ER.
  - o For the rest of the requested information see Attachment 2.
- B.1 Provide the locations and estimates of commercial vertebrate and invertebrate fishing catches and sport vertebrate and invertebrate fishing catches (kg/yr) downstream of plant to 50 miles. Include bases for each estimate and representative dilution factors and transit times for discharge to each location.
- o Table 19 of the Wyle Report provides fish harvest information.
- Colorado river dilution factor is 22.
- A dilution factor of 10 was used for dilution of Colorado River water into the Gulf of Mexico and Matagorda Bay in view of the large receiving water body volumes involved. No transit times were used for either dose location.
- B.2 Provide the locations and estimates of recreational use downstream including shoreline, boating, and swimming uses to 50 miles as appropriate. Include bases for each estimate and representative dilution factors and transit times for discharge to each location.
- o The maximum individual was evaluated for recreational use of the Colorado River downstream of the plant. No transit times were used for the travel to dose point. No population doses for this pathway were calculated. Section 2.2 of the Environmental Report indicates there are no significant recreational facilities within 10 miles of the plant.

- B.3 Indicate the downstream locations and estimate of drinking water intakes within 50 miles as appropriate. Include bases for each estimate and representative dilution factors and transit times for discharge to each location.
- o There are no known downstream intakes for drinking water at this time.
- B.4 Provide the irrigation rate (l/month/m<sup>2</sup>), crop yield (kg/m<sup>2</sup>), annual production (kg/yr), growing period for irrigated land using water withdrawn within 50 miles downstream as appropriate. Also, include downstream location of irrigation water intakes and representative dilution factors and transit times for discharge to each location as appropriate.
- o There is no known irrigation of crops downstream at this time.
- C.1,2 The applicant should provide the following information:
1. Description of and basis for models used to calculate maximum exposed individual and population doses resulting from gaseous releases.
  2. Description of and basis for models used to calculate maximum exposed individual and population doses resulting from liquid releases.
    - o Individual and population dose calculations for liquid and gaseous releases from STP were based on methodologies of R.G. 1.109.
    - o The liquid release model used is consistent with the model used to calculate maximum steady state reservoir concentrations from R. G. 1.113.

South Texas Project  
Units 1 & 2  
Environmental Report Dose  
Analysis Information

Nearest Receptors Within Five Miles of STP

		(Miles)	
	<u>Residence</u>	<u>Beef Cattle</u>	<u>Garden</u>
N	2	.87	-
NNE	-	.87	-
NE	-	.87	-
ENE	4	.87	-
E	3	.87	-
ESE	3	.87	3
SE	3	2.2	3
SSE	-	3.6	-
S	4	3.7	-
SSW	-	3.6	-
SW	4	2.0	4
WSW	2	1.4	4
W	4	1.2	-
WNW	4	1.1	4
NW	4	1.0	4
NNW	3	.93	-

°There are no milk producing animals within 5 miles of the site.

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WSW	2	1.4	4
W	4	1.2	-
WNW	4	1.1	4
NW	4	1.0	4
NNW	3	.93	-

\*There are no milk producing animals within 5 miles of the site.

ATTACHMENT 3