

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Report: 99990004/86-22

Contractor: State of Texas Department of Health
Bureau of Radiation Control

Facility: South Texas Project (STP)

Meeting and TLD Installation Conducted: October 14-17, 1986

Inspector:

Blaine Munday
for J. B. Nicholas, Senior Radiation Specialist
Facilities Radiological Protection Section

11/10/86
Date

Approved:

Blaine Munday
B. Murray, Chief, Facilities Radiological
Protection Section

11/10/86
Date

Meeting Summary:

Implementation of the conditions of the NRC/State of Texas Environmental Monitoring Cooperative Agreement No. NRC-31-83-671 around the South Texas Project and the initial installation of the NRC environmental radiation monitoring TLD network stations.

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DETAILS1. Persons ContactedTexas Department of Health (TDH)

M. J. Preusse, Administrator, Facility Surveillance Branch, Bureau of Radiation Control

R. A. Cripps, Chief, Field Operations Program, Facility Surveillance Branch, Bureau of Radiation Control

Houston Lighting & Power (HL&P)

J. D. Sherwood, Supervisor, Radiological Laboratory

R. E. Lockwood, Senior Health Physicist

NRC

J. B. Nicholas, Senior Radiation Specialist, Facilities Radiological Protection Section

2. Environmental Radiation Monitoring Program

The above listed representatives from the State of Texas, HL&P, and the NRC met to discuss the implementation of the full-scale environmental monitoring program around the STP as described in Modification No. 4 to the NRC/State of Texas Environmental Monitoring Cooperative Agreement No. NRC-31-83-671.

The interface between HL&P and the TDH in coordinating the efforts to collect and split samples of environmental media was discussed. Samples which were discussed during the meeting included air, surface water, milk, fish or invertebrates, food products or vegetation, and shoreline sediment. The following items were agreed to during this meeting:

- a. Starting in January 1987, the full-scale environmental monitoring program will be implemented by the State of Texas at the STP site as state resources will permit.
- b. The TDH, in cooperation with HL&P, will install by the end of 1986, two stationary continuous air samplers. One air sampler will be located in close proximity to the HL&P air sampler at HL&P's Station No. 16, which is located approximately 0.7 mile north northwest of the plant at the exclusion area boundary along highway Texas 521. The second air sampler will be located next to the HL&P control air sampler at HL&P Station No. 37, which is located approximately 11 miles west southwest of the plant at the Palacios electrical

substation. The air particulate filter and charcoal cartridge samples will be collected weekly by TDH personnel or their designated representative.

- c. Surface water samples will be collected and split monthly between HL&P and the TDH. The samples will be routinely collected by HL&P personnel using the currently installed continuous composite samplers. TDH personnel may periodically accompany HL&P personnel. Samples will be split from HL&P's upstream control Station No. 226 located on the Colorado River at the Celanese plant and from HL&P's Station No. 227 located on the west bank of the Colorado River approximately 1.5 miles downstream of the STP discharge across from river channel marker No. 22. The TDH will periodically provide spiked water samples to the HL&P's Radiological Laboratory as a quality control check.
- d. Milk samples are not routinely collected by HL&P since there are no dairies located in the vicinity of the plant and no milk-producing animals raised near the plant site. If milk should become available for sampling, samples will be collected and split between HL&P and the TDH at that time on a monthly frequency.
- e. Fish or invertebrates will be split from HL&P's catch semiannually. The samples will be split according to species and preserved by the licensee until transported to the TDH laboratory for analysis. If the catch does not produce enough sample for splitting, duplicate samples of similar or analogous species may be substituted for analysis. The TDH will provide splits of additional fish or invertebrate samples periodically as a quality control check. The fish samples will be caught primarily in the Colorado River between channel markers 1 and 27 which is designated as HL&P's Station No. 218.
- f. Food products or vegetation samples will be collected by TDH personnel annually at the time of harvest and split with HL&P. The samples should be of principal food products or vegetation grown near an area having the highest probability of being in a downwind direction from the plant. Leafy vegetables from a private garden or farm in the immediate vicinity of the plant would be an ideal sample.
- g. A shoreline sediment sample will be collected and split jointly by the TDH and HL&P personnel annually. The shoreline sediment sample will be taken on the shore of the Colorado River where the plant blowdown discharge channel empties into the river. This sample location is designated HL&P Station No. 233 located approximately 4.3 miles southeast of the plant.

3. TLD Direct Radiation Monitoring Network

The initial NRC environmental radiation monitoring TLD network stations for the STP were established during the period October 15-17, 1986. The

46 TLD stations are listed in Attachment 1 to this report along with detailed descriptions of the TLD locations. A map indicating the TLD sites for HL&P, State of Texas, and NRC is also provided. The TLD's will be exchanged quarterly by TDH personnel and sent to NRC Region I for processing.

4. Conclusions

The TDH will install and implement the required sampling equipment and procedures to conduct the full-scale environmental surveillance program, in accordance with the requirements in Modification No. 4 to the NRC/State of Texas Environmental Monitoring Cooperative Agreement No. NRC-31-83-671. This full-scale environmental surveillance program will be implemented on or about January 1, 1987.

ATTACHMENT 1

ENVIRONMENTAL RADIATION MONITORING NETWORK STATIONS

SOUTH TEXAS PROJECT GENERATING STATION

<u>NRC Station</u>	<u>Location</u>	<u>Description</u>	<u>Licensee Designation</u>	<u>State Designation</u>	<u>Criteria Satisfied</u>
1	E 90° 1.6 mi	E of plant, located NW of the STP visitors center on licensee's TLD stand, co-located with licensee's TLD No. 5	5		I, C
2	ENE 68° 1.3 mi	ENE of plant, located on barbed wire fence post on the west side of Texas 521 near the licensee's TLD No. 4 approximately 0.5 mi northwest of NRC TLD No. 1, co-located with licensee's TLD No. 4	4		I, C
3	NE 47° 1.2 mi	NE of plant, located on highway reflector pole on the east side of Texas 521 across the road from licensee's TLD No. 3 approximately 0.4 mi northwest of NRC TLD No. 2			I
4	NNE 21° 1.0 mi	NNE of plant, located on barbed wire fence post on the north side of Texas 521 across the road from licensee's TLD No. 2 approximately 0.4 mi northwest of NRC TLD No. 3			I
5	N 360° 0.7 mi	N of plant, located at licensee's air sampler site on the south side of Texas 521 on barbed wire fence post near the licensee's TLD No. 1 approximately 0.3 mi west of NRC TLD No. 4, co-located with licensee's TLD No. 1	1		I, C
6	NNW 343° 0.7 mi	NNW of plant, located at licensee's air sampler site on the south side of Texas 521 on barbed wire fence post near the licensee's TLD No. 16 approximately 0.4 mi west of NRC TLD No. 5, co-located with licensee's TLD No. 16 and states TLD No. 4	16	4	I, C

<u>NRC Station</u>	<u>Location</u>	<u>Description</u>	<u>Licensee Designation</u>	<u>State Designation</u>	<u>Criteria Satisfied</u>
7	NW 315° 0.7 mi	NW of plant, located at licensee's air sampler site on the south side of Texas 521 on barbed wire fence post near the licensee's TLD No. 15 approximately 0.4 mi west of NRC TLD No. 6, co-located with licensee's TLD No. 15	15		I, C
8	WNW 293° 0.7 mi	WNW of plant, located on barbed wire fence post on the south side of Texas 521 near the licensee's TLD No. 14 approximately 0.5 mi west of NRC TLD No. 7, co-located with licensee's TLD No. 14	14		I, C
9	W 270° 0.9 mi	W of plant, located on barbed wire fence post next to utility pole on the east side of Texas 521 near the licensee's TLD No. 13 approximately 0.6 mi southwest of NRC TLD No. 8, co-located with licensee's TLD No. 13	13		I, C
10	SSE 158° 0.3 mi	SSE of plant, located on top of reservoir dyke on licensee's TLD No. 8 stand, co-located with licensee's TLD No. 8 and state's TLD No. 23	8	23	I, C
11	S 180° 0.2 mi	S of plant, located on top of reservoir dyke on licensee's TLD No. 9 stand, co-located with licensee's TLD No. 9 and state's TLD No. 24	9	24	I, C
12	SSW 205° 0.4 mi	SSW of plant, located on top of reservoir dyke on licensee's TLD No. 10 stand, co-located with licensee's TLD No. 10 and state's TLD No. 18	10	18	I, C
13	SW 226° 0.5 mi	SW of plant, located on top of reservoir dyke on licensee's TLD No. 11 stand, co-located with licensee's TLD No. 11	11		I, C

<u>NRC Station</u>	<u>Location</u>	<u>Description</u>	<u>Licensee Designation</u>	<u>State Designation</u>	<u>Criteria Satisfied</u>
14	WSW 243° 1.1 mi	WSW of plant, located on top of reservoir dyke on licensee's TLD No. 12 stand, co-located with licensee's TLD No. 12	12		I, C
15	SW 220° 2.4 mi	SW of plant, located on top of reservoir dyke on licensee's TLD No. 27 stand, co-located with licensee's TLD No. 27 and state's TLD No. 19	27	19	I, C
16	SSW 203° 4.1 mi	SSW of plant, located on top of reservoir dyke on licensee's TLD No. 26 stand, co-located with licensee's TLD No. 26	26		O, C
17	S 173° 3.8 mi	S of plant, located on top of reservoir dyke on licensee's TLD No. 25 stand, co-located with licensee's TLD No. 25 and state's TLD No. 20	25	20	O, C
18	SSE 149° 4.2 mi	SSE of plant, located on top of reservoir dyke on licensee's TLD No. 24 stand, co-located with licensee's TLD No. 24	24		O, C
19	SE 135° 3.6 mi	SE of plant, located on top of reservoir dyke on licensee's TLD No. 7 stand, co-located with licensee's TLD No. 7 and state's TLD No. 21	7	21	O, C
20	ESE 118° 2.6 mi	ESE of plant, located on top of reservoir dyke on white post #115 overlooking Kelly Lake to the NNE, co-located with state's TLD No. 22		22	I, C
21	ESE 120° 1.3 mi	ESE of plant, located on top of reservoir dyke on white post #50			I

<u>NRC Station</u>	<u>Location</u>	<u>Description</u>	<u>Licensee Designation</u>	<u>State Designation</u>	<u>Criteria Satisfied</u>
22	WSW 252° 2.2 mi	WSW of plant, located on barbed wire fence post to the west of the driveway leading to the farm house of the nearest residence on the north side of Texas 521 approximately 0.9 mi west of NRC TLD No. 9, co-located with state's TLD No. 13		13	NR, C
23	W 261° 4.3 mi	W of plant, located on first utility pole north of the intersection of Texas 521 and FM 1095 on the east side of FM 1095			0
24	WNW 289° 4.5 mi	WNW of plant, located on utility pole on the north side of driveway leading to a large green and white storage shed on the east side of FM 1095 approximately 1.9 mi north of the intersection of Texas 521 and FM 1095			0
25	NW 309° 5.4 mi	NW of plant, located approximately 0.6 mi east of the intersection of FM 1095 and Wilson Creek cemetery road on the south side of road on a utility pole near a telephone underground cable box, co-located with licensee's TLD No. 31	31		0, C
26	WSW 241° 5.0 mi	WSW of plant, located approximately 1.5 mi south of the intersection of Texas 521 and FM 1095 on a utility pole in the southwest corner of the intersection of FM 1095 and Ellis Road, co-located with licensee's TLD No. 28	28		0, C
27	SW 219° 4.8 mi	SW of plant, located approximately 1.4 mi east of the intersection of FM 1095 and Citrus Grove Road on the south side of Citrus Grove Road across from gas pipeline warning sign No. 55 on licensee's TLD No. 40 stand, co-located with licensee's TLD No. 40	40		0, C

<u>NRC Station</u>	<u>Location</u>	<u>Description</u>	<u>Licensee Designation</u>	<u>State Designation</u>	<u>Criteria Satisfied</u>
28	WSW 237° 9.6 mi	WSW of plant, located in the community of Collegeport on utility pole in front of post office in Collegeport approximately 0.1 mi south of where FM 1095 ends, located near licensee's TLD No. 36 and state's TLD No. 5	36	5	PC, C
29	WSW 253° 10.7 mi	WSW of plant, located at CPL substation approximately 1.2 mi south of the intersection of Texas 521 and Highway 35 and 0.1 mi west of the intersection of Highway 35 and Harrison Road on the south side of Harrison Road on the chain link fence surrounding the licensee's control air sampler, co-located with the licensee's TLD No. 37	37		UWC, C
30	WNW 293° 6.1 mi	WNW of plant, located on corner of chain link fence surrounding the Tres Palacios Oaks property northwest of grocery/gas station at entrance to Tres Palacios Oaks approximately 3.9 mi north of the intersection of Texas 521 and FM 2853, co-located with the state's TLD No. 10 and about 300 yards north of the licensee's TLD No. 30	30	10	PC, C
31	NNW 328° 7.7 mi	NNW of plant, located on utility pole near telephone underground cable box on south side of road approximately 1.1 mi east of the intersection of FM 1095 and the road paralleling the railroad			0
32	NNW 344° 7.3 mi	NNW of plant, located on railroad crossing sign on north side of road approximately 1.7 mi east of NRC TLD No. 31			0

<u>NRC Station</u>	<u>Location</u>	<u>Description</u>	<u>Licensee Designation</u>	<u>State Designation</u>	<u>Criteria Satisfied</u>
33	N 353° 4.8 mi	N of plant, located on barbed wire fence post near gate to gas pipeline station No. 10 on the east side of FM 1468 approximately 2.2 mi south of the intersection of FM 1468 and the road which parallels the railroad in the community of Buckeye			0
34	E 92° 4.8 mi	E of plant, located on highway reflector pole on the south side of Texas 521 west of the bridge, approximately 3.2 mi west of the intersection of Texas 521 and Highway 60			0
35	ESE 112° 7.3 mi	ESE of plant, located on the chain link security fence at Dupont plant approximately 100 feet to the left of the main gate and security building, co-located with state's TLD No. 11	22	11	HPI, C
36	ESE 117° 4.7 mi	ESE of plant, located on utility pole on the south side of the road leading to Selkirk Island across the road from the civil defense siren pole approximately 3.1 mi west of the intersection of Highway 60 and the Selkirk Island road			PC
37	SE 144° 9.3 mi	SE of plant, located in the town of Matagorda on the southwest corner of the chain link fence surrounding the Matagorda water department well No. 1 behind the Matagorda fire station which is located on the east corner of the intersection of Lewis Street and Market Street	35	2	PC
38	WNW 299° 11.2 mi	WNW of plant, located in the town of Blessing on the northwest corner of the chain link fence surrounding the Blessing water tower on the north side of FM 616			PC

<u>NRC Station</u>	<u>Location</u>	<u>Description</u>	<u>Licensee Designation</u>	<u>State Designation</u>	<u>Criteria Satisfied</u>
39	NW 322° 9.3 mi	NW of plant, located on utility pole on the north side of Highway 35 approximately 0.1 mi southwest of the intersection of Highway 35 and FM 1095 north of the Tidehaven High School			HPI
40	N 357° 12.1 mi	N of plant, located in the town of Markham on small utility pole at the rear of the Markham post office which is located approximately 1.0 mi northwest of the intersection of Highway 35 and FM 1468 on the corner of FM 1468 (Broadway) and 7th Street			PC
41	NNE 24° 12.9 mi	NNE of plant, located in the town of Bay City on the northeast corner of the chain link fence surrounding a water lift station on the south side of Thompson Road approximately 0.4 mi west of the intersection of Thompson Road and Highway 60 west of McAllister High School, co-located with state's TLD No. 1		1	PC, C
42	NNE 29° 5.8 mi	NNE of plant, located on wooden post next to licensee's TLD No. 18 stand at entrance to CPL substation northeast of the Celeneese plant, co-located with the licensee's TLD No. 18 and state's TLD No. 12	18	12	HPI, C
43	NE 46° 6.4 mi	NE of plant, located on barbed wire fence post on the west side of FM 2668 approximately 0.8 mi south of the intersection of FM 3057 and FM 2668			0
44	ENE 62° 5.9 mi	ENE of plant, located on barbed wire fence post on the west side of FM 2668 near utility pole under high voltage power lines approximately 1.7 mi south of NRC TLD No. 43			0

<u>NRC Station</u>	<u>Location</u>	<u>Description</u>	<u>Licensee Designation</u>	<u>State Designation</u>	<u>Criteria Satisfied</u>
45	ENE 73° 8.0 mi	ENE of plant, located on wooden post marked warning telephone underground cable on the southwest corner of the intersection of Highway 60 and FM 2078			PC
46	ENE 75° 18 mi	ENE of plant, located on the northeast corner of the intersection of Texas 521 and FM 2540 attached to the licensee's TLD No. 23 stand approximately 11.4 mi east of the intersection of Texas 521 and Highway 60, co-located with licensee's TLD No. 23	23		DWC, C

I - Inner Ring
 O - Outer Ring
 C - Co-located
 HPI - High Public Interest
 PC - Population Center
 NR - Nearest Residence
 DWC - Downwind Control
 UWC - Upwind Control

ATTACHMENT 2

