



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

September 6, 2011
NOC-AE-11002719
10CFR54
STI: 32917978
File: G25

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2746

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Response to Request for Additional Information for the
South Texas Project License Renewal Application (TAC Nos. ME4938 and ME5122)

- References: 1. STPNOC Letter dated October 25, 2010, from G. T. Powell to NRC Document Control Desk, "License Renewal Application," (NOC-AE-10002607) (ML103010257)
2. NRC letter dated August 4, 2011, "Requests for Additional Information for the Review of the South Texas Project License Renewal Application" (ML11201A062)

By Reference 1, STP Nuclear Operating Company (STPNOC) submitted a License Renewal Application (LRA) for South Texas Project (STP) Units 1 and 2. By Reference 2, the NRC staff requested additional information for review of the STP LRA. STPNOC's response to the request for additional information is provided in the Enclosure to this letter.

There are no regulatory commitments in this letter.

Should you have any questions regarding this letter, please contact either Arden Aldridge, STP License Renewal Project Lead, at (361) 972-8243 or Ken Taplett, STP License Renewal Project regulatory point-of-contact, at (361) 972-8416.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 6, 2011
Date

G. T. Powell
Vice President,
Technical Support & Oversight

KJT

Enclosure: STPNOC Response to Requests for Additional Information

A147
NRR

cc:

(paper copy without attachment to enclosure)

(electronic copy without attachment to enclosure)

Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
612 East Lamar Blvd, Suite 400
Arlington, Texas 76011-4125

A. H. Gutterman, Esquire
Kathryn M. Sutton, Esquire
Morgan, Lewis & Bockius, LLP

Balwant K. Singal
Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North (MS 8B1)
11555 Rockville Pike
Rockville, MD 20852

John Ragan
Catherine Callaway
Jim von Suskil
NRG South Texas LP

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 289, Mail Code: MN116
Wadsworth, TX 77483

Ed Alarcon
Kevin Pollo
Richard Pena
City Public Service

C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

Peter Nemeth
Crain Caton & James, P.C.

C. Mele
City of Austin

John W. Daily
License Renewal Project Manager (Safety)
U.S. Nuclear Regulatory Commission
One White Flint North (MS O11-F1)
Washington, DC 20555-0001

Richard A. Ratliff
Alice Rogers
Texas Department of State Health Services

Tam Tran
License Renewal Project Manager
(Environmental)
U. S. Nuclear Regulatory Commission
One White Flint North (MS O11F01)
Washington, DC 20555-0001

Balwant K. Singal
John W. Daily
Tam Tran
U. S. Nuclear Regulatory Commission

STPNOC Response to Request for Additional Information

**SOUTH TEXAS PROJECT
LICENSE RENEWAL APPLICATION
REQUESTS FOR ADDITIONAL INFORMATION**

Reference: STPNOC Letter from A. W. Harrison to NRC Document Control Desk,
"Transmittal of Documents to Support Review of the South Texas Project License
Renewal Application," dated August 31, 2011 (NOC-AE-11002720)

Terrestrial Ecology

NRC Document request:

- TER-1 Department of Army letter with enclosed map of wetland delineation [STPLR-422]
- TER-2 STPNOC Site Environmental Compliance, Rev.13, OPGP03-Z0-0025, April 2011
[STPLR-26]
- TER-3 Austin Energy T-Line ROW Management Summary, January 1, 2010 [STPLR-446]
- TER-4 Austin Energy Tree Pruning and T-line Clearance Specs, November 7, 2005,
[STPLR-448]
- TER-5 Pesticides and herbicides associated with operational maintenance of the
transmission lines [STPLR-410]

STPNOC response:

The requested documents were transmitted to the NRC Document Control Desk by the
referenced letter.

Aquatic Ecology

NRC Document request:

- AQ-1 McAden, D. C., G. N. Greene, and W. B. Baker 1984. Colorado River Entrainment and
Impingement Monitoring Program, Phase Two Studies -July 1983-June 1984 (Report
1). Prepared for South Texas Project by Ecology Division, Environmental Protection
Department, Houston Lighting & Power Company. October.
- AQ-2 McAden, D. C., G. N. Greene, and W. B. Baker 1985. Colorado River Entrainment
and Impingement Monitoring Program, Phase Two Studies -July -December 1984
(Report # 2). Prepared for South Texas Project by Ecology Division. Environmental
Protection Department. Houston lighting & Power Company. April.

- AQ-3 Citation and documentation is needed for the following sentence that was included in the ER, Section 5.2: Based upon best professional judgment (BPJ) the TCEQ Water Quality Division has determined that the CWIS reflects BTA for AEI through use of a closed-cycle recirculating system.
- AQ-4 "Essential Cooling Pond Fish Population Study." Prepared for STP Nuclear Operating Company by ENSR International. Houston, Texas, May 2002.
- AQ-5 Texas Commission on Environmental Quality (TCEQ). 2007. Letter from Mr. Kelly Holligan, TCEQ, to Mr. R. A. Gangluff, STPNOC, dated June 27, 2007, "Cooling Water Intake Structures Phase" Rules; South Texas Project Electric Generating Station; TPDES Permit No. WQOOO 1908000."-This letter (or other documentation) should state that the Main Cooling Reservoir (MCR) is not waters of the State.
- AQ-6 "South Texas Project, Units 1 and 2, Environmental Report," Docket Nos. 50-498 and 50-499, July 1, 1974, and Subsequent Amendments.
- AQ-7 Baker W. B., Green G. N. 1989, 1987-1988 Special Ecological Studies for the South Texas Project, Matagorda County, Texas. Final report March 1989. Houston, TX: Houston Lighting & Power Company. 34 p. [In Terrestrial Ecology section of STP NRC Environmental Audit Binder]
- AQ-8 Ducks Unlimited and HPLC. 1996. Wetland Development Agreement for the Texas Prairie Wetland Project, Gulf Coast Joint Venture, between Ducks Unlimited, Inc., and Houston lighting & Power Co. October 23, 1996. 12 p. [In Terrestrial Ecology section of STP NRC Environmental Audit Binder]
- AQ-9 ENSR Corporation. 2008. Ecological Survey Report-Habitat Assessment, Units 3 and 4 Licensing Project. Prepared for STP Nuclear Operating Company. Wadsworth, TX: ENSR. 34 p. [In Aquatic Ecology section of STP NRC Environmental Audit Binder]

STPNOC response:

The requested documents, with the exception of AQ-6, were transmitted to the NRC Document Control Desk by the referenced letter. Transmittal of the AQ-6 report is planned for submittal within 30 days of the referenced letter.

.

Human Health

NRC RAI HP-1:

Issue:

The applicant's evaluation identified five locations where the transmission lines exceeded the National Electrical Safety Code (NESC) recommended standard of 5 milliamperes for electric shock concern. However, the environmental report (ER) does not contain a discussion of any mitigation measures being considered for the locations where the electric shock potential exceeds the NESC standard.

Background:

As required by Title 10 of the *Code of Federal Regulations* (10 CFR) 51.53(c)(3)(ii)(H), Section 4.13 of the STP ER contains an evaluation of the acute shock potential from the transmission lines within the scope of license renewal. The applicant's evaluation identified five locations where the transmission lines exceeded the NESC recommended standard of 5 milliamperes. For these transmission lines, the applicant's ER concluded " ... that electric shock is of MODERATE significance, because 1) there are few exceedances of the NESC standard, 2) the exceedances are a small percentage of the standard, 3) the locations of the exceedances are very remote or on private property, and 4) the transmission service providers have not received any complaints about induced-current shock. Accordingly, no mitigation measures are required." Hence, the ER does not contain a discussion of any mitigation measures being considered for the locations where the electric shock potential exceeds the NESC standard.

10 CFR 51.53(c)(3)(iii) states that the ER " ... must contain a consideration of alternatives for reducing adverse impacts, as required by 10 CFR 51.45(c), for all Category 2 license renewal issues ... " 10 CFR 51.45(c) states, "The environmental report must include an analysis that considers and balances the environmental effects of the proposed action, the environmental impacts of alternatives to the proposed action, and alternatives available for reducing or avoiding adverse environmental effects."

Requested Information:

Please provide additional information related to alternatives available for reducing or avoiding adverse environmental effects from those transmission lines that exceed the NESC standard.

STPNOC response:

Potential mitigation measures for reducing or avoiding adverse environmental effects from those transmission lines that exceed the NESC standard could include:

- re-examining the induced current calculations for the selected spans,
- raising the towers at the affected road-transmission line intersections,
- rephasing the double-circuit lines, and/or
- placing caution signs under the lines.

STPNOC re-examined the induced current calculations that support Table 4.13-1 in the Environmental Report. The Transmission Service Providers (TSPs) provided revised sags at 120 degrees for selected spans and the induced current was recalculated. In addition, one TSP calculation is based on more recent engineering data. The re-examination resulted in the Hillje line location and one Skyline location on a low traffic road being verified to be < 5 milliampere (ma). The two Hill Country locations and the remaining Skyline location still exceed the 5 ma standard.

The configuration of two Hill country locations and the remaining Skyline location have changed since the Final Environmental Statement for the construction permit, referenced in the Environmental Report, Section 3.1.3. STP no longer connects with the Skyline or Hill Country substations. These STP lines are re-configured and now stop at Elm Creek Substation.

No mitigation is required as stated in the Environmental Report, Section 4.13:

STPNOC's assessment under 10 CFR 51 concludes that electric shock is of MODERATE significance, because 1) there are few exceedances of the NESC standard, 2) the exceedances are a small percentage of the standard, 3) the locations of the exceedances are very remote or on private property, 4) the transmission service providers have not received any complaints about induced-current shock. Accordingly, no mitigation measures are required.

This position is further supported by: (1) the two Hill Country lines and the one Skyline line where the 5 milliampere standard is exceeded are beyond the Elm Creek substation and are no longer connected to STP; and (2) all STP transmission lines will continue to be in service after the STP facility is decommissioned. The Proposed Action to renew the operating licenses for STP Units 1 and 2 has no effect on transmission lines directly connected to the STP switchyard. Therefore, under NEPA, the Proposed Action does not need further analysis.

Water Resource

NRC Document request:

- WR-1 US Army Corps of Engineers (USACE) Permit No.10570 (Maintenance dredging of barge slip) (dated November 4, 2005).
- WR-2 USACE Permit No. SWG-1992-02707 (Maintenance dredging of intake) (dated July 21, 2009). [STPLR-472]
- WR-3 Current TCEQ-issued TPDES permit (TPDES Permit No. WQ000190S000 issued July 21, 2005). [STPLR-05]
- WR-4 TPDES permit renewal application (June 2009 and May 24, 2007, letters)
- WR-5 TCEQ ID No. 1610103/1610051 (Operation of public potable water system(s))
- WR-6 TCEQ Amendment to Certificate of Adjudication 14-5437 A (Water rights for diversion and impoundment of Colorado River water) [STPLR-471]
- WR-7 Water Conservation Plan, STP Nuclear Operating Company, South Texas Project Electric Generating Station, Certificate of Adjudication 14-5437 A, May 1, 2009, Revision 2
- WR-8 OPOP02-LM-0001. Rev. 41 dated 2/1/2011. Reservoir Makeup Pumping Facility.
- WR-9 Current groundwater operating permit issued by the Coastal Plains Groundwater Conservation District. [STPLR-468]
- WR-10 Conceptual Site Model for Units 1 and 2, Groundwater Protection Initiative, South Texas Project, Electric Generating Station, Wadsworth, Texas, Prepared by MACTEC Engineering and Consulting, Inc., Prepared for STP Nuclear Operating Company, Revision 1, May 20, 2009. [STPLR-375]
- WR-11 A summary of historic and current (past 5 years) total dissolved solids (TDS) data for groundwater produced by STP production wells from the Deep Chicot Aquifer.

- WR-12 TPDES Discharge Monitoring Reports (covering past 3 years).
- WR-13 Annual groundwater use reports (covering past 5 years). [In Surface and Groundwater Tab of STP NRC Environmental Audit Binder; e.g., STPLR-13 (2006), etc.]
- WR-14 Annual surface water withdrawal reports for the Colorado River (covering past 5 years). [In Surface and Groundwater Tab of STP NRC Environmental Audit Binder; e.g., STPLR-14 (2006), STPLR-39 (2007), etc.]
- WR-15 Data on tritium concentrations in groundwater and surface water observed since the MACTEC report (i.e., materials provided following the protected area tour) as follows:
- i. Spreadsheet of groundwater monitoring results (no title) for well #s 807-837; dates 2/15/2005-11/9/2010, 3 pages.
 - ii. "Tritium Results in PA Piezometer and New Monitoring Wells" (2005-2011), graph
 - iii. "Historical Comparison of Tritium Activity in Surface and Relief Well Water 1988-2011." Graph with attached spreadsheet, "Tritium in Owner-Controlled Groundwater.xls" (2005-2011), 2 pages.
 - iv. "Historical Comparison of Tritium Activity in Ground Water 1988-2011," 1 page covering wells 255-271.
 - v. "Historical Comparison of Tritium Activity in Ground Water 1988-2010," includes 2011 data covering well #s 258, 270, 259, 235, 251.
 - vi. "Tritium Activity in Shallow Ground Water West of the Main Cooling Reservoir 2006-2011," 1 page covering well #s 271, 270, 258, 259.
 - vii. Spreadsheet with no title of annual frequency of piezometer well and windmills data, covering well #s 206-269, dates 2008-2011, 1 page.
 - viii. Spreadsheet with no title including "quarterly frequency," "old monitoring test wells," "piezometer wells," and "new monitoring wells," covering well #s 235, 251, 205, 258, 259, 266, 270, and 271; dates 2005-2011
- WR-16 STP Well Location Map (contained in the Field Log Book)

STPNOC response:

The requested documents were transmitted to the NRC Document Control Desk by the referenced letter.

NRC RAI WR-17:

Background:

Based on the document review and site audit, the staff understands that the #24 event has led to the highest level of tritium sampled in the protected area piezometer network. In accordance with

(a) 10 CFR 51, Subpart A, Appendix B, Table B-1 and (b) Environmental Standard Review Plan (ESRP), NUREG-1555, Supplement 1, Sections 2.2.3 and 4.5, the staff requests source event documentation that contains relevant information for the review (e.g., cause, timing, volume, concentrations, etc.), to assess what is typically known of TDS line failures and releases to the environment and possible impact on the groundwater quality.

Requested information:

For clarification purposes, the staff requests additional information related to releases to the subsurface that have occurred within the protected area as a result of TDS line failures, as noted in Section 2.3.4 of the ER and discussed in the MACTEC report (MACTEC, May 20, 2009). The staff requests the applicable STP Condition Reports (CRs), for the #24 event shown in Table 6-1 and Figure 6-1 in the MACTEC report, be made available for review. The following related CRs are also requested for the review: CR 03 7595, CR 03-3951, and Activity No. 430966.

STPNOC response:

The STP Condition Reports (CRs) and activity number for the #24 event, as shown in Table 6-1 and Figure 6-1 of the MACTEC report, are CR 03-7595, CR 03-3951, and activity number 430966, and are the same items identified in the NRC requested information section. The CR and activity documents are available on the STP License Renewal Application Online Reference Portal. These documents are located in the "STP NRC Document Requests" folder as: Document Request WR-17: CR 03-7595; Document Request WR-17: CR 03-3951; and Document Request WR-17: WO430966, respectively.

The above documentation relates to the Total Dissolved Solids (TDS) pipe failure that occurred in 2003 and resulted in measurable tritium concentrations in groundwater within the protected area. Historically, the TDS piping that runs from STP Units 1 and 2 to the Non-radioactive Chemical (NC) Basin was not considered a radioactive system. When STPNOC implemented industry recommendations regarding ground water protection in 2006, STPNOC discovered tritium in the area of the 2003 TDS pipe failure and documented this in CR 06-1056. This document is also provided on the portal located in the in the "STP NRC Document Requests" folder as: Document Request WR-17: CR 06-1056.

STP experienced several TDS pipe failures due to pressure transients unduly stressing the fiberglass piping. The pressure transients that caused the leaks were due to a sequencing problem when switching the TDS discharge from one side of the NC Basin to the other. Corrective action taken in 2009 to modify the logic initiating the valve manipulations significantly reduced the pressure transient. Subsequently, only one pipe failure occurred in 2010 and none have occurred thus far in 2011.

Prior to 2006, such events were not evaluated for their potential to contaminate groundwater. Beginning in 2006 in response to recently reported industry events and the development of an industry groundwater protection initiative, STPNOC increased its sensitivity for evaluating whether leaks from low-level radioactive piping, including TDS piping, have the potential to release tritium or other gamma emitters that could migrate and have measurable impact on groundwater.

NRC RAI WR-18:

Background:

During the site audit tour of the protected area, the release of tritiated water to the ground surface and ultimately to groundwater from the Auxiliary Steam and Condensate Storage and Transfer Piping systems at each of the units was observed by the staff and described by the applicant. These discharges are also described briefly in the MACTEC report and mentioned in Section 2.3.4 of the ER. In accordance with (a) 10 CFR 51, Subpart A, Appendix B, Table B-1 and (b) ESRP, NUREG-1555, Supplement 1, Sections 2.2.3 and 4.5, the staff requests documentation to complete its review of groundwater quality degradation beneath the protected area.

Requested information:

For clarification purposes, the staff requests the proposal or planning documentation or both, including documentation of the existing steam condensate quantity and quality, related to the proposed engineering change to the "Auxiliary Steam and Condensate Storage and Transfer Piping" to eliminate the discharge of tritium directly to the ground surface. Further, please clarify and provide supporting documentation on the interception of these releases by (a) the sump(s) within the tendon gallery of each reactor containment building and (b) the sump water release point(s).

STPNOC response:

A project plan request was submitted to the Plant Investment Plan to reroute steam drain lines to a controlled sump inside the Turbine Generator Building to collect low-level tritium radioactivity. The request is STP Project Approval Request (PAR) #101340 and is available on the STP License Renewal Application Online Reference Portal. PAR #101340 is located on the portal under "STP NRC Document Requests" folder as Document Request WR-18: PAR #101340.

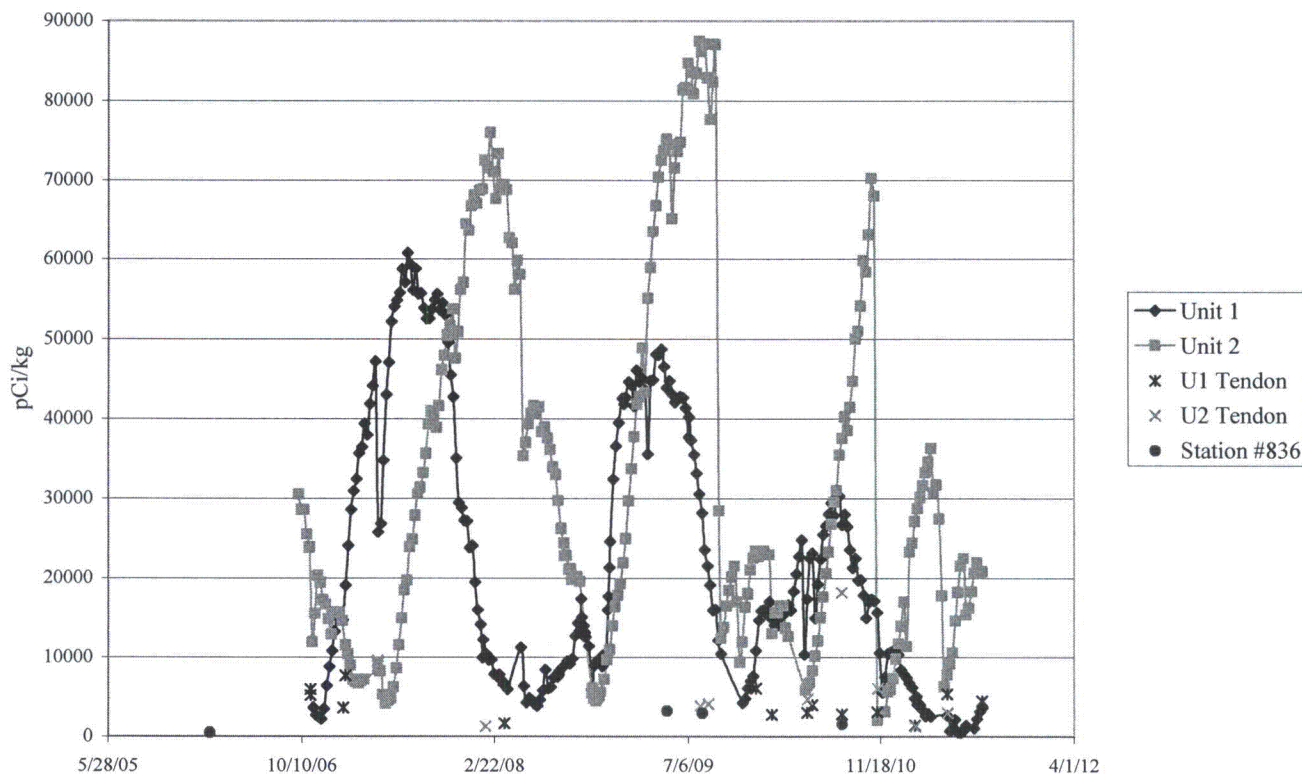
The proposed change addresses steam traps from piping branching off the Main Steam System to the Auxiliary Steam Piping. The steam traps discharge directly to the ground adjacent to both turbine buildings. It is believed that the condensate from the steam traps migrates from the ground surface to the lower shallow aquifer.

The project plan is awaiting Project Review Team review, categorization and assignment of priority. The amount of tritium released to the environment continues to be monitored, measured and reported. As discussed below, the amount of tritium released from these steam traps is subjected to considerable dilution and delay so that there is minimal impact on the environment.

Sample Station #836 (see document WR-16 transmitted by the referenced letter) contains tritium up to 3200 pCi/kg and is about 140 feet northwest of the Unit 1 steam trap drain. Sample Station #836 is a piezometer well (# 220E) that allows water samples to be collected from about 80 feet below grade. It is believed tritium measured from Sample Station #836 is representative of the tritium that migrates from the Unit 1 steam trap drain to the lower shallow aquifer.

The liquids discharged from the Auxiliary Steam Piping steam traps to the ground should contain tritium near the concentrations measured in the secondary system steam from each Unit. The tritium concentrations in the secondary steam are plotted for both plants from October, 2006 to August, 2011 in the following figure.

Secondary Tritium Concentration



The tendon galleries that circle the reactor containment buildings (RCB) are also believed to be a collection source for steam trap condensate from the Auxiliary Steam and Condensate Storage and Transfer Piping. The galleries are approximately 67 feet below grade and approximately 80 feet from the steam trap discharge from each turbine building. Water samples from plant tendon gallery sumps also contain tritium in the range of 1000 to 10,000 pCi/kg. In addition to steam trap condensate, the tendon gallery sumps receive water from various other sources. Examples of other sources are condensate from equipment chillers located outside the radiological parts of the plant and moisture condensed from ambient air. These sources potentially contain measurable amounts of tritium.

Superimposed on the plot in the previous figure are the tritium concentrations observed in the tendon galleries and Sampling Station #836. The tendon gallery measurements generally do not exceed 10,000 pCi/kg and do not appear to be correlated with the secondary steam concentration. Sample Station #836 tritium concentrations tend to be lower than the tendon gallery sump. This lack of concentration correlation with secondary tritium concentrations suggests that tritium released from the steam trap drains serving the branch lines from the Auxiliary Steam Piping is subjected to considerable dilution and delay before reaching either the tendon gallery sumps or Sample Station #836. In the case of the tendon gallery sumps, other sources of tritium previously discussed would further mask any correlation with the secondary steam concentrations. The conclusion is that the tritium measured at Sample Station #836 is likely related to the steam trap discharge from Unit 1 and the tritium in the tendon gallery sumps may be influenced by tritium contained in groundwater in-leakage migrating from the steam traps.

Water from the tendon gallery sumps is discharged to the storm drainage system. This system ultimately directs storm drainage to the ditch adjacent to Heavy Haul Road that runs along the northeast and eastern sides of the main cooling reservoir to the Colorado River. The tritium contribution from the tendon gallery sumps along this release route has a very small effect on offsite dose calculations when compared to the dose calculated from all other sources. Tritium released from secondary systems is quantified and reported in the Annual Radioactive Effluent Release Report. The tritium released from secondary system water is partitioned between steam released to the atmosphere and liquid to the main cooling reservoir. Any tritium in the sump discharge is included in effluent discharges and dose calculations.

NRC RAI WR-19:

Background:

Section 4.5 of ER provides an estimated drawdown for the initial 40-year period. The staff requests that the drawdown analysis be extended to encompass continued operation of production wells through the end of the proposed license renewal period. In accordance with (a) 10 CFR 51, Subpart A, Appendix B, Table B-1 and (b) ESRP, NUREG-1555, Supplement 1, Sections 2.2.2, 4.5, and 4.5.1, the staff requests this analysis for characterization of the potential impact of license renewal on off-site groundwater production wells located in the Deep Chicot Aquifer.

Requested information:

The staff requests the completion and submittal of an analysis of Deep Chicot Aquifer drawdown due to continued use of the STP production wells (including supporting calculations) by the applicant, for the original license period of 40 years plus the proposed license renewal period of 20 years.

STPNOC response:

An analysis of the Deep Chicot Aquifer drawdown by the STP production wells was performed using the Theis confined non-leaky scenario, which most likely represents actual site conditions.

STP Units 1 & 2 currently use water from five groundwater wells screened within the deep portion of the Chicot Aquifer. An onsite pump test on Well No. 5 installed to a depth of 700 feet in the deep aquifer portion of the Chicot Aquifer yielded 50,000 gpd/ft (6684 ft²/day). However, lower transmissivity values were calculated for Wells No. 6 and No. 7. Therefore, an average transmissivity value of 33,245 gpd/ft (4444 ft²/day) is used in the drawdown calculations. No values for the coefficient of storage were determined for Wells No. 6 and No. 7, so the values used are those calculated for Well No. 5. The fourth and fifth groundwater wells were not included as part of the onsite pump test. The specific capacity of Well No. 5 is 10 gallons per minute per foot (gpm/ft) of drawdown. The average permeability of the deep aquifer beneath the site is calculated to be 35 ft/day (Reference A below). The hydrologic parameters for the analysis of potential groundwater use impacts using a confined aquifer scenario for the deeper portion of the Chicot Aquifer are included in Table 1.

The Theis non-equilibrium well equations (Reference B below) for a confined non-leaky scenario are as follows:

$$s = [Q/(4(3.14)T)](W(u)) \qquad u = r^2S/4Tt$$

where:

s = drawdown (ft)	T = transmissivity, ft ² /day
Q = pumping rate, ft ³ /day	t = time since pumping started, days
S = coefficient of storage	W(u) = Theis well function
r = distance to pumping well, ft	

The assumptions are:

- the aquifer is homogeneous, isotropic, of uniform thickness, and of infinite aerial extent;
- the potentiometric surface prior to pumping is horizontal;
- the well is pumped at a constant discharge rate;
- the well is fully penetrating and flow is horizontal;
- the well diameter is infinitesimal so that storage within the well can be neglected; and
- water from storage is discharged instantaneously with decline of head.

The results of the confined non-leaky scenario model indicate that drawdown of the deeper portion of the Chicot Aquifer potentiometric surface at a distance of 2500 feet from any STP site well for the 500 gpm design yield during the projected 40-year operating period of STP 1 and 2 is 20 feet.

The results of the confined non-leaky scenario model indicate that drawdown of the deeper portion of the Chicot Aquifer potentiometric surface at a distance of 2500 feet from any STP site well for the 500 gpm design yield during the projected 60-year operating period of STP 1 and 2 is 20.7 feet (see Table 1 below).

Table 1

Drawdown Inputs for Confined Non-leaky Aquifer Scenario/Construction

Case	40-Year Drawdown	60-Year Drawdown
Distance [r] (Ft)	2,500	2,500
Coefficient of Storage [s]	0.00022	0.00022
Transmissivity [T] (Ft ² /day)	4,444	4,444
Time[t] (Days)	14600	21,900
Pumping Rate [Q] (gpm)/(Ft ³ /day)	500/(92,250)	500/(92,250)
Confining Unit [b] (ft)	100	100
Permeability [K] Ft/Day	0.00053	0.00053
Theis well function (Wu), found in Appendix 9.E on page 921 from the calculation of u	11.57	11.98
Drawdown [s] at closest offsite well from Well 7 (Ft)	20	20.7

References:

- A. NRC 1986, Final Environmental Statement related to the Operation of STP 1 & 2.
- B. Driscoll, F.G. 1989, *Groundwater and Wells*, second edition, Johnson Filtration Systems Inc., St. Paul, Minnesota.

NRC RAI WR-20:

The staff requests (a) the correspondence concerning TCEQ's acknowledgement of STP's National Pollutant Discharge Elimination System permit renewal application acceptance and timely submittal and (b) progress towards completion of the new permit.

STPNOC response:

A copy of the Texas Commission on Environmental Quality (TCEQ) acknowledgement of STP's National Pollutant Discharge Elimination System permit renewal application acceptance and timely submittal is provided as an Attachment to this Enclosure.

Renewal of Texas Pollutant Discharge Elimination System Permit No. WQ0001908000 for the STP facility was sent in draft format to the Environmental Protection Agency (EPA) from the TCEQ on May 21, 2011. It is STPNOC's understanding that the EPA responded to the TCEQ on July 21, 2011.

Attachment: Letter from Laurie J. Lancaster, Texas Commission of Environmental Quality to S. L. Dannhardt, STP Nuclear Operating Company, RE: Declaration of Administrative Completeness, dated July 13, 2009

Attachment

Letter from Laurie J. Lancaster,
Texas Commission of Environmental Quality

To

S. L. Dannhardt, STP Nuclear Operating Company,

RE: Declaration of Administrative Completeness, dated
July 13, 2009

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 13, 2009

S.L. Dannhardt
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, Texas 77483

RE: Declaration of Administrative Completeness
Applicant Name: STP Nuclear Operating Company (CN601658669)
Permit No. WQ0001908000 (EPA I.D. No. TX0064947) (RN102395654)
Type of Authorization: Renewal

Dear Mr. Dannhardt:

The executive director has declared the above referenced application, received on June 2, 2009, administratively complete on July 13, 2009.

You are now required to publish notice of your proposed activity and make a copy of the application available for public review. The following items are included to help you meet the regulatory requirements associated with this notice:

- Instructions for Public Notice
- Notice for Newspaper Publication
- Public Notice Verification Form
- Publisher's Affidavits

You must follow all the directions in the enclosed instructions. The most common mistakes are the unauthorized changing of notice, wording, or font. If you fail to follow these instructions, you may be required to republish the notices.

The following requirements are also described in the enclosed instructions. However, due to their importance, they are highlighted here as well.

Declaration of Administrative Completeness

Page 2

1. Publish the enclosed notice within **30 calendar days** after your application is declared administratively complete. (See this letter's first paragraph for the declaration date.) **You may be required to publish the notice in more than one newspaper, including a newspaper published in an alternative language, to satisfy all of the notice requirements.**
2. On or before the date you publish notice, place a copy of your permit application in a public place in the county where the facility is or will be located. This copy must be accessible to the public for review and copying, must be updated to reflect changes to the application, and must remain in place throughout the comment period.
3. For each publication, return an original clipping of the newspaper notice that shows the publication date and newspaper name to the Office of the Chief Clerk within **10 business days** after notice is published in the newspaper.
4. Return the original enclosed Public Notice Verification and the Publisher's Affidavits to the Office of the Chief Clerk within **30 calendar days** after the notice is published in the newspaper.

If you do not comply with all the requirements described in the instructions, further processing of your application may be suspended or the agency may take other actions.

If you have any questions regarding publication requirements, please contact the Office of the Chief Clerk at 512-239-3300. If you have any questions regarding the content of the notice, please contact Pauline Cantú at (512) 239-4409.

Sincerely,



Laurie J. Lancaster, Team Leader
Applications Review and Processing Team
Business and Program Services Section
Water Quality Division

LJL/pc

Enclosures

cc: TCEQ Region 12, Water Program Manager

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT RENEWAL

PERMIT NO. WQ0001908000

APPLICATION. STP Nuclear Operating Company, P.O. Box 289, Wadsworth, Texas 77483, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0001908000 (EPA I.D. No. TX0064947) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 144,000,000 gallons per day. The facility is located on Farm-to-Market Road 521, approximately 10 miles north of Matagorda Bay and 12 miles south southwest of the City of Bay City, in Matagorda County, Texas 77483. The discharge route is from the plant site to Colorado River Tidal. TCEQ received this application on June 2, 2009. The permit application is available for viewing and copying at the Matagorda County Courthouse, 1700 7th Street, Bay City, Texas.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application.**

If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing. A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission will only grant a contested case hearing on disputed issues of fact that are relevant and material to the Commission's decision on the application. Further, the Commission will only grant a hearing on issues that were raised in timely filed comments that were not subsequently withdrawn. **TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.**

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

AGENCY CONTACTS AND INFORMATION. All written public comments and requests must be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at www.tceq.state.tx.us/about/comments.html. If you need more information about this permit application or the permitting process, please call TCEQ Office of Public Assistance, Toll Free, at 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040. General information about TCEQ can be found at our web site at www.tceq.state.tx.us.

Further information may also be obtained from STP Nuclear Operating Company at the address stated above or by calling S.L. Dannhardt at (361) 972-8328.

Issuance Date: July 13, 2009

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



INSTRUCTIONS FOR PUBLIC NOTICE For Water Quality Permit (Renewal/Amendment/New)

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN PERMIT

Your application has been declared administratively complete and now you must comply with the following instructions:

Please Review Notice

Included in the notice is all of the necessary information. Please read it carefully and notify Pauline Cantú immediately if it contains any errors or omissions. You are responsible for ensuring the accuracy of all information published. You may not change the text or formatting of the notice without prior approval from the TCEQ.

Newspaper Notice

- You must publish the enclosed Notice of Receipt of Application and Intent to Obtain Permit within **30 calendar days** after the date of administrative completeness. Refer to the cover letter for the date of administrative completeness.
- You must publish the enclosed Notice of Receipt of Application and Intent to Obtain Permit at your expense, at least once in the newspaper of largest circulation within each county where the facility is or will be located or, if the facility is located or will be located in a municipality, at least once in a newspaper of general circulation in the municipality.
- If the discharge point or potential discharge point is located in a different county than the facility, you must publish the enclosed Notice of Receipt of Application and Intent to Obtain Permit at your expense, in a newspaper that is of the largest circulation within each county.
- These requirements may be satisfied by one publication if the newspaper meets all of the above requirements.
- The bold text of the enclosed notice must be printed in the newspaper in a font style or size that distinguishes it from the rest of the notice (i.e., **bold**, *italics*). **Failure to do so may require re-notice.**

Alternative Language Notice

If your application was received on or after November 30, 2005, you must publish notice in an alternative language if the following criteria are met.

- You must publish the public notice in an alternative language if either the elementary or middle school nearest to the facility or proposed facility is required to provide a bilingual education program as required by Texas Education Code, Chapter 29, Subchapter B, and 19 TAC §89.1205(a) and one of the following conditions is met:
 - students are enrolled in a program at that school;
 - students from that school attend a bilingual education program at another location; or
 - the school that otherwise would be required to provide a bilingual education program waives out of this requirement under 19 TAC §89.1205(g).
- If triggered, you must publish the notice in the alternative language taught in the bilingual education program. You must publish this notice in a newspaper or publication primarily published in that alternative language. The newspaper or publication must be of general circulation in the county in which the facility is located or proposed to be located. If the facility is located or proposed to be located in a municipality, and there exists a newspaper or publication of general circulation in the municipality, you must publish the notice only in the newspaper or publication in the municipality.
- You must demonstrate a good faith effort to identify a newspaper or publication in the required language. If there is no general circulation newspaper or publication printed in such language, then publishing in that language is not required. Publication in an alternative language section or insert within a large publication which is not printed primarily in that alternative language does not satisfy these requirements.
- You have the burden to demonstrate compliance with these requirements. To assist you in meeting these requirements, the TCEQ has provided a Public Notice Verification Form (enclosed). You must fill out the attached Public Notice Verification Form indicating your compliance with the requirements regarding publication in an alternative language.
- If you are required to publish notice in Spanish, you must translate the site-specific information in the notice that is specific to your application, at your own expense. You may then insert the Spanish translation of your site-specific information into a Spanish template developed by the TCEQ. You may obtain the electronic version of the Spanish template from the TCEQ website at www.tceq.state.tx.us/permitting/water_quality/review/ind_nori_discharge.html
- If you are required to publish notice in a language other than Spanish, you must translate the entire public notice, at your own expense.

Proof of Publication

- Check each publication to ensure that the notices were accurately published. If a notice was not published correctly you may have to republish.
- You must submit an **original newspaper clipping** of the published notice for **each** newspaper. The original newspaper clipping must show the date of publication and the name of the newspaper. You must submit the original newspaper clipping to the Office of the Chief Clerk within **10 business days** after the date of publication.
- For each newspaper notice, you must submit an **original Publisher's Affidavit** to the Office of the Chief Clerk within **30 calendar days** after the date of publication. **For each required published notice, you must use the appropriate Publisher's Affidavit form that is enclosed with these instructions.** The affidavit must clearly identify the applicant's name and permit number.
- You are encouraged to submit the Publisher's Affidavit with the original newspaper clipping within 10 business days after the date of publication. However, the affidavit must be submitted no later than **30 calendar days** after publication of notice.
- You must fill out the attached Public Notice Verification form. On this Form, you must verify that you submitted the original notices and the Publisher's Affidavits as required by the TCEQ's regulations and instructions. This form must be submitted with the Publisher's Affidavit within **30 calendar days** after publication of the notice.
- The **original Publisher's Affidavit, the Public Notice Verification form, and the original newspaper clippings of the published notice** must be mailed to:

TCEQ
Office of the Chief Clerk, MC 105
Attn: Notice Team
P.O. Box 13087
Austin, Texas 78711-3087

- Please ensure that the affidavit and newspaper clipping you send to the Office of the Chief Clerk are originals and that all blanks on the affidavit are filled in correctly. Photocopies of newspaper clippings and affidavits will not be accepted.

Failure to Publish and Submit Proof of Publication

If you fail to publish the notice or submit proof of publication by the deadlines set forth above, the TCEQ may suspend further processing of your application or take other action.

Application in a Public Place

- You must put a copy of the administratively complete application in a public place for review and copying by the public. This public place must be located in the county where the facility is or proposed to be located.
- A public place is one that is publicly owned or operated (ex: libraries, county courthouses, or city halls).

- The administratively complete application must be available **beginning on the first day of newspaper publication and must remain in place until the end of the comment period.**
- During the technical review, you must update the publicly available application so that it includes all application revisions within **10 business days** from the date the revision is transmitted to the TCEQ.
- If the application was submitted to the TCEQ with information marked as confidential, you must indicate in the public copy of the application that there is additional information in a confidential file. These portions of the application must be accompanied with the following statement: "Any request for portions of this application that are marked as confidential must be submitted in writing, pursuant to the Public Information Act, to the TCEQ Public Information Coordinator, MC 197, P.O. Box 13087, Austin, Texas 78711-3087".
- You must fill out the attached Public Notice Verification form. On this Form, you must verify that a complete water quality application and all subsequent revisions are available for review and copying in a public place as required by the TCEQ's regulations and instructions. This Form must be submitted with the Publisher's Affidavit within **30 calendar days** after publication of the notice.

General Information

When contacting the Commission regarding this application, please refer to the permit number at the top of the Notice of Receipt and Intent to Obtain Permit.

If you have any questions regarding publication requirements, please contact the Office of the Chief Clerk at 512-239-3300. If you have any questions regarding the content of the notice, please contact Pauline Cantú at (512) 239-4409.

TCEQ-OFFICE OF THE CHIEF CLERK
MC-105 Attn: Notice Team
P.O. BOX 13087
AUSTIN, TX 78711-3087

Applicant Name: STP Nuclear Operating Company
Permit No.: WQ0001908000
Notice of Intent to Obtain Permit

**PUBLISHER'S AFFIDAVIT
FOR WATER QUALITY PERMITS**

STATE OF TEXAS §
COUNTY OF _____ §

Before me, the undersigned authority, on this day personally appeared

_____, who being by me duly sworn, deposes
(name of newspaper representative)

and says that (s)he is the _____
(title of newspaper representative)

of the _____; that this newspaper is a newspaper of
(name of newspaper)

largest circulation in _____ County, Texas or is
(Name of County)

a newspaper of general circulation in _____,
(Name of Municipality)

Texas; and that the attached notice was published in said newspaper on the following date(s):

_____.

Newspaper Representative's Signature

Subscribed and sworn to before me this the _____ day of _____,

20_____.

(Seal)

Notary Public in and for the State of Texas

Print or Type Name of Notary Public

My Commission Expires _____

TCEQ-OFFICE OF THE CHIEF CLERK
MC-105 Attn: Notice Team
P.O. BOX 13087
AUSTIN, TX 78711-3087

Applicant Name: STP Nuclear Operating Company
Permit No.: WQ0001908000
Notice of Intent to Obtain Permit

ALTERNATIVE LANGUAGE PUBLISHER'S AFFIDAVIT

STATE OF TEXAS §
COUNTY OF _____ §

Before me, the undersigned notary public, on this day personally appeared

_____, who being by me duly sworn, deposes
(name of newspaper representative)

and says that (s)he is the _____ of the
(title of newspaper representative)

_____; that said newspaper is
(name of newspaper)

generally circulated in _____ County, Texas and
(same county as proposed facility)

is published primarily in _____ language; that the
(alternative language)
attached notice was published in said newspaper on the following date(s):

_____.

Subscribed and sworn to before me this the _____ day of _____,

20_____, by _____
(Newspaper Representative's Signature)

(Seal)

Notary Public in and for the State of Texas

Print or Type Name of Notary Public

My Commission Expires _____



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Public Notice Verification Form
Water Quality Permit

OCC #

(TCEQ use only)

Applicant Name: _____

Site or Facility Name: _____

TCEQ Account Number (if applicable): _____ Permit Number: _____

Regulated Entity Number: _____ Customer Number: _____

All applicants must complete all applicable portions of this form. The completed form should be sent to the TCEQ to the attention of the Office of the Chief Clerk. For more information regarding public notice refer to the instructions in the public notice package.

ALTERNATIVE LANGUAGE CHECKLIST		
I have contacted the appropriate school district.		<input type="checkbox"/> YES <input type="checkbox"/> NO
A bilingual education program is required by the Texas Education Code in the district.		<input type="checkbox"/> YES <input type="checkbox"/> NO
School District:	Phone:	
Person Contacted:	Date:	
The name of the elementary school nearest to the proposed or existing facility is:		
The name of the middle school nearest to the proposed or existing facility is:		
Students who attend one of the schools above are eligible to be enrolled in a bilingual program provided by the district.		<input type="checkbox"/> YES <input type="checkbox"/> NO
The following language(s) is/are utilized in the bilingual program:		
If an applicable bilingual program exists, then applicants must publish a notice and/or post signs, as outlined in the <i>Instructions for Public Notice</i> and certify as applicable on this form.		

ALTERNATIVE LANGUAGE VERIFICATION	
I verify that the area addressed by this permit application is subject to alternative language public notice requirements.	
<input type="checkbox"/> YES <input type="checkbox"/> NO	
I verify that the applicant has conducted a diligent search for a newspaper or publication of general circulation in both the municipality and county in which the facility is located (or proposed to be located).	
<input type="checkbox"/> YES <input type="checkbox"/> NO	
I verify that no such newspaper or publication was found in any of the alternative language(s) in which notice is required.	
<input type="checkbox"/> YES <input type="checkbox"/> NO	
I verify that the publishers of the newspapers listed below refused to publish the notice as requested, and no other newspaper or publication in the same language and of general circulation was found in the municipality or county in which the facility is located (or proposed to be located).	
<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
Newspaper:	Language:
I verify that bilingual sign(s) required by the TCEQ were posted. (if applicable)	
<input type="checkbox"/> YES <input type="checkbox"/> NO	
I verify that original tear sheets of the newspaper alternative language notice(s) and the requested affidavits have been sent to the TCEQ.	
<input type="checkbox"/> YES <input type="checkbox"/> NO	
Signed by:	Applicant:
Title:	Date:



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Public Notice Verification Form
Water Quality Permit

OCC #

(TCEQ use only)

Applicant Name: _____

Site or Facility Name: _____

TCEQ Account Number (if applicable): _____ Permit Number: _____

Regulated Entity Number: _____ Customer Number: _____

WATER QUALITY PERMIT NOTICE VERIFICATION

I verify that original tear sheets of the newspaper notices and the requested affidavits have been furnished in accordance with the regulations and instructions of the TCEQ. ☐ YES ☐ NO

Notice of Receipt of Application and Intent to Obtain Permit (1st Notice):

I verify that a copy of the complete water quality application, and any revisions, were available for review and copying at the public place indicated below throughout the duration of the public comment period. ☐ YES ☐ NO

Notice of Application and Preliminary Decision (2nd Notice, if applicable):

I verify that a copy of the complete water quality application and draft permit, and any revisions, are available for review and copying at the public place indicated below from the first day after newspaper publication; and

I also verify that the water quality application and draft permit, and any revisions, will remain in the designated public place until either:

- 1) the TCEQ acts on the application; or
- 2) the application is referred to the State Office of Administrative Hearings (SOAH) for hearing.

☐ YES ☐ NO

Name and Address of Public Place: _____

Signed by: _____

Title: _____

Date: _____