

**SOAH DOCKET NO. 582-15-2498
TCEQ DOCKET NO. 2012-0905-MSW**

APPLICATION BY POST OAK	§	BEFORE THE STATE OFFICE
CLEAN GREEN, INC. FOR A NEW	§	
TYPE 1 MUNICIPAL SOLID WASTE	§	OF
LANDFILL IN GUADALUPE	§	
COUNTY, TEXAS	§	
	§	ADMINISTRATIVE HEARINGS

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PROPOSAL FOR DECISION

I. INTRODUCTION

Post Oak Clean Green, Inc. (Post Oak) applied to the Texas Commission on Environmental Quality (TCEQ or Commission) for a Municipal Solid Waste (MSW) permit to construct and operate the Post Oak Municipal Solid Waste Landfill, which would include a new Type I MSW landfill; a recyclables, used oil, and lead battery storage area; a scrap tire storage area; a large items and white goods storage area; a reusable materials staging area; and a citizens convenience area. The facility would be located in Guadalupe County, Texas, approximately 12 miles east of Seguin, Texas. The application was referred to the State Office of Administrative Hearings (SOAH) for a contested case hearing, which was conducted in January 2016, and issuance of a proposal for decision (PFD).

The Executive Director (ED) of the TCEQ supports issuance of the permit. Numerous other parties oppose permitting of the landfill. Specifically, the following parties have appeared and are currently opposed to the application:¹ the Office of Public Interest Counsel (OPIC); Guadalupe County, Texas; the City of Schertz, Texas (Schertz); the City of Seguin, Texas (Seguin); the Schertz/Seguin Local Government Corporation (SSLGC); Guadalupe County Groundwater Conservation District (GCGCD); Stop Post Oak Dump (SPOD) (a citizens group); and Kathryn Brady, individually.²

¹ When mentioned collectively herein, all parties opposed to the application are referred to as the “opposing parties,” except for OPIC, which opposes the application only on “land use” grounds.

² Although Ms. Brady was admitted as an individual party, she also is a member of SPOD and has been formally aligned with SPOD for purposes of this proceeding. *See* SOAH Order No. 3 (May 6, 2015).

As set out below, Post Oak's application does not comply with several requirements of the Commission's rules. Specifically, the application has the following deficiencies:

- Not all oil and gas wells were plugged at the time of the application for the permit, as required by 30 Texas Administrative Code § 330.61(I)(2), and such wells were still not plugged at the time of the hearing.
- The evidence demonstrates that the landfill, as currently proposed, presents a significant bird hazard to low-flying aircraft, in violation of 30 Texas Administrative Code § 330.545(d). The relevant United States Air Force (USAF) commander at Randolph Air Force Base and the USAF bird and animal strike hazard (BASH) team have indicated the landfill would present a significant BASH risk to military pilots, who fly approximately 13,000 training missions annually over the proposed landfill site.
- The Site Operating Plan lacks the detail required by the TCEQ's rules for the screening of radioactive waste and for the daily collection of litter from the site.
- The application has not demonstrated that maximum contaminant levels will not be exceeded at the point of compliance if an alternate liner is used. Although not a ground for denying the application entirely, this is a basis for denying the use of an alternate liner.

In addition to finding these deficiencies, the ALJs also have recommended additional permit conditions to address areas of concern.

The Administrative Law Judges (ALJs) leave to the Commission's discretion whether to deny the application based on the deficiencies. They have made suggestions about possible ways to address certain deficits and have drafted a Proposed Order that grants the application with certain conditions, in the event the Commission intends to grant the application and issue the requested permit.

The opposing parties have raised a number of issues in opposition to the permit application. The parties have agreed upon an outline for their arguments, and the ALJs find it helpful to use such outline in this PFD so the Commission may cross-reference the PFD with the parties' briefing as

needed. Therefore, the discussion of the evidence, the parties' arguments, and the ALJs' analysis follows the agreed outline used by the parties.

II. EVALUATION OF PROPOSED LANDFILL SITE

As noted, the facility would be located approximately 12 miles east of Seguin, Texas, and 3.1 miles east-southeast of the intersection of Interstate Highway 10 and FM 1104 in Guadalupe County, Texas. The total permitted area would include about 1,003 acres of land, of which approximately 331 acres would be used for a waste disposal unit. The final elevation of the landfill final cover would be 692 feet above mean sea level (msl), which is approximately 232 feet above natural grade. Solid waste to be disposed of would primarily consist of municipal solid waste resulting from, or incidental to, municipal, community, commercial, institutional, recreational and industrial activities, including garbage, putrescible wastes, rubbish, ashes, brush, street cleanings, dead animals, abandoned automobiles, construction or demolition waste, vegetative waste, Class 2 nonhazardous industrial solid waste, Class 3 nonhazardous industrial solid waste, and special waste. The proposed landfill would not be authorized to accept waste materials other than those mentioned above for disposal. Furthermore, waste streams that are expressly prohibited by 30 Texas Administrative Code § 330.15 could not be accepted.

A. Characterization of Subsurface Geology and Hydrology

1. Generalized Information

To better understand some of the geologic and hydrologic concerns raised by the opposing parties, it is necessary to generally understand the subsurface stratigraphy at the site. The site is located within the outcrop of the recharge zone for the Carrizo-Wilcox Aquifer (hereafter, the "Wilcox Aquifer"). Underlying the site are varying layers of clay and sandy soils. The clay layers are of low permeability generally and act as a buffer between the sandy layers, which are more

permeable and allow groundwater movement. Post Oak identified three layers of relatively high permeability: the 425 Sand, the 395 Sand, and the 325 Sand.³ For the eastern part of the landfill site, the 425 Sand is the uppermost aquifer, as it is the highest water-bearing stratum.⁴ However, there is a dry line generally running diagonally across the middle of the landfill site, and to the west side of that dry line, no water was found in the 425 Sand.⁵ Rather, on the western side of the site, the uppermost aquifer is the 395 Sand, as that is the highest water-bearing stratum.⁶ Which layers are hydraulically connected, as well as the groundwater levels are disputed by the parties.

The evidence shows the three sand layers have a groundwater flow direction different from the flow of the larger regional aquifer, leading Post Oak to conclude they are not connected to the larger aquifer. Specifically, the 425 Sand flows southwest, the 395 Sand flows northwest and north, and the 325 Sand flows northeast.⁷ In contrast, the regional aquifer flows east to southeast.

The opposing parties argue that the site is unusually complex and varied in its subsurface geology and hydrology, and assert that Post Oak has oversimplified it, thus resulting in an inadequate characterization of it. They contend that Post Oak did not correctly identify the seasonal high groundwater level because it unreasonably disregarded water readings in piezometer PZ-45 that are 14 feet above the bottom excavation of the proposed landfill in that area and improperly rejected water level readings from borings B-6 and B-15 that were taken at the site in 2010. They contend that Post Oak failed to properly understand the geology of the site when attempting to characterize it

³ Post Oak Ex. 5 at 25. The numbers delineate the different layers of strata, with the numbers being derived from the msl elevation of the upper portion of the sand units as they were encountered in the northern portion of the site. Post Oak Ex. 1 at 1526. The 425 Sand is higher than the 395 Sand or the 325 Sand. The clay layer is found underneath each sand layer, *i.e.*, the 425 Clay underlies the 425 Sand. There is some disagreement as to whether the three sand layers represent truly isolated and contiguous layers at the depths noted, or interconnecting sand layers (for example, places where the 395 Sand might intersect with sand at a different level).

⁴ Tr. Vol. 5 at 879.

⁵ Post Oak Ex. 1 at 1580-82.

⁶ Tr. Vol. 5 at 879.

⁷ SPOD Ex. 4 at 10.

and failed to drill a sufficient number of deep borings to ensure an adequate characterization of the site's geology and hydrology. Each of these arguments is addressed in more detail below.

2. Seasonal High Water Levels

The opposing parties note that both the piezometer PZ-45 data and the B-6 and B-15 boring logs indicate groundwater at levels higher than Post Oak had provided in its subsurface hydrology analysis. The opposing parties note that this a significant concern because the site of the proposed landfill is in the recharge zone of the Wilcox Aquifer, which is the primary source of drinking water for residents in the surrounding area.

The opposing parties also point out that an accurate identification of the geology of the proposed site, including proper characterization of the groundwater levels, is required by the TCEQ's rules.⁸ Among other things, the rules require a proper analysis and characterization of the subsurface stratigraphy. Further, the rules require a liner quality control plan for a landfill site,⁹ and the plan must address special liner constraints that depend upon the elevation of the seasonal high water level.¹⁰ To demonstrate the integrity of the liner, an applicant must ensure that it will not undergo hydrostatic uplift. But, to properly analyze the risks of hydrostatic uplift, one must properly identify the seasonal high water level. Under the TCEQ's rules, the "seasonal high water level" is defined as "the highest measured or calculated water level in an aquifer during investigations for a permit application and/or any groundwater characterization studies at a facility."¹¹

⁸ See, e.g., 30 Tex. Admin. Code §§ 330.61(j)-(k), 330.63(e)-(f).

⁹ 30 Tex. Admin. Code § 330.63(d)(3)(C), (d)(4).

¹⁰ 30 Tex. Admin. Code § 330.337.

¹¹ 30 Tex. Admin. Code § 330.3(137).

As noted in the TCEQ rules, a seasonal high water level exists only for an “aquifer.” So, to the extent there could be a body of water not classified as an aquifer, the definition of seasonal high water level would not apply to it. The TCEQ rules define an aquifer as “a geologic formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.”¹² The TCEQ’s geologist has indicated that the phrase “yielding significant quantities of groundwater” simply means that the formation produces a samplable quantity.¹³ Thus, according to him, if a formation yields a quantity of water that is samplable, it will be considered an aquifer.

The opposing parties assert that the seasonal high water level at any point is supposed to be the highest level ever measured at that point, and not an average level or determination of a normal range for water levels at that point. Thus, the opposing parties argue, it was unreasonable of Post Oak to disregard water readings in piezometer PZ-45 and on the boring logs for borings B-6 and B-15 from 2010 in attempting to determine the seasonal high water level in those areas of the proposed landfill site. Although the arguments and issues for the data from piezometer PZ-45 and the data from borings B-6 and B-15 are related, there is some variance, so the ALJs discuss these separately below. However, before doing that, the ALJs find it appropriate to briefly discuss a resolution they believe addresses the various groundwater concerns raised.¹⁴

The opposing parties have pointed to data on boring logs that was dismissed by Post Oak. Whether Post Oak’s disregard of this data is justified is in dispute. But the boring logs were sealed by Post Oak’s engineers as accurately reflecting the conditions noted therein, and the boring logs for B-6 and B-15 clearly noted groundwater at higher levels than Post Oak planned when designing the landfill. Whether the water reflects simply moist soil, a perched water table, or the actual larger aquifer is uncertain. Part of this uncertainty stems from the fact that the boring logs and the

¹² 30 Tex. Admin. Code § 330.3(8).

¹³ See SPOD Ex. 32; Tr. Vol. 7 at 1537-38.

¹⁴ The ALJs are aware that the parties may not agree with the ALJs’ proposed resolution; however, the ALJs believe it will adequately satisfy concerns raised by the opposing parties.

monitoring well data came at different points in time—the boring logs before a record drought year, and the monitoring wells after or during a record drought year. This gives the ALJs pause as to the reliability of the data obtained during or after the record drought year. This is not through any fault of Post Oak, but it is a concern nonetheless.

Rather than find that such uncertainty over this limited issue prevents issuance of the permit, the ALJs believe that the groundwater concerns can be addressed through a permit condition requiring Post Oak to present additional water monitoring data to the ED prior to commencing construction to demonstrate that the groundwater conditions reflected in the application accurately reflect the conditions at the site prior to construction. Further, such a permit condition would require explicit approval by the ED, consistent with 30 Texas Administrative Code § 330.337(b), before Post Oak could begin construction, with such approval predicated solely on the ED's agreement that the updated groundwater water data does not present seasonal high water levels materially higher than reflected in the application. Such a permit condition is consistent with the purposes and requirements of 30 Texas Administrative Code § 330.337(i), which requires updating of the seasonal high water table as additional data becomes available, and will resolve concerns raised by the opposing parties to the actual geologic conditions at the site. Moreover, given the extensive rainfall of the past 2 years and the highly fluctuating water conditions that Texas has experienced over the past decade (varying from record or near-record drought conditions to extensive rainfall), such a permit condition would seem particularly prudent.

If the monitoring well data is skewed because of the record drought year and drought conditions prior to the monitoring well data being obtained, as the opposing parties allege may have happened, that would be reflected in the updated water monitoring data. On the other hand, if Post Oak believes that its groundwater analysis contained in the application accurately reflects the existing conditions at the site, that would be confirmed by such additional data presented prior to construction. While the ALJs believe that Post Oak has adequately characterized the geology of the site as required by the TCEQ's rules, the record drought of 2011 has complicated the analysis. The additional permit condition should lessen concerns about the true geologic conditions at the site, in

regard to groundwater, and ensure that the groundwater will not present potential hydrostatic uplift problems. Now the ALJs turn to the specific groundwater concerns raised by the opposing parties.

a. Piezometer PZ-45

The opposing parties argue that Post Oak disregarded the water reading at PZ-45 and that such reading indicates the seasonal high water level could be as high as 14 feet above the deepest excavation of the landfill in that area. Post Oak currently agrees with the opposing parties that the seasonal high water level at PZ-45 is 434.09 feet msl, accepting the opposing parties' characterization of the water reading in PZ-45. So, the actual seasonal high water level is not currently disputed. However, Post Oak contends this does not make its groundwater analysis or its application deficient because this agreed seasonal high water level is only six inches above the bottom of the landfill. Specifically, Post Oak notes that the proposed landfill excavation depth at the location of PZ-45 is 433.6 feet msl if a composite liner system is used (as opposed to the alternate liner identified in the application). Thus, there is a difference of only six inches between the high water level of 434.09 feet msl and the lowest possible excavation depth of the landfill at that location of 433.6 feet msl. Post Oak argues that this small difference does not impact its overall analysis or require any additional modification to the liner system to account for the potential of hydrostatic lift. Further, Post Oak points out that if a geocomposite liner alternative is used in this portion of the landfill, as proposed in the application, then the lowest excavation of the landfill would be above the high water level of 434.09 feet msl.

Post Oak also notes that its application provides for contingency procedures in the event that seepage is observed or if information indicates the landfill excavation will be further below the currently identified seasonal high water table. According to Post Oak, these contingency procedures in the application will provide additional protection from harm as required by TCEQ rules.

The ED also acknowledges the seasonal high water level of 434.09 feet msl noted by the opposing parties but, like Post Oak, disagrees it is significant. The ED agrees with Post Oak that this

provides only a six-inch intrusion above the lowest possible excavation of the landfill at that point, which would not necessitate any change in the design or construction of the landfill. Further, the ED agrees that the contingency plans contained in Section III of the application adequately address any problems that could arise if the excavation ends up being lower or seepage is observed. Thus, the ED concludes that the highest water level reading in piezometer PZ-45 is not problematic for the application and does not demonstrate any failing by Post Oak to comply with applicable rules.

In response, the opposing parties note that the issue is larger than simply a six-inch overlap between the bottom of the landfill and the seasonal high water level. The opposing parties point out that the landfill excavation drops to 420 feet msl not far from piezometer PZ-45, which would put the seasonal high water level 14 feet above the bottom of the landfill if the water table has not been adequately characterized in the area.¹⁵ They argue that the failure to properly consider the water level noted in piezometer PZ-45 has tainted Post Oak's characterization of the groundwater in the entire area, leaving open the possibility that the water table is much higher, has not been properly accounted for in the landfill design, and would not be covered adequately by contingency measures in the application. Further, they assert that no witnesses at the hearing testified to the adequacy of the contingency measures in the application and, thus, those measures should not be considered as a means to excuse a deficient groundwater analysis.

Ultimately, the ALJs find the concerns regarding the water level readings from piezometer PZ-45 to be unfounded. There is no dispute as to the actual seasonal high water level reflected in piezometer PZ-45. That level is 434.09 feet msl. Further, the evidence conclusively establishes that the lowest depth of excavation of the landfill at that point is 433.6 feet msl if a composite liner is used, resulting in a six-inch intrusion of the landfill base into the seasonal high water table. However, if an alternate liner is used, as proposed in the application, then the lowest depth of excavation would be higher than the seasonal high water level.¹⁶ Even with the six-inch intrusion

¹⁵ SSLGC Ex. 6 at 18.

¹⁶ Post Oak Ex. 1 at 1206.

into the seasonal high water level with a composite liner, the evidence establishes that this does not present a concern of hydrostatic lift—a point the opposing parties do not seriously challenge. Moreover, the evidence shows that waste would be separated from the seasonal high water level by a geosynthetic clay layer, a geomembrane, a geocomposite drainage layer, and two feet of protective cover soil.¹⁷

Guadalupe County's expert witness on this issue, Jorge Zornberg, holds a Ph.D. in civil engineering and is an engineering professor at the University of Texas at Austin. A registered professional engineer in California, Dr. Zornberg has performed engineering design work and has expertise in traffic evaluations for predicting the design life of paving systems.¹⁸

The opposing parties' primary concern, though, is not in regard to the exact location of piezometer PZ-45, but in nearby areas where the landfill excavation drops lower. However, these concerns are based only upon speculation by Dr. Zornberg. There is no evidence indicating water levels at those other areas match the water levels measured at piezometer PZ-45. While the evidence does show the depth of the landfill excavation at approximately 420 feet msl to the southwest of piezometer PZ-45, it also indicates the seasonal high water level drops in that direction. For example, the seasonal high water level at piezometer PZ-46 is 420.23 feet msl (and the depth of the landfill excavation is 421.5 feet msl at that point).¹⁹ Based on the groundwater contouring done by its experts, Post Oak's evidence clearly shows groundwater levels dropping in that direction.²⁰ Further, the evidence shows a dry line in that direction, where no monitoring wells, borings, or piezometers located any water in the 425 Sand.²¹ Thus, although the landfill excavation depth may

¹⁷ Post Oak Ex. 11 at 17-18.

¹⁸ Guadalupe County Ex. 2 at 4-8.

¹⁹ Post Oak Ex. 1 at 1234-35.

²⁰ Post Oak Ex. 1 at 1235, 1580-82.

²¹ Tr. Vol. 7 at 1419-20.

be lower in that direction, the seasonal high water level also drops, ultimately reaching a point less than halfway across the site where no groundwater has even been detected in the 425 Sand.

The opposing parties' concern, which is based upon Dr. Zornberg's testimony, is simply not supported by persuasive evidence in the record. Rather, the opposing parties' concern is based upon speculation for areas around piezometer PZ-45 that do not have specific monitoring wells or piezometers. Dr. Zornberg acknowledged that he does not have the data to precisely determine the groundwater levels in the areas where the landfill excavation drops to 420 feet msl and he did not attempt to contour the groundwater in that area.²² In contrast, Post Oak did contour the groundwater, based on available monitoring well and other data, and concluded that the areas of the landfill that dropped to as low as 420 feet msl were still above the groundwater levels. Given the distance between the piezometers and other measuring devices in this area, the ALJs understand the opposing parties' concerns. But the ALJs conclude that Post Oak's evidence adequately demonstrates the groundwater conditions in this area. While the opposing parties are correct that it is not their burden to demonstrate an inadequacy in the application, they appear incorrect in the standard they wish to apply to Post Oak's application. It appears as if the opposing parties believe that absolute certainty is necessary. That, however, is not the standard. Rather, the preponderance of the evidence must show that Post Oak has complied with the applicable rules. The ALJs believe this standard has been met.

The ALJs find that Post Oak's evidence is persuasive and that the preponderant evidence demonstrates that the seasonal high water levels will not be significantly above the landfill excavation depth in those areas where the lowest excavation is 420 feet msl. The ALJs conclude that the overlap at piezometer PZ-45 presents the highest likelihood of the seasonal high water level being above the landfill excavation—and that only by six inches. This relatively low intrusion into the seasonal high water level is properly addressed by the liner conditions and development plans and does not present concerns for hydrostatic lift.

²² Tr. Vol. 7 at 1443-44.

b. Borings B-6 and B-15

In 2010, borings were completed at the proposed landfill site, and the logs for borings B-6 and B-15 reflected water encountered at approximately 442 feet msl in each boring. Specifically, for boring B-6, the log states “Groundwater at 14 on May 3rd” which would be at an elevation of 442.66 feet msl.²³ The log for boring B-15 states that “Groundwater was encountered at 18.5 [feet] during drilling” and notes the groundwater level during drilling was “18.5 ft/Elev 442.6 ft.”²⁴ The opposing parties assert that Post Oak improperly disregarded these two groundwater findings from boring logs B-6 and B-15 when developing its seasonal high groundwater tables.

Post Oak acknowledges that it did not include the groundwater levels noted in borings B-6 and B-15 in compiling its seasonal high water level tables, but claims it was not required to because the boring log notations do not accurately reflect groundwater in the area. Specifically, Post Oak asserts that it installed monitoring wells adjacent to borings B-6 and B-15 for the purpose of measuring groundwater levels, and the monitoring wells showed that although the soil was moist at the levels noted in the boring logs it was not a source of groundwater. Post Oak collected numerous water measurements over 3 years (2011-2014) and all of the groundwater measurements in monitoring wells MW-6S and MW-15S were at least 13 feet below the 442.6 feet msl at which groundwater was noted in the logs for borings B-6 and B-15.²⁵

The opposing parties argue that the monitoring well data is not reliable because the screening levels were too low to catch higher groundwater readings. For example, they note that monitoring well MW-15S was screened from 405 to 415 feet msl and, thus, allegedly would not detect water as high as 442 feet msl. Therefore, they argue the boring log data should have been relied on.

²³ Post Oak Ex. 1 at 1663.

²⁴ Post Oak Ex. 1 at 1672.

²⁵ Post Oak Ex. 1 at 1549-50. The highest groundwater levels noted were 412.61 feet msl in MW-6S and 428.7 feet msl in MW-15S.

Post Oak disagrees and contends that the monitoring well data is more reliable than the boring logs, and more accurately reflects the actual groundwater levels in the locations. Post Oak argues that the information on the boring logs for B-6 and B-15 reflects either (1) an improper characterization of what was found (for example, the boring operator may have characterized very moist soil as groundwater, when it actually was simply moist soil), or (2) “perched water” that is not connected to the larger aquifer in the area.²⁶ If it is perched water, then Post Oak argues that it does not have to be considered as part of the aquifer in the area and need not be accounted for, but rather will be resolved through dewatering or other methods during excavation for the landfill.

The opposing parties disagree with Post Oak’s characterization of the water measurements on the boring logs for B-6 and B-15 as either an incorrect characterization or perched water. Rather, the opposing parties argue that the more likely explanation is that the boring logs accurately reflect the water level in the area prior to the record drought of 2011. Then, when the readings were observed in the monitoring wells after the record drought, the water table had diminished significantly. The opposing parties argue that once water levels return to normal in the area, they could be as high as the numbers recorded in borings B-6 and B-15.

Moreover, the opposing parties argue that Post Oak’s use of the term “perched water” is not significant from a regulatory standpoint. The TCEQ’s rules define an aquifer to include any geologic formation that yields a significant quantity of water, which the TCEQ’s own engineer testified means “a quantity of water that is samplable.” Thus, even a perched water table yielding a relatively small amount of water will qualify as an aquifer under the TCEQ’s rules, according to the opposing parties. Post Oak disagrees with this, contending that the TCEQ explicitly rejected such a reading of the term “aquifer” in its rules. Post Oak cites to the following response by the TCEQ to comments regarding a rule change in 2006:

²⁶ “Perched water” refers to an underground pocket of water that is not part of a water table, and which is trapped in a confining layer. *See* Tr. Vol. 8 at 1622.

Several individuals commented that the added language [to the definition of aquifer] had the unintended consequence of defining any formation capable of supplying sufficient water for laboratory analysis, no matter how insignificant, as an aquifer. In response to those comments, the commission has deleted the references to sufficient water for the purpose of laboratory analysis from the definition of aquifer.²⁷

Based on this, Post Oak argues that a small, perched water table would not be considered an aquifer for purposes of the TCEQ's landfill rules, and it would not reflect the seasonal high water levels that need to be accounted for in the landfill design and construction.

The ALJs generally agree with Post Oak's handling of the log data from borings B-6 and B-15. The monitoring well data for 3 years at those locations did not show groundwater levels nearly as high as the notations in the logs for borings B-6 and B-15. Although the opposing parties contend that the screening was too low to detect groundwater as high as 442 feet msl, this would not be true if groundwater at 442 feet msl was hydraulically connected to lower water bearing units. Even though monitoring well MW-15S was screened at 405 to 415 feet msl, it still detected groundwater readings as high as 428.66 feet msl.²⁸ Thus, it was able to detect higher levels and would be expected to measure groundwater at 442 feet msl if such was hydraulically connected to the larger aquifer that MW-15S actually measured.²⁹

Regardless, even if the monitoring well data was not as reliable, the subsequent boring logs for the monitoring wells that were installed at those locations also did not show groundwater at the same depths as the B-6 and B-15. Rather, the boring logs for the monitoring wells showed "moist" soil in boring B6MW and "moist to very moist" soil in boring B15MW, but not a determination of groundwater.³⁰ Thus, the more recent evidence does not corroborate the earlier findings, leaving

²⁷ 31 Tex. Reg. 2502, 2545 (Mar. 24, 2006) (found at Post Oak. Ex. 32).

²⁸ Post Oak Ex. 1 at 1550.

²⁹ To the extent groundwater is hydraulically interconnected in these confined systems, it will essentially equalize to the same level. *See* Tr. Vol. 2 at 418-20. Thus, even if water arrives through the screening at lower levels, it will rise to the level matching the aquifer to which it is connected.

³⁰ Post Oak Ex. 1 at 1887, 1889.

more reasonable and likely Post Oak's explanation that the boring operator incorrectly noted moist soil as groundwater or perhaps struck a small, perched water table. If the higher water levels did represent a perched water table, it appears to have been dispersed, as the monitoring well data does not show any additional water readings at that level over the next few years. This issue of perched water is discussed in more detail in the next subsection below.

Given the later monitoring well data, Post Oak could be accused of having an incorrect analysis if it relied on the earlier boring log notations to the exclusion of the monitoring well data, as the monitoring well data is more thorough and gathered specifically for the purpose of measuring groundwater levels. Given a difference between the boring logs and the monitoring well data, the latter is generally more reliable in demonstrating actual water levels. Thus, it would likely have been improper for Post Oak to simply characterize the seasonal high water level based upon the boring log data, when the monitoring well data was so different. Overall, it appears that Post Oak did a good job in determining groundwater levels. Even SPOD's expert agreed that when he conducted a site visit and gauged groundwater levels, they were at or around where Post Oak had noted them and he found no significant discrepancies.³¹

Ultimately, we simply do not know whether the groundwater represented on the boring logs for B-6 and B-15 was mistakenly noted, was part of a perched water table, or was part of a larger aquifer that subsequently dropped in level. Post Oak's expert could only speculate as to reasons for it, but determined that it was not part of the larger aquifer in the area. The opposing parties argue that the uncertainty behind the water levels renders the application and analysis defective. The ALJs disagree. Post Oak took reasonable steps to attempt to reconcile all available data and reasonably concluded that the notations of groundwater at 442 feet msl on boring logs B-6 and B-15 did not represent an actual aquifer that needed to be addressed. The ALJs agree with that determination, given the totality of the evidence.

³¹ Tr. Vol. 6 at 1201-02.

Although the ALJs find Post Oak's analysis proper, the existence of a record drought year between the time of the initial borings and the monitoring well data complicates the analysis. Because of this, the ALJs believe the prudent course of action is to simply require additional groundwater data, including updated information from the locations of monitoring wells MW-6S and MW-15S before excavation of the landfill site. Thus, the ALJs recommend that a permit condition be adopted to this effect. To compile the information required by the proposed special condition, Post Oak should be required to either (1) install nested wells that are screened at the levels of 435-445 feet msl at the locations of MW-6S and MW-15S, in addition to the existing screening levels at those locations, or (2) install two additional monitoring wells that are screened at the level of 435-445 feet msl, within close proximity to monitoring wells MW-6S and MW-15S.

c. Perched Water

Subsumed within the issue of the seasonal high water levels is the question of whether an area of perched water would constitute an aquifer and, thus, be included in determining the seasonal high water level. If the unusual groundwater levels noted on borings B-6 and B-15 were the result of a perched water formation that could yield a samplable quantity of water, then those could potentially represent an aquifer and be required to be used as the seasonal high water levels. This would require significant modifications to the landfill design and application, as it was not designed with such high water levels in mind in that area of the site. The opposing parties state that any water body yielding a samplable amount of water is considered an aquifer. The ED's engineer supported this interpretation in his testimony, when he stated that a "significant" quantity of water is "a quantity of water that is samplable." However, as Post Oak noted, in 2006 the Commission specifically removed proposed language from its rule that supported this interpretation of "significant quantities of water" in the definition of an aquifer.³² Thus, there appears to be a conflict between the ED's understanding of the term and the Commission's prior actions in rulemaking. This is purely a legal question for the Commission to decide.

³² 31 Tex. Reg. 2502, 2545 (Mar. 24, 2006) (found at Post Oak Ex. 32).

As noted, the Commission's rules define an aquifer as "a geologic formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs."³³ If "significant" is intended to reference any amount that is samplable, that would mean that even a small, perched water table would be considered an aquifer, as long as it yielded even a small amount sufficient for samplable analysis in a laboratory. This would likely encompass very small water formations, even those not connected to a larger aquifer.

Such an interpretation would present problems, because it likely would include water formations in the definition of aquifer that were never intended to be included. Arguably, this is why the Commission dropped language from its proposed definition of aquifer in 2006 that would have defined "significant" to mean an amount that could be samplable. On the other hand, the ALJs also understand that using the standard of "samplable" gives concrete substance to the term "significant," which could be unclear in some scenarios. While the ALJs believe that the better approach is that posited by Post Oak—despite allowing for some uncertainty in the term "significant"—the ALJs are not as well-situated as the Commission to decide such an issue that will have a wider impact than just this case.

However, the ALJs find it unnecessary to decide this issue, because ultimately it is not known whether the water noted on boring logs B-6 or B-15 was perched water. Without certainty about that, it is unnecessary for the Commission to decide the issue for purposes of this case. But the Commission should be aware that there is a significant potential conflict between the ED's general understanding of the definition of an aquifer and the Commission's past rulemaking decisions.

d. Conclusion

In conclusion, then, the ALJs find that Post Oak has adequately characterized the seasonal high water levels for the site. It accurately gathered data and made reasonable judgments about the

³³ 30 Tex. Admin. Code § 330.3(8).

seasonal high water levels at the site in accordance with that data. But, the existence of exceptional weather conditions during the time in question cause the ALJs to recommend an additional permit condition to add a greater level of assurance that Post Oak's analysis and decision to discount the boring log readings for borings B6 and B-15 matches the actual conditions at the site.

3. Characterization of Subsurface

The opposing parties also argue that Post Oak did not properly characterize the subsurface geography and hydrology of the site in general. A TCEQ rule requires an applicant to include a "description of the regional geology of the area," which must include geologic maps of the region, a detailed description of the stratigraphic column in the landfill area, and regional stratigraphic cross-sections, among other things.³⁴ In preparing the report, a sufficient number of borings must be performed, and such borings must be sufficiently deep enough to allow identification of the uppermost aquifer and underlying hydraulically interconnected aquifers.³⁵

In regard to these requirements, the opposing parties first contend that Post Oak erred by improperly categorizing the area of the landfill site as being in an "undifferentiated" portion of the Wilcox Aquifer, when in fact it is in a portion that is differentiated between an upper muddy stratum and a lower sandy stratum. Specifically, the opposing parties assert that the northern portion of the Wilcox Aquifer (located in Lee and Milam Counties, for example) is different from the Wilcox Aquifer as it exists in Guadalupe County, at the area of the proposed landfill site. William B. Klemm, an expert relied on by the opposing parties, testified that the southern portion of the Wilcox Aquifer is divided into "upper muddy" and "lower sand rich" portions. Conceptually, the two portions sit on top of each other, with the "upper" and "lower" references relating to their location in the stratigraphy. The upper muddy portion is generally considered an aquitard, whereas the lower portions are considered to be water-bearing portions of the aquifer.

³⁴ 30 Tex. Admin. Code § 330.63(e)(1).

³⁵ 30 Tex. Admin. Code § 330.63(e)(4).

According to Mr. Klemt, the landfill site is purportedly located in an area dominated by the lower sand rich portion, which is more permeable than the upper muddy portion. Mr. Klemt testified that Post Oak improperly relied on Report 332, prepared by the Texas Water Development Board in 1991, which he alleged was not appropriate for the lower sand rich portion of the Wilcox Aquifer. Rather, he asserted that Post Oak should have relied on an LBG-Guyton Report from 2007.³⁶ Similarly, SPOD's expert, Stephen Phillips, testified that Post Oak incorrectly characterized the depositional environment of the region as being lacustrine, formed in ancient lakes and lagoons, whereas he asserts it is actually deltaic and meandering.³⁷ The opposing parties argue that because Post Oak failed to account for these distinctions and incorrectly characterized the regional geology, the application's geologic description is inherently flawed, which results in its analysis of the subsurface geology and hydrology being flawed.

The opposing parties further argue that this generalized mischaracterization of the regional geology was compounded when Post Oak failed to do a sufficient number of borings, including an adequate number of deep borings, at the site to determine the underlying stratigraphy. They note that many of the borings are more than 2,000 feet apart, especially in some areas where there is a question as to whether lower and upper aquifers are hydraulically connected. By failing to have borings closer together, and deeper, Post Oak allegedly has not adequately established whether water-bearing areas are connected or not, which is essential for proper hydrological characterization of the site. The opposing parties point out that Post Oak shows many sandy intervals "pinching out" (*i.e.*, terminating), when in fact additional borings might show them to be continuous, which would affect the permeability of the stratigraphy.

In response, Post Oak notes that it only referenced Report 332 twice in its application, and that its use of Report 332 was very limited. Moreover, Post Oak notes that Mr. Klemt agreed that Post Oak's expert had properly identified the location of the landfill on the figures taken from

³⁶ Post Oak Ex. 19.

³⁷ SPOD Ex. 4 at 6; Tr. Vol. 6 at 1195-96.

Report 332. Post Oak points out that even the LBG-Guyton Report, relied on by Mr. Klemt, locates the landfill site in an area where the upper muddy aquitard exists.³⁸ Post Oak's expert reviewed the LBG-Guyton Report and testified that the application's characterization of the geology and hydrology of the site's subsurface is entirely consistent with that report.³⁹ Thus, Post Oak argues that it did correctly locate and characterize the site in reference to geologic data available, and that it properly characterized the soils at the site as being consistent with the upper muddy portion of the Wilcox Aquifer, which is generally considered to be an aquitard.

Further, Post Oak disagrees that its borings were too few, too far apart, and not deep enough. Post Oak notes that it drilled approximately three times the number of borings required by the TCEQ's rules. Post Oak's expert testified that the number and spacing of the borings was sufficient to allow adequate characterization of the landfill site.

After considering the evidence and arguments, the ALJs conclude that Post Oak has drilled a sufficient number of borings and properly characterized the subsurface geology and hydrology of the site. Under the TCEQ's rules, for a site with a disposal area of between 300 and 350 acres (which is the size of the proposed site), a minimum of 32 to 35 borings is expected, with at least 17 to 18 extending at least 30 feet below the elevation of the deepest excavation at the site.⁴⁰ In this case, Post Oak did 90 borings, with 41 of them being at least 30 feet below the elevation of the deepest excavation at the site.⁴¹ Although the subsurface geology of the site varies, Post Oak accounted for this by drilling approximately three times the number of required borings. While the ALJs agree that Post Oak could have provided an even higher level of confidence as to the geology between borings by drilling more borings, the ALJs also believe that the number and location of borings utilized by Post Oak gave it a reasonable level of confidence as to the subsurface geology and hydrology at the

³⁸ Tr. Vol. 8 at 1657-59; Post Oak Ex. 19 at Figures 10, 11. An "aquitard" is a stratigraphic layer with low permeability that allows for only slow migration of liquid.

³⁹ Tr. Vol. 8 at 1659.

⁴⁰ 30 Tex. Admin. Code § 330.63(e)(4)(B).

⁴¹ Post Oak Ex. 5 at 21.

site. In the absence of reliable evidence directly controverting Post Oak's analysis in a meaningful way, the mere fact that Post Oak could have done more to ensure a higher level of certainty about subsurface conditions does not render the application deficient.

In addition, the opposing parties' larger concerns appear unjustified. Although it may be true that Post Oak did not characterize the site's geology with the level of differentiation that Mr. Klemt argues should have been applied, it relied on extensive reliable sources for its characterization of the Wilcox Aquifer and prepared an analysis sufficient to determine the geology and hydrology at the landfill site. Report 332 was prepared by the Texas Water Development Board and addresses the Wilcox Aquifer. Although the specific part of the Wilcox Aquifer in issue may vary from the overall geology of the aquifer on the whole, Post Oak acted properly when it relied on Report 332 to a relatively small degree. Post Oak also considered much other data in attempting to characterize the geology and hydrology of the site, including the large number of borings. In fact, the evidence shows that the LBG-Guyton Report cited by Mr. Klemt as being more reliable was actually consistent with the application's characterization of the landfill's specific geology and hydrology. Although the opposing parties now assert that the LBG-Guyton Report should not have been used to determine the Wilcox Aquifer's properties in Guadalupe County because it was limited to Gonzales and Wilson Counties, their own expert relied on it as relevant in this case and testified that Post Oak should have used it to characterize the subsurface geology at the site.⁴²

Moreover, although Mr. Phillips criticized Post Oak's description of the regional geology as being lacustrine, he also then conceded that Post Oak's characterization of the site's specific geology was based on the borings and not the generalized characterization of the regional geology as lacustrine.⁴³ So, the real question is whether Post Oak's borings were adequate, not the general language it used to describe the regional geology—especially when such description has a justified

⁴² GCGCD Ex. 2 at 8, lines 9-17. In fact, given the unequivocal direct prefiled testimony of its own sponsored witness, it is rather shocking that GCGCD in its sur-reply asserts that Post Oak cannot cite the LBG-Guyton Report as evidence of the subsurface conditions at the landfill site. *See, e.g.*, GCGCD's Sur-Reply Brief at 4, 6.

⁴³ Tr. Vol. 6 at 1196.

basis. As noted above, the ALJs find that Post Oak's borings—which were roughly three times the overall required number of borings and more than double the number of borings required to extend at least 30 feet below the deepest excavation at the site—were adequate and provided a reasonable basis for Post Oak to accurately characterize the subsurface geology and hydrology at the site.

Ultimately, questions of subsurface characterization involve some expert judgment in attempting to contour the stratigraphy underground. The evidence shows that Post Oak's experts relied on a large amount of data, have experience with subsurface investigations in general, and applied proper standards and principles in evaluating the subsurface geology. While one could argue that they could have done more, that can virtually always be argued. The real question is whether the analysis is accurate and adequate from a regulatory standpoint. The ALJs find that it is.

B. Evaluation of Faults

The opposing parties contend that Post Oak has not adequately evaluated the existence of faults underneath the proposed landfill site. Specifically, SSLGC witness John Long testified that a 30-foot fault line lies below the site that would be a potential migratory pathway for contaminants into the aquifer and aquifer recharge zone. SPOD witness Mr. Phillips also testified that there is evidence of fault lines under the proposed site that were not fully evaluated by Post Oak. A TCEQ rule provides that new municipal solid waste landfill units may not be located within 200 feet of a fault that has had displacement in Holocene time.⁴⁴ In evaluating the propriety of a landfill site, the applicant is required to conduct detailed fault studies and submit those with its application.⁴⁵ The opposing parties argue that Post Oak failed to adequately do this because its fault study failed to include and evaluate the 30-foot fault line identified by Mr. Long or any faulting identified by Mr. Phillips.

⁴⁴ 30 Tex. Admin. Code § 330.555.

⁴⁵ 30 Tex. Admin. Code §§ 330.61(j)(2), 330.555.

Post Oak and the ED both disagree with the opposing parties' contention that there are existing faults under the proposed landfill site that need to be explored and evaluated further. Post Oak notes that the two witnesses offered by the opposing parties, Mr. Long and Mr. Phillips, disagreed as to the location and indicators of faults under the site. Moreover, Post Oak notes that its own expert conducted a full subsidence and fault study, whereas neither Mr. Long nor Mr. Phillips actually conducted such a full fault evaluation study.

Perhaps more importantly, both the ED and Post Oak note that there is no evidence that any alleged or potential faults identified by Mr. Long or Mr. Phillips have been active in Holocene time such that they would be required to be evaluated in the landfill application. The TCEQ's rules require evaluation of "active" faults, which are those that have had displacement within Holocene time (the last 11,000 years). The ED and Post Oak note that there is no evidence that any potential fault identified by Mr. Long or Mr. Phillips has been active during Holocene time, so no additional evaluation was required beyond that done by Post Oak in this case. They point out that even Mr. Long acknowledged that there is no indication the 30-foot fault identified by him has been active during Holocene time.⁴⁶

Although the parties spend a great deal of time arguing over the qualifications of the various experts and their evaluation of the existence of potential faults at the site, the ALJs find this to be a relatively straightforward issue that hinges upon an interpretation of the Commission's rules. The opposing parties contend that once any potential indicators of faulting are observed, then it is an applicant's responsibility to fully evaluate them and rule them out of consideration as potentially active faults. In contrast, the ED and Post Oak argue that an applicant's responsibility is simply to identify and address active faults.⁴⁷ The ALJs agree with the ED and Post Oak.

⁴⁶ Tr. Vol. 5 at 981.

⁴⁷ Although this is a simplification of the parties' arguments, the ALJs believe it captures the heart of their disagreement in this case regarding faulting.

The applicable TCEQ rules provide that “[n]ew municipal solid waste landfill units and lateral expansions shall not be located within 200 feet of a fault that has had displacement in Holocene time.”⁴⁸ Thus, the prohibition applies only to faults active during Holocene time. Detailed fault studies are required only for “sites located within areas that may be subject to differential subsidence or active geological faulting.”⁴⁹ The rule goes on to state that “[w]hen an active fault is known to exist within 1/2 mile of the site, the site must be investigated for unknown faults.”⁵⁰ The rule further requires an analysis related to “zones of influence of all active faulted areas within the site vicinity.” Given the language of the rule, the ALJs find it clear that an applicant’s obligation to evaluate faulting extends only to known or reasonably suspected active faults.

In this case, Post Oak evaluated relevant geological data and found no evidence of active faults in the area of the site. However, because there had been oil and gas activity in the area, Post Oak conducted a full subsidence and fault study consistent with 30 Texas Administrative Code § 330.555. Although Mr. Long and Mr. Phillips opined there were additional indicators of faulting that should have been explored further, both witnesses conceded there was no evidence that any unexplored faults were active in Holocene time. Given this lack of evidence that the faults were active in Holocene time, the ALJs determine that Post Oak was not obligated to evaluate them further. It otherwise conducted an analysis to look for evidence of active faulting and found none. So, although Post Oak did not explicitly identify the additional potential faults identified by Mr. Long or Mr. Phillips, it did conduct the type of analysis that would be necessary to determine if active faults existed and found no evidence of such. The ALJs believe this is all that was necessary—even accepting Mr. Long’s and Mr. Phillips’ conclusions as true.⁵¹ For this reason, the

⁴⁸ 30 Tex. Admin. Code § 330.555(a).

⁴⁹ 30 Tex. Admin. Code § 330.555(b).

⁵⁰ 30 Tex. Admin. Code § 330.555(b).

⁵¹ The ALJs find it unnecessary to evaluate and weigh the qualifications and opinions of the experts on this issue. The opposing parties’ experts conceded there was no indication the faults they identified were active in Holocene time. Thus, even accepting the qualifications and concerns of these experts, the ALJs conclude the TCEQ’s rules do not require a greater demonstration by Post Oak.

ALJs find that Post Oak has complied with the Commission's rules in evaluating for faulting and that no such active faults exist that would require additional action by Post Oak.

C. Consideration of Water Wells and Oil and Gas Wells

1. Applicable Rule

As stated in 30 Texas Administrative Code § 330.61(l)(1), existing or abandoned water wells situated within the facility must be identified. Water wells necessary for operations at the landfill may remain in use as long as they are located outside of the groundwater monitoring well network and are not subject to impact from landfill operations. Water wells inside the groundwater-monitoring network, but outside the landfill unit boundary, may be used if identified and approved in a permit. For all water wells, the owner or operator must provide, within 30 days prior to construction, written certification that the wells have been capped, plugged, and closed in compliance with TCEQ regulations.

Oil and gas wells are addressed somewhat differently in 30 Texas Administrative Code § 330.61(l)(2). These wells must be identified, and the owner or operator must provide written certification at the time of application that these wells have been properly plugged, capped, and closed according to all applicable rules of the Railroad Commission of Texas (RRC). If identified in the permit for the facility, producing oil or natural gas wells that do not affect or hamper landfill operations may remain in their current state.

2. Application and Draft Permit

Post Oak identified 11 existing and abandoned water wells and 70 oil and gas wells under the RRC's jurisdiction that are within 500 or fewer feet of the proposed permit boundary.⁵² Of those

⁵² Post Oak Ex. 1 at 42-43, 83.

70 oil and gas wells, 42 are within the proposed permit boundary and two of the wells are within the proposed limit of waste.⁵³ Both of the wells within the proposed area of waste have been abandoned, but only one has been plugged.⁵⁴ Additionally, during a site visit in August 2015, party representatives found an abandoned oil pipeline that had not been identified in the application.⁵⁵

As the application states, the “oil and gas wells on-site are owned and controlled by the [RRC].” Post Oak representatives believe there are six oil and gas wells on-site that are not plugged. The RRC has committed to plug any open oil and gas wells located on the Post Oak site according to RRC rules and guidelines.⁵⁶

The application also states, “on-site oil wells that do not affect or hamper landfill operations will remain.”⁵⁷ Nevertheless, the ED wants any oil and gas wells under the RRC’s jurisdiction to be closed before construction commences. Special Provision 2 in the Draft Permit states:

Wells under the jurisdiction of the RRC that are within the permit boundary must be plugged and abandoned. A written certification that these wells were properly capped, plugged, and closed in accordance with all applicable rules and regulations of the RRC must be approved by the [ED] before physical construction may commence.⁵⁸

3. Opposing Parties’ Evidence and Arguments

James William Watts, Jr., has been SPOD’s Executive Director since 2012. Mr. Watts, Kathryn Brady, and Richard Mergele are the directors of the organization founded by concerned

⁵³ Post Oak Ex. 1 at 83.

⁵⁴ Post Oak Ex. 1 at 43-44.

⁵⁵ SSLGC Ex. 4 at 12.

⁵⁶ Post Oak Ex. 1 at 43.

⁵⁷ Post Oak Ex. 1 at 43.

⁵⁸ ED Ex. 3 at 13.

citizens and landowners.⁵⁹ Mr. Watts owns property adjacent to the Post Oak site that has been in his family for about 50 years⁶⁰ and is currently operated as a ranch.⁶¹

In 2012, Mr. Watts took photographs of an old oil well casing near the Post Oak site. The casing was so deteriorated that the well could not be properly plugged. Mr. Watts's photographs show the actual casing as it was pulled from the ground.⁶²

For SSLGC, John Winkler, P.E., testified about the risk of groundwater contamination because of the numerous oil and gas wells. Mr. Winkler has extensive experience in designing and constructing water wells in central and south Texas.⁶³ He testified that the area around the Post Oak property is replete with oil-related activities, including both documented and undocumented abandoned oil wells. Even though Mr. Winkler recognized that Post Oak has an obligation to properly plug abandoned oil and gas wells that are found in the process of excavating the landfill, he testified that Post Oak has not adequately addressed the potential for the old wells to serve as a conduit for migration of contaminants.⁶⁴

Tom Melville, a District Director of the RRC, strongly opposed approval of the application. He wrote:

Undocumented wells are common in this area. On past contracts, wells have been found for which the RRC has no records. A major concern is that although all permitted wells will be plugged at some time, unpermitted wells will be cut off and left unplugged. The risk of contamination to the groundwater by even a single unaccounted well is too great.⁶⁵

⁵⁹ SPOD Ex. 1 at 2.

⁶⁰ SPOD Ex. 1 at 3. *See also* SPOD Ex. 1A, a map of adjoining and nearby landowners.

⁶¹ SPOD Ex. 1 at 5. Mr. Watts provided an aerial view of the property at SPOD Ex. 1C.

⁶² SPOD Exs. 1 at 12, 1E.

⁶³ SSLGC Ex. 4A.

⁶⁴ SSLGC Ex. 4 at 12.

⁶⁵ SPOD Ex. 7.

Nevertheless, the RRC itself is neutral on the application. In a letter dated June 13, 2012, Ramon Fernandez, Jr., P.E., the RRC's Deputy Director for Field Operations for Oil and Gas, advised the ED of this fact, but he also stated:

The proposed location of the subject landfill includes an area that has had extensive oil and gas development over the years. The proposed landfill may impact many plugged wells and may include undocumented wells that have not been plugged. *These issues must be addressed as part of the application review and any permits that may be issued.* The plugged wells may require that the casings be cut at deeper depths and the top cement plugs re-spotted or that the wells be replugged. Any undocumented wells discovered during this process will require proper plugging. All well work must be performed by [an RRC] approved plugger. The [RRC] requests that any wellwork activities conducted as part of this application be coordinated through the San Antonio District Office.⁶⁶

The opposing parties assert the large number of oil and gas wells on the site, and the fact that the Darst Creek field with hundreds more wells is only ½ mile from the facility, create significant risks for groundwater contamination. Further, the application failed to identify at least one abandoned pipeline, and did not describe how the abandoned wells would be plugged and capped. Especially because Post Oak is a first-time landfill operator with no prior experience in waste management design or operations, the opposing parties assert that Post Oak should have been required to certify that these wells have been properly plugged, capped, and closed when Post Oak filed the application, as required by 30 Texas Administrative Code § 330.61(1)(2).

4. ED's Evidence and Argument

The ED's witness, Arten Avakian, testified that improperly plugged oil wells could serve as a conduit for the movement of groundwater.⁶⁷ Nevertheless, without directly addressing Post Oak's failure to comply with the requirement in 30 Texas Administrative Code § 330.61(1)(2), the ED

⁶⁶ SPOD Ex. 10 (emphasis added).

⁶⁷ Tr. Vol. 7 at 1547-48.

argued that the application and Draft Permit include adequate provisions to ensure that known wells, and those later to be discovered, are properly plugged.

5. Analysis

It is undisputed that Post Oak has not complied with the TCEQ's rule that requires all oil and gas wells to be plugged at the time of application.⁶⁸ Even Post Oak's own expert testified that the rule appeared to require that the oil and gas wells be plugged when the application was filed.⁶⁹ Given this failure to comply with the TCEQ rule, the Commission must decide whether the ED's plan to address the deficit with Special Provision 2 is adequate. That provision allows Post Oak to certify that the wells have been properly plugged, capped, and closed before physical construction commences. Neither the ED nor Post Oak explained why this deviation from the rule was necessary.

One problem with the ED's approach is that by allowing the wells to be plugged and capped after the contested case process has been completed, the ED has cut off the opposing parties' opportunity to challenge the adequacy of the plugger's work and to verify that oil and gas wells on-site will not be a possible path of migration for contaminants. Further, because the wells have not been plugged yet, this raises concerns about the potential existence of undocumented wells, which the RRC has noted could be discovered during the plugging process. The RRC has indicated that such concerns "must" be addressed as part of the application review⁷⁰—yet they have not been fully addressed at this time. Thus, Post Oak's failure in this regard raises significant concerns.

It is not apparent why the Commission's rules require certification that oil and gas wells have been plugged and capped when an application is filed, but allows water wells to be closed after a permit has been granted. However, the ED's consent is some evidence of agency policy in relaxing the rule's requirement for oil and gas wells when another state agency is best able to determine

⁶⁸ 30 Tex. Admin. Code § 330.61(1)(2).

⁶⁹ Tr. Vol. 2 at 379-80.

⁷⁰ SPOD Ex. 10.

compliance. If so, the ED has taken a similar approach in the Draft Permit by allowing Post Oak to get the approval of certain state and federal agencies after the permit has been issued, such as for the wetlands determination.

Along these lines, the ALJs cannot find that the application demonstrates strict compliance with 30 Texas Administrative Code § 330.61(1)(2). Whether such non-compliance may be remedied by a permit condition is a matter left to the Commission. If the Commission determines the rule may be relaxed through a permit condition, then the ALJs recommend that Special Provision 2 be amended to read, “[w]ells under the Railroad Commission’s (RRC’s) jurisdiction that are within the permit boundary must be plugged and abandoned. The RRC’s San Antonio District Office must certify that these wells were properly plugged, capped, and closed in accordance with all applicable rules and regulations of the RRC. The RRC’s certification must also be approved by the [ED] within 30 days prior to construction.”⁷¹

D. Transportation

1. Applicable Law

Commission rule 30 Texas Administrative Code § 330.61(i) requires an applicant to:

- provide data on the availability and adequacy of roads that the owner or operator will use to access the site;
- provide data on the volume of vehicular traffic on access roads within one mile of the proposed facility, both existing and expected, during the expected life of the proposed facility;
- project the volume of traffic expected to be generated by the facility on the access roads within one mile of the proposed facility;

⁷¹ ED Ex. 3 at 13.

- submit documentation of coordination of all designs of proposed public roadway improvements such as turning lanes, storage lanes, etc., associated with site entrances with the agency exercising maintenance responsibility of the public roadway involved;
- submit documentation of coordination with the Texas Department of Transportation (TxDOT) for traffic and location restrictions; and
- analyze the impact of the facility on airports in accordance with 30 Texas Administrative Code § 330.545 (relating to Airport Safety).

2. Post Oak's Evidence and Argument

Post Oak argued that it has met the requirements of this rule.⁷² Post Oak's witness on this issue, Brian Dudley, P.E., received a bachelor of science degree in civil engineering from the University of Texas at Austin and a master of science degree in civil engineering from the University of California at Berkeley.⁷³ Mr. Dudley directed and managed the Site Development Plan and Site Operating Plan (SOP) in Parts III and IV of the application. He also directed many aspects of Parts I and II of the application, including the traffic study.⁷⁴

In 2012, Blackwell Environmental, L.L.C., gathered data on roadways that Post Oak intends to use to access to the facility. The study analyzed traffic on two farm-to-market roads, FM 1104 and FM 1150. They are two-lane, asphalt-surfaced roads maintained by TxDOT. The study shows that local traffic is expected to increase 3% per year through 2080, and site-generated traffic is expected to increase at the same rate as waste projections, 5.9% per year. By 2029, when Post Oak reaches its ultimate waste acceptance volume of 2,500 tons per day, Post Oak will have approximately

⁷² Citing Post Oak Ex. 1 at 34, 44-47, 84, 92, 95, 124-39, 404-23.

⁷³ Post Oak Ex. 9 at 4-5.

⁷⁴ Post Oak Ex. 9 at 9.

1,528 total trips per day.⁷⁵ Vehicles making these trips will include 87 compactor trucks, 26 transfer trucks, 230 small trucks, and 20 other vehicles per day.⁷⁶

Post Oak provided its traffic study and related information to TxDOT.⁷⁷ A representative of that agency determined that traffic will increase significantly, and he proceeded to determine how roadways could be improved to handle the increase. At the end of the review process, TxDOT notified Blackwell Engineering that after the following improvements are made, the roads will be adequate to handle expected traffic increases related to the landfill:⁷⁸

1. Place an asphalt overlay at the intersection of Interstate Highway 10 (IH 10) and FM 1104;
2. Place an asphalt overlay at the intersection of FM 1104 and FM 1150;
3. Construct acceleration and deceleration lanes on FM 1150 at the entrance of the facility; and
4. Construct a right-turn deceleration lane at the intersection of U.S. Highway 80 (US 80) and FM 1150 and place an asphalt overlay at the existing intersection.⁷⁹

In an email dated December 4, 2012, TxDOT indicated that when the roadway improvements are completed, “the roads used to access the facility should be adequate for the expected traffic volumes for the expected life of the facility.”⁸⁰

Post Oak conducted no traffic studies for county roads.

⁷⁵ Post Oak Ex. 1 at 44-47, 84.

⁷⁶ Post Oak Ex. 1 at 46.

⁷⁷ Post Oak Ex. 1 at 124-39.

⁷⁸ Post Oak Ex. 9 at 20-21; *see also* Post Oak Ex. 1 at 125.

⁷⁹ Post Oak Ex. 1 at 125.

⁸⁰ Post Oak Ex. 9 at 20-21; *see also* Post Oak Ex. 1 at 125.

3. ED's Evidence and Arguments

Steve Odil is a Texas licensed professional engineer with bachelor's and master's degrees in chemical engineering and almost 12 years of TCEQ experience.⁸¹ Mr. Odil said the ED defers to TxDOT for recommendations on roadway improvements needed to handle increased traffic. The ED included a Special Provision in the Draft Permit to require completion of roadway improvements before waste can be accepted.⁸²

4. Opposing Parties' Evidence and Arguments

The opposing parties argue that Post Oak's road study was inadequate, and the ED did not properly evaluate the traffic data. Guadalupe County Commissioner Greg Seidenberger testified that Guadalupe County is concerned about damage to roads that will be used to access the landfill.⁸³

In Dr. Zornberg's opinion, Post Oak did not conduct an adequate study of the volume of traffic expected to be generated by the facility on the access roads.⁸⁴ He said the application does not include a proper analysis of traffic sources, particularly for county roads from which traffic will flow.⁸⁵ He identified a network of county roads that can be used to access the site, specifically County Roads 212, 215, 215B, 215C, and 218.⁸⁶ Post Oak provided no information about the adequacy of those roads for the volume of traffic the facility will generate.⁸⁷

⁸¹ ED Ex. 1 at 2.

⁸² ED Ex. 3 at 13, Special Provisions No. IX. 5.

⁸³ Guadalupe County Ex. 1 at 6-7.

⁸⁴ Guadalupe County Ex. 2 at 12-13.

⁸⁵ Guadalupe County Ex. 2 at 10.

⁸⁶ Guadalupe County Ex. 2 at 12-13, 15.

⁸⁷ Guadalupe County Ex. 2 at 13, 16-17.

Mr. Watts testified that the roads near the landfill are not adequately designed to support the number and size of vehicles that will access the landfill.⁸⁸ He said vehicles waiting to enter the landfill will back up on the roadway, thus increasing the risk of accidents.⁸⁹ He also testified that Post Oak should have provided traffic information on the actual cross-sections of FM roads and county roads.⁹⁰

Ms. Brady testified that having landfill-related traffic will increase the risk of accidents, because traffic will back up as vehicles enter the landfill. She also said the heavy weight of the vehicles will damage the roads.⁹¹

5. Analysis

TxDOT's requirement to construct acceleration and deceleration lanes on FM 1150 at the entrance of the facility appears to address the concerns of Mr. Watts and Ms. Brady that traffic may back up on that road. With the addition of these lanes, vehicles can proceed with travel on FM 1150 without having to stop because of traffic entering the landfill. Similarly, the right-turn deceleration lane at the intersection of US 80 and FM 1150 should reduce the risk of accidents as vehicles exit the highway to proceed to the landfill.

Post Oak conducted no traffic studies for county roads, but there was no evidence that Post Oak will use county roads, but the Commission's rule required Post Oak to analyze only roads that it will use to access the facility.⁹² From the maps provided, it does not appear that Post Oak's vehicles will have to travel on county roads. Those vehicles will have better access by traveling on IH 10, SH 80, and FMs 1104 and 1150. Therefore, it appears that Post Oak has complied with the

⁸⁸ SPOD Ex. 1 at 14.

⁸⁹ SPOD Ex. 1 at 15.

⁹⁰ SPOD Ex. 1 at 12.

⁹¹ SPOD Ex. 2 at 11.

⁹² 30 Tex. Admin. Code § 330.61(i).

E. Airport Safety

1. Background

On June 13, 2016, before the PFD could be issued in this case, the opposing parties filed a motion to reopen the record for admission of certain exhibits pertaining to the United States Air Force's (USAF's) Randolph Air Force Base Seguin Auxiliary Airfield (the airfield), which is 12 miles from the proposed landfill site. The ALJs reopened the record and admitted the following exhibits into evidence:

Post Oak Ex. 38	Letter from Lead Airport Certification Safety Inspector William Mitchell with the Federal Aviation Administration (FAA), dated March 21, 2014.
Post Oak Ex. 39	FAA "Determination of No Hazard to Air Navigation," dated March 7, 2016.
Post Oak Ex. 40	ED's letter to USAF Colonel Michael G. Snell, Commander of the USAF's 12th Flying Training Wing, dated June 9, 2016.
Post Oak Ex. 41	Six FAA "Determination of No Hazard to Air Navigation (revised)," letters, dated June 29, 2016. ⁹³
SSLGC Ex. 7	Affidavit of Seguin Mayor Don Keil and attached letter from Colonel Snell. ⁹⁴
SSLGC Ex. 9	Affidavit of Colonel Snell, dated June 20, 2016.
SSLGC Ex. 10	FAA "Determination of No Hazard to Air Navigation (revised)," June 29, 2016. ⁹⁵

⁹³ The letters considered obstruction hazards from different flight paths and reached the same conclusion for all the flight paths.

⁹⁴ SSLGC submitted the affidavit and letter as two separate exhibits, but the ALJs admitted both documents as one exhibit.

⁹⁵ This exhibit is also included in Post Oak Ex. 41.

- SSLGC Ex. 11 Affidavit of Daniel P. Sullivan, Chief of USAF's Bird/Wildlife Aircraft Strike Hazard Team at Kirtland Air Force Base, dated June 30, 2016.
- SSLGC Ex. 12 Affidavit of Ronald L. Merritt, an FAA qualified biologist, dated July 1, 2016.
- SSLGC Ex. 13 JBSA-Randolph Joint Land Use Study, issued July 2015.
- SSLGC Ex. 14A Memorandum by USAF environmental litigation attorney William Darrel Johnson, dated July 20, 2015.⁹⁶

2. **Applicable Law**

A bird hazard is defined as an increase in the likelihood of bird/aircraft collisions that may cause damage to an aircraft or injury to its occupants.⁹⁷ Commission rule 30 Texas Administrative Code § 330.545 provides that:

- (a) Owners or operators of new municipal solid waste landfill units . . . that are located within 10,000 feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used by only piston-type aircraft shall demonstrate that the units are designed and operated so that the municipal solid waste landfill unit does not pose a bird hazard to aircraft.

- (b) Owners or operators proposing to site new municipal solid waste landfill units and lateral expansions located within a six-mile radius of any small general service airport runway end used by turbojet or piston-type aircraft shall notify the affected airport and the Federal Aviation Administration. Owners or operators proposing to site new municipal solid waste landfill units . . . located within a five-mile radius of any large general public commercial airport runway end used by turbojet or piston-type aircraft shall notify the affected airport and the Federal Aviation Administration.

⁹⁶ This exhibit confirms the authority of Mr. Sullivan and Colonel Snell to give opinions regarding the USAF's concerns about the landfill's impact.

⁹⁷ 30 Tex. Admin. Code § 330.3(16).

- (c) The owner or operator shall submit the demonstration in subsection (a) of this section with a permit application or a permit amendment application. The demonstration will be considered a part of the operating record once approved.
- (d) Landfills disposing of putrescible waste shall not be located in areas where the attraction of birds can cause a significant bird hazard to low-flying aircraft. Guidelines regarding location of landfills near airports can be found in Federal Aviation Administration Order 5200.5(A), January 31, 1990. All landfill facilities within a six-mile radius of any small general service airport runway or within a five-mile radius of any large general public commercial airport runway shall be critically evaluated to determine if an incompatibility exists.

The ALJs interpret paragraph (a) to require an applicant for a new landfill to demonstrate that landfill units will be designed and operated so that they will not pose a bird hazard to: (1) turbojet aircraft using a runway end within 10,000 feet of the landfill; and (2) piston-type aircraft using a runway within 5,000 feet of the landfill. As required by paragraph (b), the applicant must notify the FAA and the affected airport when the landfill will be within a six-mile radius of any small general service airport runway end or within five miles of any large general public commercial airport runway end. Paragraph (c) requires an applicant to include these demonstrations in an application. Paragraph (d) says, in part, that when a landfill is located within these ranges, the facility will be critically evaluated to determine if incompatibility exists.

The issue in this case is whether evidence offered by the opposing parties about the airfield, which is 12 miles from the landfill site, proves that the application should be denied based on evidence that the landfill may cause “a significant bird hazard to low-flying aircraft,” as described in paragraph (d).

3. Post Oak's Evidence

Post Oak had not received a determination from the FAA prior to the hearing, and the ED included a Special Provision in the Draft Permit that required FAA approval prior to construction.⁹⁸ On March 21, 2014, William Mitchell, Lead Airport Certification Safety Inspector for the FAA, sent a letter with attachments to Matthew Udenenwu, a Team Leader in TCEQ's MSW Permits Section. In the letter, Mr. Mitchell said he had found no privately or publically owned public use airports within 9.21 miles of the landfill site. Because the proposed site is outside the five-mile review criteria, Mr. Mitchell said FAA had no objection to it.⁹⁹

The FAA issued early "Determination of No Hazard to Air Navigation" letters on March 7¹⁰⁰ and June 9, 2016,¹⁰¹ and a final revised determination on June 29, 2016.¹⁰² In those determinations, the FAA noted that the proposed landfill "does not exceed obstruction standards and would not be a hazard to air navigation provided certain conditions are met." The conditions include compliance with an FAA advisory that requires: (1) obstructions to be marked and lighted; and (2) the operator to give written notice of actual construction or alteration five days after construction reaches its greatest height. The final determination then instructs the reader to "[s]ee attachment for additional conditions(s) or information."¹⁰³ The referenced attachment states:

While the structure height does not constitute a hazard to air navigation, it would be located near a military training area. Specifically, it would be proximate to Seguin Auxiliary Airfield (SEQ) used for military flying training and the structure may create an environment that attracts birds and other wildlife which raise potential

⁹⁸ ED Ex. 3 at 13, Special Provisions IX.4.

⁹⁹ Post Oak Ex. 38.

¹⁰⁰ Post Oak Ex. 39.

¹⁰¹ Post Oak Ex. 40.

¹⁰² SSLGC Ex. 10.

¹⁰³ SSLGC Ex. 10.

airport hazards. Be advised to contact the U.S. Air Force, Lieutenant Colonel Emil Bliss . . . to address potential issues.¹⁰⁴

4. Opposing Parties' Evidence

a. Colonel Snell's Letter and Affidavit

The Affidavit of Mayor Keil describes how the mayor received a letter from Colonel Snell on May 18, 2016. In the attached letter, Colonel Snell explained that he had recently become aware of the proposed landfill near the airfield at Seguin.¹⁰⁵ SSLGC later filed Colonel Snell's affidavit that included more detailed comments.¹⁰⁶

In Colonel Snell's opinion, birds are a significant threat to USAF pilots and aircraft at the airfield, particularly the T-38 aircraft. After striking a single bird, a T-38 can suffer catastrophic damage necessitating pilot ejection. Although the FAA recommends that, to reduce the threat of bird strikes, landfills be located more than five miles from any public use airport Colonel Snell named several reasons why the T-38 pattern extends well beyond five miles from the airfield.¹⁰⁷

One reason is the volume of training flights. Pilots at the airfield average over 1,100 operations each month and over 13,000 per year, which is only 1,000 less than at the San Antonio International Airport in 2014.

Another reason Colonel Snell mentioned is congested air space. In 2015, the airfield began using new flight tracks that were developed jointly with three FAA agencies (Houston Center, San Antonio Approach, and Austin Approach). Colonel Snell attached a diagram showing that new ground tracks for the airfield's pattern are very close to the proposed landfill site. The current tracks

¹⁰⁴ SSLGC Ex. 10.

¹⁰⁵ SSLGC Ex. 7.

¹⁰⁶ SSLGC Ex. 9.

¹⁰⁷ SSLGC Ex. 7.

were changed from previous tracks to ensure the safety of other air traffic operating on federal airways in and around the San Antonio and Austin areas and into or from the New Braunfels Regional Airport.¹⁰⁸ Additionally, all USAF aircraft enter the pattern downwind leg (parallel to the runway) from the east to minimize low-level overflight of the City of Seguin. The airfield distance patterns are much farther than at a typical public airfield because of the speeds required for safe flight in the T-38 aircraft and the resulting longer turn radius. In fact, Colonel Snell writes, every USAF aircraft that enters the pattern will fly within five miles of the proposed landfill site at altitudes between 1,000-2,000 feet above ground level (AGL), and the majority of the time (95% in the summer and 60% in the winter), aircraft will fly within one mile of, if not directly over, the proposed site.¹⁰⁹

According to Colonel Snell, the FAA based its no-hazard determination on the guidance in an FAA advisory circular that sets distance limitations for siting landfills near airports. He said the FAA's Terminal Instrument Procedures (TERPS) office does not have expertise in evaluating bird and animal strike hazard (BASH) risks, so it did not consider those risks in its evaluation. But as Colonel Snell explained, after the FAA issued the initial determinations, the USAF BASH team and the Air Force Safety Center confirmed that, even though the proposed landfill does not constitute an obstruction hazard to air navigation, it will create a risk to flight safety for military aircrews operating at the airfield.¹¹⁰ The proposed landfill "does, in fact, pose a significant BASH risk to military aviators," Colonel Snell reiterated. In his opinion, even with operational controls, the landfill could force the USAF to change its flight patterns, which may or may not be possible or practicable, or move operations entirely from the airfield.¹¹¹

¹⁰⁸ The JBSA-Randolph Joint Land Use Study, SSLGC Ex. 13, showed flight patterns to be used by the airfield in coordination with several cities and Bexar and Guadalupe Counties. However, other evidence showed that the flight patterns are no longer in use, so the ALJs did not consider the older flight patterns.

¹⁰⁹ SSLGC Ex. 7.

¹¹⁰ SSLGC Ex. 9.

¹¹¹ SSLGC Ex. 9.

b. Daniel Sullivan's Affidavit

The opposing parties also filed the affidavit of Daniel P. Sullivan, Acting Chief of the USAF's BASH team at Kirtland Air Force Base in New Mexico. The BASH team provides technical assistance to USAF installations regarding proposed landfills and their potential for attracting birds that could create risks to aircraft, including the proposed landfill near the airfield.¹¹²

According to Mr. Sullivan, the proposed landfill will increase the probability of a bird strike to aircraft operating on and in the vicinity of the airfield, placing mission readiness, pilots, and the surrounding population at increased risk. Vultures and gulls will be attracted to this new landfill and are the two most hazardous bird types to aircraft. Gull exploitation of the landfill may be primarily in the winter months, but vultures will access the landfill year-round. From 1995 to the present, vultures accounted for 3,967 aircraft strikes, causing damage of approximately \$113 million worldwide. In Texas alone, from 1995 to the present, the USAF reported 528 vulture strikes, with approximately \$14 million in damages, Mr. Sullivan stated.¹¹³

Mr. Sullivan said the altitude of current USAF aircraft operating out of the airfield in established routes over the proposed landfill will be in the high-threat zone for soaring vultures (1,000-2,000 feet AGL) because vultures have the ability to reach altitudes well above 3,000 feet. USAF strike data from 1995 through 2015 indicate that 97% of bird strikes occur below 3,000 feet AGL.¹¹⁴

Mr. Sullivan also testified that open face landfills with putrescible waste provide a variety of bird species with food and loafing areas. In addition to describing the risks in the immediate vicinity of the landfill, Mr. Sullivan said birds may roost several miles away and daily movements to and

¹¹² SSLCG Ex. 11.

¹¹³ SSLCG Ex. 11.

¹¹⁴ SSLCG Ex. 11.

from the landfill may place birds in the approach and departure corridors and flight patterns around the airfield. The current FAA advisory prohibits landfills within the 5- to 6-mile limits of public-use airports unless a waiver is granted by the FAA. But according to Mr. Sullivan, that advisory is not sufficient for Department of Defense airfields, and FAA guidance may not take into account the restrictions placed upon military aircraft in order to coordinate with proximate airfields (in New Braunfels, Austin, and San Antonio) and the surrounding terrestrial environment (human habitation, wildlife refuges, etc.).¹¹⁵

To prevent increased risks to aircrews and aircraft at the airfield, Mr. Sullivan suggested denying the application or requiring that the landfill be relocated several miles away from established flight routes. He listed possible mitigation procedures that will decrease, but not eliminate, the probability of a bird strike to aircraft. These include: requiring landfill management to hire a certified and experienced wildlife damage control biologist, accepting trash during night hours only, and enforcing strict regulations requiring coverage of waste.¹¹⁶

c. Ronald Lee Merritt's Affidavit

Since 1988, Mr. Merritt, an FAA qualified biologist, has worked in the area of bird and wildlife strike hazards to military and commercial aircraft. He previously served as senior staff scientist on active duty with the USAF where he served as assistant professor of biology at the USAF Academy and, from 1988-1994, as the BASH team chief. In 1995-1996, Mr. Merritt conducted bird survey work in Bexar County to address risks to the airfield because of landfills accepting putrescible waste in the San Antonio area. Since then, Mr. Merritt has worked as a consultant in bird-strike hazard management.¹¹⁷

¹¹⁵ SSLCG Ex. 11.

¹¹⁶ SSLCG Ex. 11.

¹¹⁷ SSLGC Ex. 12.

Mr. Merritt completed a new risk assessment of the proposed landfill and determined that a wide range of bird species will be attracted to the landfill to feed as well as to loaf. He said large birds, such as vultures and gulls, are commonly identified as causing damage to aircraft. Both turkey vultures and black vultures, which can weigh up to four pounds, are present at landfills in Texas year round, and they forage on landfills and loaf either directly at a site or within a 10-mile radius where they know they can return to feed. With sufficient lift during summer days, the vultures may form kettles of more than a dozen birds, and they fly up to 3,000 feet AGL.¹¹⁸

As for other birds that pose risks to aircraft, Mr. Merritt said ring-billed gulls are also quite common on landfills in this region of Texas from November through early April. These birds weigh about 1.5 pounds and will often form large flocks when moving from roosting areas to a landfill facility. Furthermore, he said, many gulls roost during the winter months at Lake Calaveras, 20 miles south of San Antonio, and will be attracted from the lake to the proposed landfill. Gulls are known to ride thermals in areas on or near landfills. Further, Mr. Merritt said starling flocks pose a serious threat to both military and commercial aircraft worldwide, and the European Starling is a common visitor to landfills. Although starlings are not large birds (each weighs less than 3 ounces), they form very dense flocks, especially during winter months in Texas.¹¹⁹

Mr. Merritt outlined four considerations for risk assessment at the airfield. First, the aircraft type is significant when assessing the potential risk of a damaging bird strike. The T-38 aircraft, which is the predominant aircraft used at the airfield, has extremely fragile engine components when it comes to engine ingestions. Commercial aircraft are designed to withstand impacts with birds and wildlife, but due to weight restrictions, military aircraft operate at much higher speeds and often do not have the heavy components necessary to resist bird strikes.¹²⁰

¹¹⁸ SSLGC Ex. 12.

¹¹⁹ SSLGC Ex. 12.

¹²⁰ SSLGC Ex. 12.

The second significant component in a bird strike analysis is the particular mission at this airfield. While some military installations simply launch and recover operational aircraft with minimal take-offs and landings, the Seguin airfield is used for training, which requires a great deal of instruction and practice in take-offs and landings. Furthermore, Mr. Merritt noted that, unlike commercial or general aviation “straight-in approaches,” military aircraft fly overhead approaches at higher speeds and fly “touch and goes.”¹²¹ As a result, those aircraft operate not just in the immediate traffic pattern but in holding areas nearby. Additionally, Mr. Merritt said training missions may include pilots who are relatively new to the aircraft and not yet well equipped to handle in-flight emergencies.¹²²

Third, Mr. Merritt stated that strike-data analysis shows bird strikes at heights commonly used at the Seguin airfield. Only about 6% of strikes occur on landing and take-off, 60% occur on low-level phases of flight, and the remaining 34% occur in the traffic pattern (climb outs, missed approaches, and approaches). Moreover, Mr. Merritt said vulture strikes tend to be at much higher altitudes than for most other bird species, and vultures are a serious strike risk, even at altitudes reaching over 4,000 feet AGL.

According to Mr. Merritt, the proposed height of the landfill structure is the fourth site-specific concern for this airfield. At 700 feet above MSL, the large mounds will produce an orographic, or ridge-lift, feature that will support soaring birds, such as hawks and vultures, he opined.¹²³

In summary, Mr. Merritt said the proposed landfill will attract a great number of vultures, gulls, and other birds due to the availability of food, the smell of decaying waste, and the visual association of this type of facility with similar land uses across the geographic range of the birds.

¹²¹ SSLGC Ex. 12.

¹²² SSLGC Ex. 12.

¹²³ SSLGC Ex. 12.

The type of aircraft and the mission of the airfield increase the likelihood of a dangerous bird strike. The increased risk will result in a dramatic decrease in the availability of safe airspace for training at this facility and force military operations to move to a new, safer location.¹²⁴

d. Legal Authority

Post Oak challenged the legal authority of the USAF representatives to render opinions in this case, asserting that they were not authorized to speak on behalf of the USAF in regard to the issues involved. However, USAF environmental litigation attorney William Darrel Johnson explained that these individuals acted within their authority in providing the affidavits.¹²⁵ Given the evidence, and as noted further below, the ALJs conclude that the affidavits and opinions rendered by the USAF personnel should be considered in this case.

3. Parties' Arguments

a. Post Oak's and the ED's Arguments

Post Oak and the ED argue that 30 Texas Administrative Code § 330.545(d) primarily relates to the proximity of airports. Unless a landfill will be within 6 miles of a small general service airport or within 5 miles of a general public commercial airport, the prohibition on landfills in areas where the attraction of birds can cause a significant bird hazard to low-flying aircraft does not apply, the ED argued.

Additionally, the ED and Post Oak assert the FAA's no-hazard determinations should be conclusive on the issue of airport safety. The ED also directs the Commission's attention to not only 30 Texas Administrative Code § 330.545(d), but to 30 Texas Administrative Code § 330.61(i)(5). That paragraph states:

¹²⁴ SSLGC Ex. 12.

Transportation. The owner or operator shall: . . . (5) for landfill units and landfill mining operations, analyze the impact of the facility upon airports in accordance with §330.545 of this title (relating to Airport Safety). The owner or operator shall submit documentation of coordination with the Federal Aviation Administration for compliance with airport location restrictions.

The ED contends this rule allows the Commission to rely solely on the FAA determination and not to require Post Oak to analyze possible bird-strike hazards to USAF pilots who train at the airfield. As for the June 29, 2016 letter, in which the FAA referenced “additional condition(s) or information,” the ED argued that this reference does not change the FAA’s ultimate finding of no hazard to air navigation.

Next, Post Oak and the ED argue that USAF is subject to the same participation requirements as other parties and failed to seek party status at an appropriate time. Therefore, the opposing parties’ evidence was submitted too late for the Commission’s consideration. The ED also cites Texas Health and Safety Code § 361.069, which provides, in pertinent part, “[i]n making a determination on the question of land use compatibility, the commission shall not consider the position of a state or federal agency unless the position is fully supported by credible evidence from that agency during the public hearing.” Thus, the ED argues, the Commission should not consider the evidence presented by the opposing parties because that evidence was not admitted during the public hearing. Similarly, as to the issue of whether the hearing should be re-opened for Post Oak to present contradictory evidence or to cross-examine the USAF witnesses, Post Oak said that no additional hearing was necessary.

Finally, the ED cited as precedent a Commission decision on the BFI Tessman Road Landfill, issued September 1, 2000. In that case, the protestants asserted that the landfill would create a bird hazard to aircraft using Randolph Air Force Base, which was located approximately 6 miles away. The Commission found that the applicant did not have to demonstrate that the landfill was designed

¹²⁵ SSLGC Ex. 14A.

and would be operated in a manner that did not pose a bird hazard to aircraft because the landfill was not within 5 miles of an airport serving turbojet or piston-type aircraft.¹²⁶

b. Opposing Parties' Arguments

According to the opposing parties, Post Oak failed to meet its burden of proving the landfill will not be located in an area where the attraction of birds can cause a significant bird hazard to low-flying aircraft. Because Post Oak bore the burden of proof and failed to address this issue at the hearing, the opposing parties contend the hearing should be reopened or the application should be denied.

As for the BFI Tessman Road case, the opposing parties note that the ALJs in that case found evidence to be lacking, primarily based on a conclusion that the Protestants had not examined the specific flight patterns associated with the airport at issue. In regard to Post Oak's application, three persons have provided evidence about the specific flight patterns currently used in association with the airfield. Additionally, the BFI case involved expansion of an existing landfill, rather than the addition of a new landfill.

Further, the opposing parties argue that the evidence appropriately addresses the issue of land use compatibility in Texas Health and Safety Code § 361.069. The opposing parties also argue that the FAA determinations are not conclusive on the issue of bird-strike hazards to USAF pilots flying the T-38s to and from the airfield. In fact, the opposing parties contend, the evidence admitted into the record conclusively proves the landfill will be a significant bird hazard to the T-38 pilots, crews, and the public.

¹²⁶ Texas Nat. Res. Conserv. Comm., *BFI Waste Systems of North America for Permit No. 1410-C for a permit amendment allowing the expansion of BFI's Tessman Road Landfill in Bexar County, Texas*, TNRCC Docket No. 1999-0455-MSW, SOAH Docket No. 582-99-0784, (Sep. 1, 2000) (order issuing permit).

c. OPIC's Argument

OPIC took no position on the issue of possible bird strikes, but asked that the hearing be reopened if the ALJs intended to consider exhibits filed after the hearing. OPIC argued that the authors of the documents should be subjected to discovery and cross-examination.

4. Analysis

The issue is whether evidence offered by the opposing parties about the airfield, which is 12 miles from the landfill site, proves that the application should be denied based on evidence that the landfill may cause “a significant bird hazard to low-flying aircraft,” as described in 30 Texas Administrative Code § 330.545(d). That first sentence in the paragraph prohibits the location of a landfill disposing of putrescible waste in an area where the attraction of birds can cause a significant bird hazard to these aircraft. The ED and Post Oak have argued that the prohibition applies only to landfills located within 6 miles of a public airport. However, that is not what the rule states. Instead, the rule clearly prohibits landfills disposing of putrescible waste in areas where the attraction of birds can cause a significant bird hazard to low-flying aircraft. The rule then refers to the FAA guidelines, and states that “landfill facilities within a 6-mile radius of any small general service airport runway or within a 5-mile radius of any large general public commercial airport runway shall be critically evaluated to determine if an incompatibility exists.” Thus, the rule creates a higher evaluation when airfields are within the distances noted, but it does not exclude the examination of bird-strike hazards that will be caused by landfills that are not within the noted distances. In this case, the evidence clearly establishes that, although the landfill will be 12 miles from the airfield, it will be located in an area where the attraction of birds can cause a significant bird hazard to low-flying aircraft.

As for the ED's and Post Oak's argument that the USAF did not seek party status and did not timely present its opinions, the ALJs find that the delay was adequately explained. Colonel Snell's letter demonstrated that he acted as quickly as he became aware of the application. Moreover,

Colonel Snell, Mr. Sullivan, and Mr. Merritt were authorized to present their opinions on behalf of the USAF.

The ALJs admitted the documents pertaining to this issue so that the Commission would be able to consider them. This procedural process was preferable to having the documents filed after the Proposal for Decision was issued or the Commission had ruled on the application. It was impossible for the FAA determinations and the bird-strike issue to be addressed during the hearing on the merits because the affected USAF personnel did not have notice of Post Oak's application and the FAA had not issued its determinations.

The opposing parties asked that the hearing be reopened for further consideration of this issue. However, Post Oak had the burden of proof and did not find it necessary to reopen the hearing to cross-examine SSLGC's witnesses or to present contradictory evidence. Because SSLGC's evidence was admitted into evidence, it had no basis upon which to ask for the hearing to be reopened.

Post Oak met the initial requirements of 30 Texas Administrative Code § 330.545 by demonstrating the landfill will be more than 6 miles from a public airport and getting the FAA determination letters. However, the record includes other evidence, and that evidence convincingly shows that the landfill will create significant bird hazards to aircraft, their crews, and the public.

As the affidavits prove, the airfield's T-38 pilots will fly within one mile of the proposed site a majority of the time. The landfill will attract gulls, starlings, vultures, and other birds. The large size and soaring range of the vultures, the kettling of the gulls, and the large flocks of the starlings will present hazards to military aircraft, and in particular, to the T-38s flying at the airfield. USAF aircraft operating out of the airfield will be in the high threat zone for soaring vultures because 97% of bird strikes occur below 3,000 feet AGL. Given the low-flying altitude of the T-38, its extremely fragile engine components, its high flying speeds, and the number of flights from the airfield, bird strikes will be a particular risk to the airfield's pilots who fly those planes. As Mr. Sullivan,

Colonel Snell, and Mr. Merritt stated, the proposed landfill will increase the probability of a bird strike to aircraft operating in the vicinity and will place mission readiness, pilots, and the surrounding population at increased risk. That risk is significant; in the past 11 years, pilots in Texas have experienced 528 vulture strikes with resulting damages of approximately \$14 million.

In the BFI Tessman Road case, the Commission found that although the landfill was 6 miles from the Randolph Air Force Base, the expansion of the landfill would not affect normal flying operations. But the evidence in that case is quite different from the evidence presented in this case. First, in the BFI Tessman Road case, the FAA did not include a condition in its “no determination” letter (like the condition included in this case that USAF personnel must be consulted to address bird strike concerns). Second, the air force base itself was the focus of inquiry—not its training field at Seguin. Third, the T-38 aircraft with its fragile engine components was not mentioned in the Proposal for Decision or the Commission’s order. Fourth, the applicant in the BFI Tessman Road case presented evidence that contradicted the Protestants’ evidence, including a statement from the base’s ranking general that the landfill would have no impact on normal flying operations at the base. Fifth, as the opposing parties mentioned, the Protestants in the BFI case did not examine the specific flight patterns associated with the airport at issue. Finally, the BFI case involved expansion of an existing landfill, rather than the addition of a new landfill.

Given the FAA’s conditions and the convincing evidence showing a genuine threat of increased bird-strike hazards to military pilots, the ALJs conclude that the application cannot be granted without additional steps taken to alleviate bird-strike concerns. The Commission’s rule at 30 Texas Administrative Code § 330.545(d) is very clear: “Landfills disposing of putrescible waste *shall not* be located in areas where the attraction of birds can cause a significant bird hazard to low-flying aircraft.”¹²⁷ For these reasons, the ALJs recommend that at a minimum, Post Oak must be required to consult with the commanding officer of the Randolph Air Force Base to address potential issues the landfill would pose to the USAF training airfield. Post Oak should submit a report to the

¹²⁷ Emphasis added.

ED, who will determine whether construction should commence and whether additional precautions should be taken. Construction should not begin until those concerns are adequately addressed and the appropriate USAF personnel have given approval that construction of the landfill will no longer cause a significant hazard to low-flying aircraft.

F. Endangered and Threatened Species

1. Applicable Law

Subchapter M of the Commission's rules establish "Location Restrictions" for landfills. Rule 30 Texas Administrative Code § 330.551(a) in that subchapter states, "[a] facility and the operation of a facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species."¹²⁸

Similarly, the rules pertaining to "Permit and Registration Application Procedures," provide in 30 Texas Administrative Code § 330.61(n):

- (1) The owner or operator shall consider the impact of a solid waste disposal facility upon endangered or threatened species. The facility and the operation of the facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.
- (2) For landfill applications, the owner or operator shall submit Endangered Species Act compliance demonstrations as required under state and federal laws and determine whether the facility is in the range of endangered or threatened species. If the facility is located in the range of endangered or threatened species, the owner or operator shall have a biological assessment prepared by a qualified biologist in accordance with standard procedures of the United States Fish and Wildlife Service [USFWS] and the Texas Parks and Wildlife Department [TPWD] to determine the effect of the facility on

¹²⁸ The rule also defines the terms "harassing," "harming," and "taking." 30 Tex. Admin. Code § 330.551(b).

the endangered or threatened species. . . . The [USFWS] and the [TPWD] shall be contacted for locations and specific data relating to endangered and threatened species in Texas.

The rules in Chapter 30, Subchapter D, outline “Operational Standards for Municipal Solid Waste Landfill Facilities.” In particular, 30 Texas Administrative Code § 330.157 provides that a facility and its operation must not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. In addition, facilities must be operated in conformity with any endangered or threatened species protection plan required by the Commission, and the SOP must include criteria for the protection of any identified protected species.

The Draft Permit incorporates the documents submitted with the application and further provides that failure to comply with any permit condition may constitute a violation of the permit, the rules of the Commission, and the Texas Solid Waste Disposal Act.¹²⁹ A violation may result in an enforcement action, revocation, or suspension.¹³⁰

2. Post Oak’s Evidence and Argument

Post Oak argued that it appropriately evaluated the potential for endangered or threatened species. Post Oak’s expert witness, Christine Westerman, has 27 years of experience in performing protected species habitat determinations and environmental assessments. She has a bachelor’s degree in biology and a master’s degree in range science.¹³¹

Ms. Westerman and other biologists at SWCA Environmental Consultants (SWCA) prepared an “Assessment of Potential for Occurrence of State and Federally Listed Threatened and

¹²⁹ Texas Health and Safety Code ch.361.

¹³⁰ ED Ex. 3 at 10-11.

¹³¹ Post Oak Ex. 7 at 3-4.

Endangered Species.”¹³² They visually inspected the project area on November 11, 2010, and inspected buffer areas on June 13 and 20, 2012. The biologists looked for vegetation habitat used by threatened and endangered species, but they did not survey the area for species.¹³³ Ms. Westerman testified that it would take more than a day for a species survey.¹³⁴ The SWCA biologists did find a couple of Harvester ant mounds, and those ants are the preferred foods of Texas horned lizards.¹³⁵ The biologists also considered federal and state regulations regarding endangered and threatened species and habitat, and they gathered the USFWS and TPWD lists of those species that occur in Guadalupe County.¹³⁶

Pursuant to Texas Parks and Wildlife Code § 12.0011, TPWD is responsible for “providing recommendations about protections for fish and wildlife resources to state agencies that approve permits or licenses.” TPWD reviewed the information SWCA had gathered, and in response, provided comments and recommendations.

TPWD discussed the federal Migratory Bird Treaty Act, which prohibits the taking of migratory bird nests and eggs, except as permitted by the USFWS, and recommended steps Post Oak should take in order to protect the birds.¹³⁷ TPWD cited a Texas Natural Diversity Database (TxNDD) to state that “no known occurrences of threatened or endangered species have been recorded near (within 1.5 miles) of the proposed project,” but said the TxNDD database could not be substituted for on-the-ground surveys.¹³⁸

¹³² The assessment is in the Application, Post Oak Ex. 1 at 318-98, and discussed in Post Oak Ex. 1 at 72.

¹³³ Post Oak Ex. 1 at 324.

¹³⁴ Tr. Vol. 1 at 165.

¹³⁵ Tr. Vol. 1 at 165.

¹³⁶ Post Oak Ex. 7 at 10.

¹³⁷ Post Oak Ex. 1 at 395.

¹³⁸ Post Oak Ex. 1 at 397.

According to the SWCA report, USFWS considers one federally endangered or threatened species as potentially occurring in Guadalupe County: the whooping crane. USFWS is considering listing four species of freshwater mussels that are historically known to occur in the Guadalupe County river system: Texas fatmucket, golden orb, Texas pimpleback, and false spike. For the first three, USFWS has sufficient information on biological vulnerability and threat to support issuance of a proposed rule to list them. The false spike is still under review.¹³⁹

TPWD lists 14 species as endangered or threatened in Guadalupe County:

- one mammal—the red wolf (which TPWD considers extirpated, *i.e.*, completely destroyed);
- five birds—American peregrine falcon, bald eagle, interior least tern, whooping crane, and wood stork;
- four reptiles—Cagle’s map turtle, Texas horned lizard, Texas tortoise, and timber/canebrake rattlesnake; and
- four mollusks—Texas fatmucket, golden orb, Texas pimpleback, and false spike.¹⁴⁰

The TPWD also includes the Sprague’s pipit as a federal candidate species, but it is not included on USFWS list for Guadalupe County.¹⁴¹

SWCA found that the site is potential habitat for the timber/canebrake rattlesnake but, based on a 2000 source, decided there is no known record of the rattlesnakes in Guadalupe County.¹⁴² SWCA concluded that the project area is unlikely to provide suitable habitat for nearly all state-listed species potentially occurring in Guadalupe County except for two state threatened species: the Texas horned lizard and Texas tortoise. Although SWCA rates the potential for the presence of the Texas horned lizard and the Texas tortoise as “low,” the report recognizes that if those species are on the

¹³⁹ Post Oak Ex. 1 at 325.

¹⁴⁰ Post Oak Ex. 1 at 325.

¹⁴¹ Post Oak Ex. 1 at 325.

¹⁴² Post Oak Ex. 1 at 334.

site, they may be negatively impacted by construction activities.¹⁴³ Ms. Westerman recognized that whooping cranes could fly over the site, especially if there are ponds there,¹⁴⁴ and acknowledged the presence of bald eagles in Guadalupe County.¹⁴⁵

SWCA concluded that the proposed landfill would not result in the destruction or adverse modification of critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.¹⁴⁶ In its correspondence with TPWD, Post Oak initially agreed to incorporate *some* of TPWD's recommendations for species protection at the site, but later committed to following *all* the recommendations, which include:

1. avoid clearing mature, native trees, but where clearing cannot be avoided, replace the trees at a ratio of three to one, and maintain a survival rate of 85%;
2. use native plant species for mitigation and for landscaped areas;
3. minimize loss of vegetation;
4. do not clear vegetation, trample, or maintain trees or vegetation between April 1 and July 15 of any year;
5. reseed disturbed soils with a mixture of grasses and forbs native to Guadalupe County;
6. avoid the use of Bermuda grass to the extent possible in reseeding efforts except as required to control erosion;
7. survey for migratory bird nest sites prior to construction or future maintenance activities;
8. prohibit construction activities from a minimum zone of 100 meters around any raptor nest from February 1-July 15;

¹⁴³ Post Oak Ex. 1 at 336.

¹⁴⁴ Tr. Vol. 1 at 173.

¹⁴⁵ Tr. Vol. 1 at 174.

¹⁴⁶ Post Oak Ex. 7 at 11.

9. mitigate for any wetland and stream impacts;
10. prepare a wetland mitigation plan in consultation with TPWD;
11. coordinate all impacts to aquatic resources with TPWD's Inland Fisheries Program;
12. coordinate with TPWD on proposed mitigation activities associated with Post Oak's proposed mitigation plan that has been submitted to the U.S. Army Corps of Engineers;
13. coordinate with TPWD and USFWS, as appropriate, to determine avoidance, minimization and mitigation strategies;
14. train its construction crews on the rare species that have potential to occur in Guadalupe County and avoid disturbance of species; and
15. consult with TPWD should any Texas listed rare, threatened, or endangered species be encountered at the site.¹⁴⁷

TPWD provided contact information in its list of recommendations.¹⁴⁸ As for item number 14, which requires that construction crews be trained on the rare species and avoid disturbance of species, Ms. Westerman said she thought TPWD also had required this training for on-site operation staff as well.¹⁴⁹

The ED incorporated the endangered and threatened species analysis performed by TPWD into the Technical Summary, and Post Oak has agreed to follow the TPWD recommendations.¹⁵⁰

¹⁴⁷ Post Oak Ex. 1 at 392-98.

¹⁴⁸ Post Oak Ex. 1 at 398.

¹⁴⁹ Tr. Vol. 1 at 169.

¹⁵⁰ TCEQ's Technical Summary (Post Oak Ex. 11 at 20).

3. ED's Evidence and Argument

For the ED, Mr. Odil determined the application complies with requirements regarding endangered or threatened species. He said Post Oak was not specifically required to conduct quantitative field inventories, review recent literature, or consider nearby populations of endangered species in the biological assessment. The ED relies on the USFWS and TPWD to identify deficiencies in the assessment.¹⁵¹ Mr. Odil determined the assessment was adequate because Post Oak agreed with TPWD's suggestions regarding the operation of the proposed facility, and those recommendations have been incorporated into the SOP.¹⁵²

4. SPOD's Evidence and Argument

SPOD criticized the SWCA biological assessment, the ED's review, and Post Oak's response to TPWD. Further, SPOD argued that the SOP's provisions pertaining to threatened and endangered species are inadequate and unenforceable.

According to SPOD, SWCA did not conduct a proper biological assessment because SWCA visited the landfill footprint area only once, on November 11, 2012, when the Texas horned lizard and Texas tortoise would have been hibernating or inactive.¹⁵³ The biologists also inspected the buffer area on June 13 and 20, 2012. SPOD argued that a one-day inspection of about 450 acres and a two-day survey of another 500 acres around the proposed landfill footprint were inadequate.¹⁵⁴ SPOD also criticized SWCA's lack of effort to contact neighboring landowners and ask to survey their land, or to address the fact that those landowners have the endangered horned lizard on their land.¹⁵⁵

¹⁵¹ ED Ex. 1 at 22.

¹⁵² Post Oak Ex. 1 at 2067.

¹⁵³ Tr. Vol. 1 at 165-66 (Westerman).

¹⁵⁴ Tr. Vol. 1 164-65.

¹⁵⁵ SPOD Exs. 1 at 15, 1G.

SPOD's Executive Director, Mr. Watts, testified that in the fall of 2009, while clearing brush on the Watts Ranch at 1101 Nixon Road in Luling, he saw about 15-20 Texas horned frogs (which are also known as Texas horned lizards). He said the lizards are likely to be found on the landfill site because of its close proximity to the Watts Ranch.¹⁵⁶ Both Mr. Watts and Ms. Brady testified that they have seen mounds for Harvester ants, the lizards' primary food source, near the site, and Ms. Brady provided photographs she had taken of the mounds.¹⁵⁷

Thomas Hayes, Ph.D., was SPOD's expert witness on the issue of the landfill's impact on threatened and endangered species. Dr. Hayes, whose doctorate is in biogeochemistry and conservation biology, has worked for 37 years as a land-water resource manager, research ecologist, conservation biologist, and environmental consultant. His technical experience includes ecological and environmental studies and habitat conservation plans. Dr. Hayes has significant experience in assessment and mitigation plans to protect aquatic and terrestrial species.¹⁵⁸

On March 26, 2012, Dr. Hayes surveyed areas adjacent to the landfill.¹⁵⁹ He determined that landfill construction and use will place endangered and rare species at potential for significant risk. The bald eagle, Texas horned lizard, and four freshwater mussel species are the most likely species to be adversely impacted, he said. The Sprague's pipit, whooping crane, Cagle's map turtle, and Texas tortoise also are potentially at risk.¹⁶⁰

Dr. Hayes testified that because Harvester ants are the primary prey of the Texas horned lizard, it is likely that the ants' presence on the landfill site signifies habitat for the Texas horned

¹⁵⁶ SPOD Ex. 1 at 16.

¹⁵⁷ SPOD Ex. 2 at 10; SPOD Ex. 2D.

¹⁵⁸ SPOD Ex. 3A.

¹⁵⁹ SPOD Ex. 3 at 7; Tr. Vol. 4 at 751-52.

¹⁶⁰ SPOD Ex. 3 at 8-9.

lizard. However, Dr. Hayes recognized that populations of Texas horned lizards have sharply declined toward local extinction east of IH 35 from Fort Worth to Corpus Christi.¹⁶¹

Nevertheless, Dr. Hayes said the application does not adequately analyze the management and mitigation of impacts to the species. In his opinion, Post Oak should have conducted field inventories to provide a baseline from which to measure impacts to endangered species of concern. Once a baseline was established, revised mitigation and management plans should have been implemented so that employees could be trained, quantifiable objectives could be set for management, and record-keeping-and-reporting procedures could be outlined. In Dr. Hayes's opinion, these types of requirements should be covered in the SOP. Further, he said the SOP is inadequate to train and guide Post Oak employees about how to identify and avoid injury to any of those species present on the landfill.¹⁶²

In addition, Dr. Hayes said SWCA should have conducted fieldwork to identify bald eagles and their possible habitat in the landfill area. Sightings and nesting activity appear to be increasing in Guadalupe County, he said. Two bald eagles were sighted in 2012 in Luling, and Dr. Hayes has sighted a bald eagle about 15 miles north of the project area on the San Marcos River near SH 130.¹⁶³ Because bald eagles regularly scavenge at landfills, the possibility of their direct interaction with the landfill is a serious concern, Dr. Hayes added.¹⁶⁴

Dr. Hayes testified that an "Ecologically Significant Stream Segment," officially designated by the Texas Legislature, exists along the Guadalupe River, 8.3 miles southwest of the project site. The designation means that the stream segment is of unique ecological value. Near Gonzales, the segment shelters two of the only four known golden orb populations in Texas. The false spike,

¹⁶¹ SPOD Ex. 3 at 10-12.

¹⁶² SPOD Ex. 3 at 8-11.

¹⁶³ <http://tpwd.texas.gov/huntwild/wild/species/baldeagle>.

¹⁶⁴ SPOD Ex. 3 at 12-14.

previously thought to be extinct, was re-discovered at Gonzales adjacent to the designated stream segment only a few river miles downstream from its confluence with Nash Creek.¹⁶⁵

Even though the mussels are not present on the proposed site, they can be affected by landfill operations, Dr. Hayes stated. “Freshwater mussels are likely the most sensitive biological indicators of water quality, and the most imperiled of all aquatic species in the country,” he said.¹⁶⁶ Dr. Hayes recommended that Post Oak be required to conduct a valid review of the endangered and threatened species, including the mussels, and to advise the Commission of potential risks to the species. In Dr. Hayes’s opinion, even a small release of contaminated water from the landfill could affect the mussels, and nothing in the SOP will guide Post Oak employees on what to do in the event of a release.¹⁶⁷

SPOD criticized as unenforceable and non-specific Post Oak’s agreement to “train construction crews on the rare species that have potential to occur” and to consult with TPWD if a Texas listed rare, threatened, or endangered species is encountered in the project area.¹⁶⁸ In SPOD’s view, these agreements give Post Oak the option of whether to consult with TPWD and whether to accept any of TPWD’s recommendations. Moreover, Post Oak did not state when and how crews would be trained, and the promised training does not extend to Post Oak employees who will be involved in disposal or other operations. The SOP does not require any training program regarding the species; of the twelve subjects listed for annual training, none includes threatened and endangered species.¹⁶⁹

¹⁶⁵ SPOD Ex. 3 at 14-15.

¹⁶⁶ SPOD Ex. 3 at 16.

¹⁶⁷ SPOD Ex. 3 at 14-17.

¹⁶⁸ Post Oak Ex. 1 at 393-94.

¹⁶⁹ Post Oak Ex. 1 at 2049.

In support of its argument that the biological assessment was inadequate, SPOD also cited the Commission's decisions in the cases of *Blue Flats Disposal, L.L.C.*¹⁷⁰ and *Tan Terra Environmental Service, Inc. L.L.C.*¹⁷¹ In both cases, the Commission found the biological assessments were inadequate. According to SPOD, the *Blue Flats* decision is particularly pertinent to this case because the Commission found the biological assessment was conducted during the time of year when the Texas horned lizards hibernate, and Blue Flats's plan for protecting the species had no meaningful measures to assure protection of the species.

Furthermore, SPOD argues that the SOP is inadequate, citing *BFI Waste Systems of North America, Inc. v. Martinez Environmental Group*, 93 S.W.3d 570 (Tex. App.—Austin 2002, pet. denied). In that case, the court found that a detailed, enforceable SOP “is crucial in light of the fact that permits are normally granted for the life of the landfill.”¹⁷² Therefore, the court found, each SOP has to provide specific, enforceable procedures to govern a landfill's daily operations.¹⁷³

5. Post Oak's and ED's Replies

According to Post Oak and the ED, the *BFI* case is not relevant to the pending application because the underlying site operating rules have been changed since the opinion was issued.¹⁷⁴ The *BFI* opinion centered on the wording of 30 Texas Administrative Code § 330.114 (West 2004), which required the SOP to “provide operating procedures for the site management and site operating personnel in sufficient detail to enable them to conduct the day-to-day operations of the facility.”

¹⁷⁰ Tex. Nat. Res. Conserv. Comm., *Application of Blue Flats Disposal, L.L.C.* for Permit No. MSW-2262, TNRCC Docket No. 98-0415-MSW; SOAH Docket No. 582-98-1390 (May 21, 1998).

¹⁷¹ Tex. Comm. on Environ. Qual., *Application of Tan Terra Environmental Services, Inc.*, TCEQ Docket No. 2004-0743-MSW, SOAH Docket No. 582-05-0868; upheld at D-1-GN-06-002425, Travis County District Court, 345th Judicial District).

¹⁷² *BFI Waste Systems of North America, Inc. v. Martinez Environmental Group*, 93 S.W.3d 570, 579 (Tex. App.—Austin 2002, pet. denied).

¹⁷³ *BFI Waste Systems of North America, Inc.* at 579-80.

¹⁷⁴ 29 Tex. Reg. 11054, 11062 (Nov. 26, 2004).

The rule further required that the SOP include specific guidance, procedures, instructions, and schedules on the procedures that the operating personnel were to follow.

In March 2006, Section 330.114 was repealed and the remaining requirements of that rule were moved to current rule 30 Texas Administrative Code § 330.127. Under the current rule, the SOP must include “provisions for site management and the site operating personnel to meet the *general* and site-specific requirements” of subchapter D.¹⁷⁵ The provision for the site operating personnel must include a description of the *general* instructions that they are to follow concerning the operational requirements of the subchapter.¹⁷⁶

Additionally, Post Oak and the ED argued that the *Blue Flats* and *Tan Terra* cases are distinguishable from this case. In the *Blue Flats* case, the Commission found the site was a suitable habitat for the Texas horned lizard; the only investigation was conducted in November 1991, when horned lizards would have been hibernating; and horned lizards had been observed regularly in the area. For the Post Oak assessment, SWCA visited the site three times, once in November and twice in June.¹⁷⁷ In the *Tan Terra* case, the Commission found that a nearby wildlife refuge included valuable wildlife habitat for endangered and threatened species and that multiple endangered or threatened species were present at or near the site. No evidence of similar conditions was presented in this case.

Post Oak also noted that, regardless of what the SOP states, it must comply with Commission rules that prohibit destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.¹⁷⁸ Therefore, the Commission will have enforcement remedies if Post Oak violates the rules.

¹⁷⁵ Emphasis added.

¹⁷⁶ 30 Tex. Admin. Code § 330.127(3) (emphasis added).

¹⁷⁷ Post Oak Ex. I at 324, 336.

¹⁷⁸ 30 Tex. Admin. Code § 330.61(n)(1).

6. Analysis

The ALJs agree that the *BFI* case has little relevance to this application because of the rule changes. By adopting the new rule, the Commission apparently intended to give landfill operators more flexibility in developing guidelines for day-to-day operations. Under current rules, general instructions are sufficient.

Dr. Hayes's testimony that the populations of Texas horned lizards have sharply declined toward local extinction east of IH 35 from Fort Worth to Corpus Christi supports SWCA's assessment about the low probability of the species being on the property, and it has been a number of years since Mr. Watts saw the horned lizards on his property. Furthermore, no witness contradicted SWCA's determination of the low probability of the Texas tortoise on the site, and the timber/canebrake rattlesnake has not been sighted in Guadalupe County.

TPWD recommended certain measures that will mitigate possible impacts to the species, and Post Oak has agreed to adopt all those measures. They require Post Oak to coordinate with TPWD and USFWS to develop avoidance and mitigation strategies and consult with TPWD when a rare, threatened, or endangered species is encountered. It is reasonable to conclude that these protections, designated by the agency charged with making recommendations about fish and wildlife resources, will adequately protect the at-risk species.

Moreover, the TxNDD recorded no known occurrences of threatened or endangered species within 1.5 miles of the site. Even though TPWD cautioned that the database could not be substituted for on-the-ground surveys, no Commission rule specifically requires a survey as part of a biological assessment. Therefore, it appears that the SWCA study meets the Commission's requirements.

On the other hand, the evidence supports minor additions to the SOP, based on Ms. Westerman's testimony. Training about TPWD-listed endangered or threatened species should be provided to all on-site employees. This will support Post Oak's efforts to identify those species

on the site so that Post Oak can coordinate with TPWD regarding mitigation. This topic should be listed as one of the twelve subjects covered in annual training.

The training Post Oak provides to all of its employees should cover the possible species that may be found on the site, including not only the Texas horned lizard, the Texas tortoise, and the timber/canebrake rattlesnake, but also whooping cranes and other endangered or threatened migratory birds that travel through Guadalupe County. Ms. Westerman thought TPWD had required this training not only for construction crews but for its operations crew. Based on her understanding and on the Commission's rules that prohibit the taking of an endangered or threatened species, it is reasonable to instruct Post Oak to provide training on this topic. With these minor changes to the SOP, the application will comply with the Commission's rules that prohibit destruction of habitat and the taking of protected species.

G. Wetlands and Floodplains

1. Applicable Law

As required by 30 Texas Administrative Code § 330.61(m), the application must include a floodplains and wetlands statement that:

- (1) provides data on floodplains in accordance with Chapter 301, Subchapter C of this title (relating to Approval of Levees and Other Improvements);
- (2) includes a wetlands determination under applicable federal, state, and local laws and discusses wetlands in accordance with § 330.553 of this title (relating to Wetlands). For the purpose of this subsection, demonstration can be made by providing evidence that the facility has a Corps of Engineers permit for the use of any wetlands area; and
- (3) identifies wetlands located within the facility boundary.

The Commission's rule on "Location Restrictions" provides in 30 Texas Administrative Code § 330.553:

- (a) Municipal solid waste storage or processing facilities shall not be located in wetlands unless the owner or operator makes each of the demonstrations identified in subsection (b)(1)-(5) of this section.
- (b) New municipal solid waste landfill units, lateral expansions, and material recovery operations from a landfill shall not be located in wetlands, unless the owner or operator makes each of the demonstrations identified in paragraphs (1)-(5) of this subsection to the executive director. The owner or operator shall submit the demonstrations with a permit application, a permit major amendment application, or a registration application, as appropriate. The demonstration shall become part of the operating record once approved.
 - (1) Where applicable under Clean Water Act, § 404 or applicable state wetlands laws, the presumption that a practicable alternative to the proposed landfill or recovery operation is available that does not involve wetlands shall be clearly rebutted.
 - (2) The construction and operation of the municipal solid waste landfill unit or recovery operation shall not:
 - (A) cause or contribute to violations of any applicable state water quality standard;
 - (B) violate any applicable toxic effluent standard or prohibition under the Clean Water Act, § 307;
 - (C) jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; and
 - (D) violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.
 - (3) The municipal solid waste landfill unit or recovery operation shall not cause or contribute to significant degradation of wetlands. The owner/operator shall demonstrate the integrity of the landfill unit and its ability to protect ecological resources by addressing the following factors:
 - (A) erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the landfill unit;

- (B) erosion, stability, and migration potential of dredged and fill materials used to support the landfill unit;
 - (C) the volume and chemical nature of the waste managed in the landfill unit;
 - (D) impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;
 - (E) the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and
 - (F) any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.
- (4) To the extent required under Clean Water Act, § 404 or applicable state wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph (1) of this subsection, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands).
- (5) Sufficient information shall be made available to the [ED] to make a reasonable determination with respect to these demonstrations.

2. Floodplains

The landfill site does not fall within 100- or 500-year floodplains.¹⁷⁹

¹⁷⁹ Post Oak Ex. 1 at 235, 404-23; Post Oak Ex. 2 at 30.

3. Wetlands

a. Post Oak's Evidence and Argument

On behalf of Post Oak, Medina Consulting Company, Inc. (Medina) and SWCA assessed impacts to wetlands. Medina employees conducted field surveys at the site in December 2009 and January 2010, and SWCA biologists visited the site on November 11, 2010.¹⁸⁰

The site is on a topographic ridge, and it slopes from 510 feet msl near the northwest corner to approximately 450 feet msl on the southwest side.¹⁸¹ At least five intermittent tributaries connect to one tributary on the southwest side near County Road 215C. That tributary connects with another unnamed tributary on the southwest before connecting with Nash Creek near the intersection of Nash Creek Road and County Road 215B. Medina also found three ponded areas in the northern part of the property, one of which is located at the beginning of one of the tributaries. Medina said these water features are most likely jurisdictional waters of the United States because they connect to Nash Creek, which drains into the Guadalupe River. Medina also identified at least two potential ephemeral drainage areas, indicated by slight topographic draws on the southwestern part of the property.¹⁸² Based on Medina's and SWCA's studies,¹⁸³ Ms. Westerman concluded that landfill operations will impact 0.34 acre of wetlands and 11,628 linear feet of stream channel.¹⁸⁴ Post Oak's Exhibit 1 at 296 shows on a map the location of wetlands, Post Oak's Exhibit 1 at 79 shows a larger view of the area's ponds and streams, and SPOD Exhibit 3B at 66 shows downstream creeks that flow into the Guadalupe River.

¹⁸⁰ Post Oak Ex. 1 at 324.

¹⁸¹ Post Oak Ex. 1 at 233-34, 306.

¹⁸² Post Oak Ex. 1 at 233-34.

¹⁸³ Post Oak Ex. 1 at 71-72. Reports documenting these assessments are provided in Post Oak Ex. 1 at 222-317.

¹⁸⁴ Post Oak Ex. 7 at 7-8.

SWCA submitted an application for a USACE § 404 permit in December 2011, but USACE has not decided whether the permit will be issued. SWCA later identified 3.0 more acres of wetlands in the total 1003-acre tract. Ms. Westerman testified that these wetlands are within the property boundary, but they are outside the operations area. Therefore, they were not identified in a supplement to the § 404 permit request.¹⁸⁵ The application states that landfill operations will be surrounded by a buffer zone about ¼ mile wide on the northwestern, southeastern, and southwestern perimeters. In this zone, Post Oak will maintain native species of flora, fauna, wooded canopy, and wetlands preservation.¹⁸⁶

According to Post Oak, it will be impossible to conduct landfill activity without altering natural drainage basins and excavating and moving soils.¹⁸⁷ The § 404 permit application includes an “Alternatives Analysis,” explaining why the landfill cannot be constructed without the destruction of wetlands, and asking for approval of alternatives to their destruction.¹⁸⁸ The primary reason why wetlands must be destroyed is that the developer owns no other properties that are suitable for building a landfill, and using a less destructive configuration would not provide “economies of scale.”¹⁸⁹ Another alternative to Post Oak’s preferred plan would require more of the property to be disturbed and have a less generous buffer area.¹⁹⁰

After a USACE permit is issued, Post Oak will be required to implement a mitigation plan.¹⁹¹ Post Oak has asked USACE to approve its mitigation multiplier of 10, by which Post Oak intends to replace the destroyed wetlands with 3.4 acres of wetlands, 12,024 liner feet of constructed ephemeral

¹⁸⁵ Post Oak Ex. 7 at 7-8.

¹⁸⁶ Post Oak Ex. 1 at 73. *See also* the “Point of Compliance” map (Post Oak Ex. 1 at 92).

¹⁸⁷ Post Oak Ex. 1 at 312.

¹⁸⁸ Post Oak Ex. 1 at 303-07; ED Ex. 4 at 17.

¹⁸⁹ Post Oak Ex. 1 at 313.

¹⁹⁰ Post Oak Ex. 1 at 306.

¹⁹¹ Tr. Vol. 4 at 708-09, 711, 713.

stream channel, and 5,876 liner feet of stream channel preservation enhancement, resulting in a net increase of 3.0 acres of wetlands and 6,000 linear feet of stream channel at the site.¹⁹²

Post Oak did not consider possible impacts to off-site wetlands, even though runoff from the property drains to the Guadalupe River. Instead, Post Oak chose to design the facility to prevent the release and migration of any waste, contaminant, or pollutant beyond the point of compliance. The Site Development Plan provides for construction and maintenance of the landfill in a manner that prevents any unauthorized discharge.¹⁹³ The plan also discusses runoff management and erosion control systems for both active and closed portions of the facility.¹⁹⁴

Further, the Site Development Plan is incorporated into the Draft Permit,¹⁹⁵ which requires the facility to be designed and operated so that it will not violate Texas Water Code § 26.121, the federal Clean Water Act, or the requirements of the § 404 permit. Each receiving, storage, processing and disposal area must have a containment system to collect spills and thereby prevent the release of any contamination, runoff, spills, or precipitation.¹⁹⁶ Special Provision 3 in the Draft Permit prohibits Post Oak from constructing the landfill without the § 404 permit.¹⁹⁷

Based on its Site Development Plan, the restrictions in the Draft Permit, and its commitment to comply with any provisions in the USACE § 404 permit, Post Oak concluded that it has met the requirements of 30 Texas Administrative Code §§ 330.61(m) and 330.553.

¹⁹² Tr. Vol. 4 at 711.

¹⁹³ Post Oak Ex. 1 at 487-2038. The Site Development Plan includes the site layout; surface water drainage; landfill waste management unit design (including geotechnical analysis, geotextile analysis, and working face containment and diversion design); a closure plan; and a post-closure plan.

¹⁹⁴ Post Oak Ex. lat 516-830.

¹⁹⁵ ED Ex. 3 at 5.

¹⁹⁶ ED Ex. 3 at 6.

¹⁹⁷ ED Ex. 3 at 13.

b. ED's Evidence and Argument

Like Post Oak, the ED argued that the waste units will be designed to control and contain spills and prevent contaminated water from leaving the facility. Therefore, the required landfill design and operation will protect wetlands.

In regard to arguments that the ED should have determined whether the application complies with TCEQ rules, Mr. Odil testified that the rules allow the ED to defer to the USACE with respect to the § 404 permit, including review of the Alternatives Analysis.¹⁹⁸ Furthermore, the results of the USACE permitting process will be the same whether the process concludes before or after the TCEQ's permitting process, and the facility may not operate without issuance of both the USACE and MSW permits, the ED noted. In addition, the public can participate in the USACE process, and SPOD has filed documents pertinent to that request.

c. SPOD's Evidence and Argument

SPOD pointed out that the requirements for the USACE permits are not the same as those for the MSW permit. In addition, the site includes wetlands that are outside federal jurisdiction and not included in Post Oak's request for a § 404 permit. Therefore, when the ED defers entirely to the USACE for a wetlands determination, the public has no means of demonstrating that a § 404 permit does not satisfy requirements of the Commission's rules.

As for the Site Development Plan, SPOD argues that simply stating the permit will prohibit releases and thereby protect off-site wetlands from impacts does not prove compliance with the Commission's rules. If a stated commitment to prevent releases of contaminants off-site was sufficient to prove that wetlands would be protected, the permitting process would have no meaning, SPOD argues.

¹⁹⁸ ED Ex. 1 at 23.

In contrast to Post Oak's witnesses who identified and evaluated only those wetlands on Post Oak's property, SPOD's expert, Dr. Hayes, studied the Post Oak area and assessed the off-site impacts to wetlands and floodplain habitats.¹⁹⁹ He reviewed maps, literature, and aerial photographs for land near Post Oak's site. He also visited areas downstream.²⁰⁰ Dr. Hayes noted the site's close proximity to Nash Creek, a jurisdictional water of the United States. A tributary runs 2.3 miles from Post Oak's property to its intersection with Nash Creek, and Nash Creek joins the Guadalupe River 5 miles from that point.²⁰¹

Dr. Hayes raised five key concerns with Post Oak's wetlands determination. First, he alleges that Post Oak failed to accurately account for the acreage of wetlands that will be affected.²⁰² Because of landfill-related buildings, roads, and retention ponds, about 597 acres will be impacted, rather than the 460 acres Post Oak contemplated in its initial plan, Dr. Hayes testified.²⁰³

Second, Dr. Hayes said Post Oak failed to assess the indirect and cumulative impacts, particularly to downstream jurisdictional wetlands and waters of the United States. Within 250 feet of the centerline of Nash Creek, there are 187.85 downstream acres of frequently flooded soils with high potential for being connected jurisdictional wetlands. Furthermore, a total of 1,326.81 acres, comprising nine different floodplain and riparian wildlife habitats mapped by TPWD, lie within 2,000 feet of the mainstream channel between the proposed landfill and the Guadalupe River.²⁰⁴

¹⁹⁹ SPOD Ex. 3C at 29.

²⁰⁰ SPOD Ex. 3 at 5-6.

²⁰¹ SPOD Ex. 3 at 17; SPOD Ex. 3B at 66.

²⁰² SPOD Ex. 3 at 18.

²⁰³ SPOD Ex. 3C at 27.

²⁰⁴ SPOD Ex. 3 at 19.

Third, Dr. Hayes said Post Oak failed to use the USACE guidance document for grazed areas. That document indicates wetland determinations in most of the project area should be based solely on indicators of hydric soils and wetland hydrology, not vegetation. Even if it was appropriate to study vegetation, Post Oak's evaluations were not conducted during the growing season, despite the fact that most local wetland indicator species are herbaceous. In addition, Post Oak's consultants used a 1988 wetlands plant indicator list, but they should have used the revised 2014 list.²⁰⁵

Fourth, Dr. Hayes said Post Oak's consultants ignored the USACE's C9 indicators. Those guidelines state that saturated soil signatures should be field-verified to determine correspondence with hydric soil indicators, depressions or drainage patterns, differential crop management, or other evidence of a seasonal high water table. Those indicators apply when the ground surface is clearly visible in aerial imagery, as it is on SPOD Exhibit 3B at 69.²⁰⁶

Fifth, Dr. Hayes said Post Oak's mitigation goal for both on-site and off-site restoration should include: (1) a long-term monitoring plan with quantitative performance criteria and guarantees; (2) reference sites and habitat-specific species success criteria; and (3) an analysis of the relative value of converted uplands and created wetlands.²⁰⁷

Based on Dr. Hayes's testimony, SPOD argues that Post Oak's evaluation of on-site wetlands did not comply with TCEQ rules, and in particular, did not demonstrate the integrity of the landfill unit and its ability to protect ecological resources. SPOD argued that, at a minimum, Post Oak should have identified off site wetlands, defined what it considered a catastrophic release, and developed a procedure for notifying USFWS, TPWD, and TCEQ of a release.

²⁰⁵ ED Ex. 3 at 19-20.

²⁰⁶ ED Ex. 3 at 20.

²⁰⁷ ED Ex. 3 at 20.

d. Analysis

No evidence contradicted Post Oak's assertion that the site is not located in the 100-year or 500-year floodplains.

The Commission's rule regarding "Location Restrictions," 30 Texas Administrative Code § 330.553, lists many wetlands issues that a landfill application must address. However, in § 330.61(m)(2), the Commission has delegated the decision-making authority for wetlands in federal jurisdictional waters to the USACE—even those determinations that pertain to state water quality. Because Post Oak has a pending § 404 permit application, it was not required to provide any of the demonstrations mentioned in 30 Texas Administrative Code § 330.553(b) for those wetlands, such as whether wetland degradation could be avoided or whether ecological resources will be adequately protected. Because the Draft Permit requires Post Oak to have a § 404 permit and comply with its terms, it is immaterial whether that permit is issued before a TCEQ permit is issued.

Post Oak identified 3.0 acres of wetlands that were not included in its § 404 permit application. However, Ms. Westerman testified these acres are in the landfill's mitigation area, thus implying that they will not be destroyed during the landfill's construction and operation. As a result, Post Oak did not have to prove that it had no practical alternative to their destruction and thus met the requirement in 30 Texas Administrative Code § 330.553(b)(1).

Section 330.553(b)(2) requires proof that Post Oak will not violate state water quality standards or the Clean Water Act or jeopardize the continued existence of endangered or threatened species in the non-jurisdictional wetlands. Section 330.553(b)(3) requires proof of the erosion, stability, and migration potential of wetland soils and dredged materials that will be used to support the landfill units; the volume and chemical nature of the waste managed in the landfill unit; impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste; the potential effects of a catastrophic release of waste to the wetlands and the resulting impacts on the environment; and any additional factors necessary to demonstrate that ecological resources in the

wetlands are sufficiently protected. The ALJs find that Post Oak's Site Development Plan addresses these requirements.

Dr. Hayes testified that Post Oak did not use the correct USACE guidance document for grazed areas, did not consider vegetation during growing seasons, used an outdated wetlands plant indicator list, and did not field verify soils and drainage patterns.²⁰⁸ On the other hand, Post Oak's engineers have designed the facility to have stable disposal units. Each receiving, storage, processing, and disposal area will have a containment system to collect spills and thereby prevent the release of any contamination, runoff, spills, or precipitation. The containment units will prevent the release and migration of any waste, contaminant, or pollutant beyond the point of compliance; therefore, they will adequately protect the wetlands. Post Oak did not present any evidence about the potential effects of catastrophic release of waste to the wetlands; however, there was no evidence that the engineering calculations are incorrect. Furthermore, water that comes in contact with waste "will not be discharged into waters of the state or nation, including wetlands, in violation of any requirements of the Texas Water Code, the Clean Water Act or Texas Pollutant Discharge Elimination System (TPDES) requirements."²⁰⁹ Therefore, the ALJs agree with Post Oak and the ED that it was not necessary to present evidence about the possible impact.

In summary, the ALJs find that it is appropriate to issue a TCEQ landfill permit before the USACE § 404 permit is issued. As for the 3.0 acres of non-jurisdictional waters, Post Oak met its burden of proving the wetlands will not be destroyed by construction and operation of the landfill. Further, Post Oak proved those wetlands will be adequately protected if the landfill is constructed and operated according to the Site Development Plan.

²⁰⁸ ED Ex. 3 at 19-20.

²⁰⁹ Post Oak Ex. 1 at 927; *see also* 30 Tex. Admin. Code § 330.3(36), which defines "contaminated water."

H. Land Use

Commission rule 30 Texas Administrative Code § 330.61(h) requires an applicant to present evidence of the proposed landfill's impact on the surrounding area. As the rule states, "[a] primary concern is that the use of any land for a municipal solid waste facility not adversely impact human health or the environment." For this reason, the rule requires an applicant to "provide information regarding the likely impacts of the facility on cities, communities, groups of property owners, or individuals by analyzing the compatibility of land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest." The rule then lists six factors that an applicant must provide or analyze.²¹⁰

The opposing parties, including OPIC, argued that Post Oak failed to adequately evaluate, verify, and consider the impacts of the proposed landfill on surrounding land uses. Post Oak and the ED assert that Post Oak has provided all required information and has demonstrated that the landfill is a compatible land use.

²¹⁰ These include:

- (1) if available, a published zoning map for the facility and within two miles of the facility for the county or counties in which the facility is or will be located. If the site requires approval as a nonconforming use or a special permit from the local government having jurisdiction, a copy of such approval shall be submitted;
- (2) information about the character of surrounding land uses within one mile of the proposed facility;
- (3) information about growth trends within five miles of the facility with directions of major development;
- (4) the proximity to residences and other uses (e.g., schools, churches, cemeteries, historic structures and sites, archaeologically significant sites, sites having exceptional aesthetic quality, etc.) within one mile of the facility. The owner or operator shall provide the approximate number of residences and commercial establishments within one mile of the proposed facility including the distances and directions to the nearest residences and commercial establishments. Population density and proximity to residences and other uses described in this paragraph may be considered for assessment of compatibility;
- (5) a description and discussion of all known wells within 500 feet of the proposed facility. Well density may be considered for assessment of compatibility; and
- (6) any other information requested by the executive director. 30 Tex. Admin. Code § 330.61(h)

1. Zoning Within 2 Miles

As shown in the application, the site is not located within the city limits or extraterritorial jurisdiction of any local government, and there is no zoned area within 2 miles.

2. Surrounding Land Uses Within One Mile

Within a one-mile radius of the site, 1.6% of the land is used for residences, and the rest of the land is used for rangeland or oil and gas exploration.²¹¹ A small, unmarked cemetery is 3,600 feet southwest of the landfill boundary. The only ponds within one mile of the site are brine ponds, associated with petroleum production, and small stock ponds. The largest stock pond, 3.75 acres, is ½ mile east of the site.

On behalf of Post Oak, Mr. Dudley found no known schools, licensed day care facilities, churches, hospitals, lakes, commercial, recreational, or industrial areas.²¹² He also found no historical structures, significant archeological sites, or sites with exceptional aesthetic quality within one mile of the permit boundary.²¹³ Ms. Brady asserted that the Darst Field area is a historic area with land being owned by the same families for generations,²¹⁴ but based on SWCA's historical survey, the Texas Historical Commission did not find reasons to prevent the landfill's construction.²¹⁵

²¹¹ Post Oak Ex. 1 at 33, 82.

²¹² Post Oak Ex. 1 at 34. As previously mentioned, Mr. Dudley, a professional engineer, was one of Post Oak's expert witnesses.

²¹³ Post Oak Ex. 1 at 34.

²¹⁴ SPOD Ex. 2 at 11.

²¹⁵ Post Oak Ex. 1 at 142-221.

3. Growth Trends

Guadalupe County's population grew almost 50% from 2000–2010. The majority of growth in the future is expected to be around the metropolitan areas along the IH-35 corridor, particularly in the City of Schertz.²¹⁶

4. Proximity to Residences and Other Uses Within One Mile

Eighteen residences or other structures are within one mile of the site, two of which are approximately 200 feet south of the permit boundary on Nixon Road (also referred to as County Road 215C). Two additional residences are approximately 1,200 feet farther southwest, and a cluster of five residences are located on Dix Road (also referred to as County Road 215C) beyond ½ mile south of the facility. The other nine residences or structures are between ½ and one mile to the west, north, and east of the permit boundary.²¹⁷

The facility's perimeter will have a buffer zone of at least 125 feet. The northwestern, southeastern, and southwestern perimeter will have a buffer zone of approximately ¼ mile along Nixon Road, Dix Road, and the northwest perimeter along FM 1150. In the buffer zone, the facility will have native species of flora, fauna, wooded canopy, and wetland preservation practices. The northwestern portion of the site, adjacent to FM 1150, will have a 125-foot buffer. At the waste disposal area, the facility will have a buffer zone with a minimum six-foot high berm with additional screening provided by an eight-foot fence or vegetation.

One airport is within 6 miles of the site, the Old Kingsbury Aerodrome Airport. The airport and the FAA have been notified and coordination letters are included in the application.²¹⁸

²¹⁶ Post Oak Ex. 1 at 35-36.

²¹⁷ Post Oak Ex. 1 at 34.

²¹⁸ Post Oak Ex. 1 at 34.

5. Wells Within 500 feet

Post Oak identified 11 water wells within 500 feet of the permit boundary.²¹⁹ The opposing parties raised concerns about contamination of their water wells,²²⁰ but that issue has been addressed in the discussion of site characterization and groundwater monitoring.

6. Any Other Information Requested by the Executive Director

The ED required no other information from Post Oak, but the parties presented evidence on other factors related to land use compatibility.

a. Recharge

The impact of preventing storm water that falls on the landfill site from entering the recharge areas of the Wilcox Aquifer is another issue of concern to the opposing parties, who think that the loss of water for recharge may adversely impact human health or the environment.²²¹ Post Oak's witnesses on land use compatibility did not analyze the impacts of the landfill on aquifer recharge,²²² and Post Oak challenged the accuracy of SPOD witness Steven Phillips' calculation of infiltration rates.²²³ Mr. Phillips determined 10% of precipitation reaches the aquifer,²²⁴ and he referenced a TPWD article that said 10-20% of precipitation reaches an aquifer. Based on a 10% infiltration rate, Mr. Phillips estimated that construction of the landfill would cause a yearly loss of about 30 million

²¹⁹ Post Oak Ex. 1 at 42-43, 83; Ex. 9 at 14-16.

²²⁰ See, e.g., SPOD Ex. 2 at 9.

²²¹ 30 Tex. Admin. Code § 330.61(h).

²²² Tr. Vol. 1 at 277.

²²³ SPOD Ex. 4 at 11. Mr. Phillips holds a bachelor's degree in geology and works as an environmental and hydro geologist. He is also a professional geoscientist. Mr. Phillips has more than 40 years of experience, including as a Superfund Enforcement Officer, contract manager under the Resource Conservation and Recovery Act (RCRA) Investigation Contract, and RCRA Enforcement and Permitting Act contract. SPOD Ex. 4 at 2-4.

²²⁴ Tr. Vol. 6 at 1210-11.

gallons of water to the recharge zone when the site is completely covered with the liner in about 50 years.²²⁵

As the ALJs understand this issue, no law requires a landowner to allow surface water to pass through to this aquifer. No law or rule prohibits a surface owner in this area from capturing water unless it is within the bed and banks of a watercourse or in wetlands or ponds under state or federal jurisdiction. Therefore, SPOD's evidence on this point does not provide a reason to deny the application.

b. Groundwater District Rule

GCGCD Rule 8.1 states, “[i]n no event may waste or sludge be permitted to be applied in any manner in any outcrop area of any aquifer within [GCGCD].” GCGCD's rule was adopted before Post Oak's application was filed with TCEQ in October 2013.

The issue of whether GCGCD's rule prohibits issuance of this MSW permit was the subject of litigation between GCGCD and TCEQ. The Court of Appeals in San Antonio decided that the issue was not ripe for a decision in the courts because Post Oak's application was still pending with TCEQ; thus, GCGCD had not yet suffered an injury or immediate harm.²²⁶

The opposing parties argue that the Commission should not issue Post Oak's permit because doing so would contradict GCGCD's rule. In the alternative, the opposing parties argue that GCGCD's rule is at least relevant to the issue of land use compatibility because GCGCD is responsible for protecting groundwater quality and has determined that solid waste cannot be placed on the outcrop of aquifers within its jurisdiction.

²²⁵ SPOD Ex. 4 at 10-11; Tr. Vol. 6 at 1208.

²²⁶ *Tex. Comm. on Env. Quality v. Guadalupe County Groundwater Conservation Dist.*, No. 04-15-00433-CF (Tex. App.—San Antonio, 2016).

Texas Health and Safety Code § 363.112(d) allows a municipality or county to adopt an ordinance or order that specifically designates an area in which municipal or industrial solid waste cannot be disposed. Post Oak emphasized the fact that GCGCD is not the governing body of Guadalupe County. Post Oak argued that because the statute does not give water supply districts the authority to protect certain areas from landfill construction, GCGCD's rule cannot be used to prevent issuance of Post Oak's permit.

The ALJs agree that GCGCD has not been given explicit statutory authority to prohibit landfill construction. Therefore, GCGCD's rule does not prohibit TCEQ from issuing a permit for this site. As for claims that GCGCD's rule shows an incompatible land use, the ALJs find that the potential pollution of the aquifer is best addressed by the evidence related to the geology and hydrogeology of the site, which is discussed elsewhere in this PFD. As the ALJs discuss later, monitoring wells and other groundwater protection proposed by Post Oak will adequately protect the aquifer. As a result, the goal of groundwater protection can be achieved by means that allow the site to be used for a landfill with proper safeguards for aquifer protection.

c. Operating Hours

As stated in 30 Texas Administrative Code § 330.135, "Facility Operating Hours," the SOP must specify the waste acceptance hours and the facility operating hours. The waste acceptance hours may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and transportation of materials and heavy equipment operation must not be conducted between the hours of 9:00 p.m. to 5:00 a.m., unless otherwise approved. Operating hours for other activities do not require specific approval.

In addition, under the rule, a permit may include alternative operating hours for up to five days in a calendar-year period to accommodate special circumstances. The Commission's regional offices may allow additional temporary waste acceptance or operating hours when emergency situations or other unforeseen circumstances could disrupt waste management services in the area.

In contrast, the Draft Permit authorizes waste acceptance and landfill operations to occur 24 hours a day, seven days a week.²²⁷ OPIC asked that the waste acceptance and operating hours be changed to those provided in the rule. In Post Oak's reply brief, it did not contest OPIC's recommendation.

The ALJs agree with OPIC. Post Oak did not present adequate evidence to support a change from the default hours specified in the Commission's rule. The Commission's rule allows for five days a year when Post Oak can have continuous operations. Further, that rule allows the Commission's regional office to extend hours in emergency situations. To be more compatible with existing land uses, particularly the nearby residences, waste should be accepted and operations conducted as specified in the Commission's rule.

d. Opposition Expressed in Public Comment

OPIC argued that Post Oak did not consider the extent and significance of opposition to the landfill. According to the ED's Response to Comments, approximately 220 individuals provided comments in support of the proposed facility, and approximately 215 individuals provided comments in opposition or expressed concerns about the proposed facility.²²⁸ While this may appear to indicate a balanced mix of persons who favor and oppose the landfill, at the April 24, 2012 public meeting, Mr. Watts, SPOD's Executive Director, presented a petition signed by more than 1,300 individuals who opposed the landfill.²²⁹ Based on the number of signatures, OPIC concluded that the record of public comment is overwhelmingly against the proposed landfill. In addition, Guadalupe County, the City of Schertz, and the City of Seguin are also opposed to the landfill.

In the ALJs' opinion, public opposition has been addressed by the opportunity for a contested case hearing. The opposing parties were allowed to participate in the hearing, offer evidence, and

²²⁷ ED Ex. 3 at 4.

²²⁸ ED Ex. 4 at 1.

²²⁹ ED Ex. 4 at 1.

make arguments. The evidence and arguments are being considered by the ALJs and will be considered by the Commission in a public meeting. By these procedural protections, the extent of public opposition and the nature of the opposing parties' concerns have been given full consideration. Post Oak was not required to do anything more to consider public opposition than to participate in the hearing and present evidence responsive to those concerns.

e. Water Discharged from Landfill Site

Mr. Watts expressed concerns that contaminated water will flow onto his land when rains are heavier than the landfill is designed to retain.²³⁰ He also said the design of the landfill will change flow patterns and cause runoff that will erode areas of his land.²³¹ In response, Post Oak argued that the Draft Permit requires Post Oak to prevent the release of any contaminated runoff, spills, or precipitation;²³² therefore, no contaminated water will flow onto Mr. Watts's property.

Commission rules require that a facility "be constructed, maintained, and operated to manage run-on and runoff during the peak discharge of a 25-year rainfall event and must prevent the off-site discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials."²³³ In addition, "[s]urface water drainage in and around a facility shall be controlled to minimize surface water running onto, into, and off the treatment area,"²³⁴ and "[e]xisting or permitted drainage patterns must not be adversely altered."²³⁵ The ALJs find that the landfill is designed to keep contaminated water on the site without impermissibly altering off-site drainage. There was no evidence that drainage patterns would be adversely altered.

²³⁰ SPOD Ex. 1 at 13.

²³¹ SPOD Ex. 1 at 14.

²³² ED Ex. 3 at 6, §§ III.B.(1), III.D.(1).

²³³ 30 Tex. Admin. Code § 330.303(a).

²³⁴ 30 Tex. Admin. Code § 330.303(b).

²³⁵ 30 Tex. Admin. Code § 330.305(a).

f. Economic Impact

OPIC argued that Post Oak did not consider whether issuance of a MSW permit would negatively impact the general populace as a whole, in favor of an individual private interest, particularly because the landfill will not provide any benefit to local citizens. Based on proximity, the Cities of Schertz and Seguin would be logical customers of the landfill, but both cities have stated they do not need or intend to use the landfill because of possible contamination of their drinking water. According to OPIC, the landfill may thus further a private interest at the expense of local citizens.

The ALJs find no support for the argument that an MSW applicant must prove a landfill will benefit the local area. As Texas Health and Safety Code § 363.002 provides, it is this state's policy to safeguard the health, general welfare, and physical property of the people and to protect the environment by the proper management of solid waste. Therefore, the state encourages a cooperative effort among federal, state, and local governments and private enterprise to accomplish these purposes. While it is unfortunate that the site is of such concern to local citizens and local governments that they could not work cooperatively with Post Oak and do not intend to use the landfill, neither the statutes nor rule require a landfill to economically benefit the local area. Instead, Post Oak had only to present a preponderance of evidence demonstrating compliance with applicable statutes and rules in order to obtain a permit. Therefore, even if Post Oak's owners benefit at the expense of local citizens, that does not provide a basis to deny the permit.

g. Mineral Interests

The opposing parties argued that Post Oak failed to consider the landfill's likely impact on mineral interest owners, like Ms. Brady, who said the landfill would negatively impact her mineral interests.²³⁶ In response, Post Oak cited the Commission's comments on proposed rules which stated

²³⁶ SPOD Ex. 2 at 8.

the “commission has decided that issues involving the protection of mineral rights or access to minerals are not matters which the commission will consider during the MSW permitting process.”²³⁷ Given the Commission’s comments on the proposed rule, the ALJs agree that any impact on mineral interests is best resolved in the courts and is not considered in this permitting process.

h. Nuisance Conditions

In Mr. Watts’s opinion, the landfill operations will create odors, dust, and noise that will limit the use of his land and houses.²³⁸ He also testified that the landfill will attract feral hogs, badgers, coyotes, flies, vultures, mosquitos, and other insects to the area, and these animals and vectors will bring trash or diseases to his property and his family.²³⁹ Ms. Brady is also concerned about feral hogs.²⁴⁰ County Commissioner Seidenberger testified that a feral hog could tear up a landfill liner.²⁴¹ However, he conceded that feral hogs are present in the part of Guadalupe County where there is an existing MSW landfill, and he could not say whether hogs had caused problems at that site.²⁴²

Similarly, Mr. Watts is concerned that landfill operations, related traffic, and Post Oak’s pesticide use will kill beneficial animals.²⁴³ Ms. Brady echoed these concerns and added that the landfill will frighten deer away, thus diminishing possible income from hunting leases.²⁴⁴

²³⁷ 31 Tex. Reg. 2555-6 (Mar. 24, 2006).

²³⁸ SPOD Ex. 1 at 14, 16.

²³⁹ SPOD Ex. 1 at 13.

²⁴⁰ SPOD Ex. 2 at 9.

²⁴¹ Guadalupe County Ex. 1 at 7.

²⁴² Tr. Vol. 5 at 824.

²⁴³ SPOD Ex. 1 at 16.

²⁴⁴ SPOD Ex. 1 at 9.

In response, Post Oak argued that it will be required to cover waste fill areas every day with well-compacted clean earthen materials or a TCEQ-approved alternative cover.²⁴⁵ In addition, Post Oak must comply with TCEQ rules that require a landfill operator to avoid accumulating more solid waste than can be processed within an adequate time so as to preclude the creation of odors, insect breeding, or harborage of other vectors.²⁴⁶

The ALJs agree with Post Oak that concerns about odor, insects, and other vectors are adequately addressed with the requirement for daily cover and the restriction on the amount of waste that can be received. As discussed in the section regarding Post Oak's SOP, 30 Texas Administrative Code § 330.551 requires a landfill operator to control on-site populations of disease vectors using proper compaction and daily cover procedures, and the use of other approved methods when needed. The operator must describe the general methods and performance-based frequencies for disease vector control in the SOP. In addition to these measures, Post Oak plans a significant buffer around the working face, and that buffer should help to diminish much of the dust and noise. As for concerns about feral hogs, Post Oak will be responsible for maintaining the liner and protecting the site from feral hogs, if they are attracted to the landfill. Finally, there is no remedy for protecting deer and other animals that may be killed by landfill-related traffic.

i. Blowing and Dumped Trash

Mr. Watts anticipates that waste will be blown on his property and dumped along the roadside or onto his land.²⁴⁷ Post Oak argued that illegal dumping can be pursued at the local or state enforcement level. Moreover, the TCEQ rules and Post Oak's SOP will require Post Oak to clean up waste materials spilled along public access roads for at least 2 miles in either direction from the

²⁴⁵ ED Ex. 3 at 11, § VII.H..

²⁴⁶ *Citing* 30 Tex. Admin. Code § 330.241(a).

²⁴⁷ SPOD Ex. 1 at 15.

facility entrance, as well as take other measures that address Mr. Watts's concern regarding trash along the roadside near the proposed landfill.²⁴⁸

The ALJs agree with Post Oak that it must comply with TCEQ rules and keep the designated areas clean. In addition, daily cover should prevent blowing trash. These measures should adequately address Mr. Watt's concerns about waste on his property.

7. Summary

Post Oak met its burden of proof on land-use compatibility as required by 30 Texas Administrative Code § 330.61(h). No zoning within 2 miles prohibits the landfill. Even though some residences are very near the site, a landfill is compatible with the *predominant* land uses—rangeland and oil and gas exploration. No historical structures, significant archeological sites, or sites with exceptional aesthetic quality are within one mile of the site. In addition, while Guadalupe County's population is growing rapidly, the majority of growth is not directly around the site.

A significant number of water wells and an unusually large number of oil and gas wells are on the site itself or within close proximity. Nevertheless, if proper measures are taken to cap the wells, the landfill should not cause negative impacts. Similarly, no law prohibits Post Oak from keeping all storm water on the site.

The only change the ALJs recommend to the Draft Permit based on land-use compatibility is that the operating hours be changed to those in the Commission's rule. Under the rule, Post Oak will retain flexibility in emergency situations, and the surrounding landowners will have some protection from the impact of landfill operations during the night and on weekends.

²⁴⁸ Post Oak Ex. 1 at 2048, 2064.

Finally, GCGCD's rule does not preclude issuance of the permit, nor does the fact that persons near the landfill and in the local area may be negatively impacted while citizens farther away may receive benefits from having waste disposal services. The only protections available to residents of Guadalupe County and Schertz and Seguin are in the applicable statutes and rules. Post Oak does not have to meet any other burden than to show compliance with those provisions.

III. COMPETENCY AND COMPLIANCE HISTORY

The rules of the TCEQ require a landfill applicant to make a demonstration of competency. Specifically, the rules require the following:

- A list of all Texas solid waste sites that the owner or operator has owned or operated within the last ten years. 30 Texas Administrative Code § 330.59(f)(1).
- A list of all solid waste sites in all states, territories, or countries in which the owner or operator has a direct financial interest. 30 Texas Administrative Code § 330.59(f)(2).
- The ED must ensure that a licensed solid waste facility supervisor is employed before commencing facility operation. 30 Texas Administrative Code § 330.59(f)(3).
- The names of the principals and supervisors of the owner's or operator's organization shall be provided, together with previous affiliations with other organizations engaged in solid waste activities. 30 Texas Administrative Code § 330.59(f)(4).
- Landfilling and earthmoving experience, if applicable, and other pertinent experience, or licenses possessed by key personnel, and the number and size of each type of equipment to be dedicated to facility operation. 30 Texas Administrative Code § 330.59(f)(5).

The opposing parties argue that the requirements for a demonstration of competency are intended to ensure that a landfill operator will actually be able to run the landfill in a competent

manner that is protective of human health and the environment. In this case, they assert that Post Oak has made no such demonstration of competency.

The opposing parties note that Post Oak has no prior landfill operation experience. Through the permitting process this lack of experience was purportedly evident, as Post Oak had approximately 400 deficiencies in its application, resulting in numerous notices of deficiency (NODs) from the ED. The opposing parties note that the ED has had a practice of limiting an applicant to no more than two NODS, but disregarded that policy for Post Oak's application. They point out that, despite previously warning Post Oak that "a third technical notice of deficiency will not be issued,"²⁴⁹ the ED issued three sets of NODs on the initial boring plan, six sets of NODs or NOD supplements on Parts I and II of the application, and three sets of NODs on Parts III and IV of the application.²⁵⁰ The opposing parties assert that such a high number of deficiencies and NODs in the application process show that Post Oak is not competent to operate a landfill. They argue that the ED's interpretation of the demonstration of competency requirement amounts to no more than requiring an applicant to simply agree to comply with the law. The opposing parties contend that this cannot be what the rules mean when they require an applicant to demonstrate competency—namely, something more than an applicant saying "I will comply with the law" must be shown. Here, they contend, no such showing has been made.

Post Oak and the ED disagree with the opposing parties. Post Oak notes that its compliance history is "unclassified" because it has no prior operational experience that would result in a compliance history, and has no plans to operate other landfill sites. Post Oak further notes that it has provided all of the information required by the rule and, as also required by the rule and set out in its permit application, is committed to hiring a licensed solid waste facility supervisor and qualified equipment operators for the actual oversight and running of landfill operations.

²⁴⁹ SPOD Ex. 14 at 9.

²⁵⁰ Closing Arguments of SPOD, Schertz, Seguin, and SSLGC, Attachment 3.

The ED contends that the opposing parties' position results in an unreasonable application of the Commission's rules. The ED posits that it is unreasonable for an applicant to hire qualified staff for all positions years before they even plan on constructing the landfill. Moreover, the ED alleges that the Commission has previously interpreted the compliance demonstration rule as simply requiring the submission of the requested information, and not a requirement that qualified staff be hired when the application is filed. The ED asserts that Post Oak has provided the required information and is obligated to employ a licensed solid waste facility supervisor prior to commencing operations. This, according to the ED, is all that is required under the rules.

After considering the arguments and evidence offered by the parties, the ALJs conclude that this issue hinges purely on a legal interpretation of the Commission's rule regarding "evidence of competency." Essentially, the "evidence of competency" requirement in the TCEQ rules may be seen in one of two ways: (1) it requires an affirmative showing of demonstrated competency to operate the landfill (the position taken by the opposing parties), or (2) it requires information that can be used by the Commission to determine if an applicant should be considered incompetent to operate a landfill (essentially the position taken by the ED and Post Oak).

To be certain, the record contains no evidence that would demonstrate any particular competency by Post Oak to operate the landfill. Post Oak has no prior experience operating or otherwise being involved in other ways in the operation of a landfill. Post Oak has committed to hiring qualified personnel to operate the landfill, but has not actually done so yet. Finally, Post Oak did have a significant number of deficiencies and NODs in the application process, reflecting some lack of knowledge regarding the permitting and operation of a landfill. So, in reality, there has been no affirmative showing that Post Oak is "competent" to operate the landfill.

On the other hand, requiring affirmative evidence of competency to operate a landfill could work to prevent new operators without prior experience from obtaining permits in the state. The ALJs do not believe the rules were intended to essentially provide something of a monopoly to existing owners and operators of landfills. Therefore, the ALJs construe the competency rules as

simply requiring an applicant to present evidence that the Commission may use to determine if an applicant should be considered incompetent to operate a landfill. Under this reading of the rule, the ALJs conclude that an applicant is presumed qualified unless shown to be incompetent, and must provide the information required in the rules to allow the Commission to make such a determination.

The ALJs are aware that the opposing parties may argue that this interpretation creates an improper presumption where one does not exist. But the ALJs disagree. The competency rule simply requires an applicant to submit information that can be used as “evidence of competency.” The rule does not actually have any language that states that an applicant must prove itself competent. Rather, it must simply provide required information that is considered “evidence of competency,” *i.e.*, evidence the Commission may consider in evaluating an applicant’s competency. Thus, while the rule could be read as the opposing parties argue, it does not *have* to be read that way.

Accordingly, the ALJs conclude that the Commission has full authority to interpret its rules in regard to the competency demonstration. If the Commission concludes that the rule regarding evidence of competency requires an applicant to make an affirmative demonstration of its actual competency to operate the landfill, then Post Oak has not done so. If, however, the Commission construes its rule as simply requiring an applicant to provide the listed information so the Commission may then determine whether the applicant should be deemed incompetent, then Post Oak has done so, and there is no evidence that would lead the ALJs to conclude that Post Oak is not competent to properly operate the landfill. Similarly, Post Oak has no compliance history that would render it unfit to operate a landfill.

As for the NODs and high number of deficiencies related to the application, the ALJs take no position on those. While those are some evidence of Post Oak’s lack of familiarity with the rules, the ALJs do not believe they render Post Oak not competent to properly operate a landfill. As Post Oak and the ED note, they can also be construed as evidence the ED did a thorough job in evaluating the application and ensuring that it met all applicable requirements. Whether the ED has a practice of limiting applicants to no more than two sets of NODs is not relevant, as such a requirement is not

formally set out in the law as a basis for denying the application. Further, SPOD previously requested the Commission to not allow the application to proceed after numerous NODs had issued, and the Commission declined to take action on SPOD's motion, resulting in it being overruled by operation of law. Therefore, the ALJs do not find the deficiencies and NODs as a proper basis for concluding the application should be denied for lack of competency or otherwise.

IV. APPLICATION

A. Whether the Proposed Facility includes a Sufficient Groundwater Sampling and Analysis Plan

1. Overview of Post Oak's Groundwater Sampling and Analysis Plan

Before discussing the challenges to Post Oak's proposed groundwater sampling and analysis plan, the ALJs find it helpful to first provide an overview of the plan proposed by Post Oak. Specifically, Post Oak posits that the likely paths of migration of contaminants (if they escaped through the liner) would be:

- In the north and northeastern part of the site, a downward migration into the 425 Sand, where they would follow the gradient of the underlying 425 Clay (generally to the south); and
- In the south and southwestern part of the site, leaking contaminants would move down into the 395 Sand, where they would follow the gradient of the underlying 395 Clay (generally to the west).

To detect any such migration through the liner into these water-bearing strata, Post Oak has proposed to install 96 monitoring wells in 38 clusters along the point of compliance on the perimeter of the site. The monitoring wells would be spaced every 600 feet to monitor the upgradient 425 Sand, as well as both upgradient and downgradient 395 Sand and 325 Sand zones. Further, monitoring wells designed to monitor the downgradient 425 Sand will be spaced every 300 feet. At

all but nine locations, three nested wells will be installed, designed to measure contamination in each of the three water-bearing strata (the 425 Sand, the 395 Sand, and the 325 Sand) at that location.²⁵¹

2. The Adequacy of the Groundwater Sampling and Analysis Plan

The TCEQ rules require that an application have a groundwater sampling and analysis plan that includes, among other things:

[A]n analysis of the most likely pathway(s) for pollutant migration in the event that the primary barrier liner system is penetrated. This must include any groundwater modeling data and results as described in § 330.403(e)(2) of this title and consider changes in groundwater flow that are expected to result from construction of the facility[.]²⁵²

The ED's staff reviewed the groundwater sampling and analysis plan and found that it complied with the applicable rules.²⁵³ However, the opposing parties assert that Post Oak has failed to adequately satisfy the rules for three reasons. First, they argue that Post Oak has failed to recognize the complexity of the Wilcox Aquifer and the potential for "stringers" as a result of that complexity. Stringers are essentially narrow veins—of a water-bearing nature as used in this case—constituting isolated paths of migration not following the larger identified water-bearing strata at the site. The opposing parties argue that such stringers may exist, given the varied nature of the subsurface geology at the site. Second, they argue that Post Oak has improperly ignored water-level data from monitoring well MW-32S that contradicts Post Oak's gradient conclusions and presumed direction of flow for the 425 Sand. Third, they argue that Post Oak has failed to properly consider and account for the potential for contamination to reach the sand beneath the 325 Clay. They contend that this migration could occur either through old oil wells on site or because the sand units on the site are more connected than Post Oak has acknowledged in its hydrology analysis. Because

²⁵¹ The information regarding the number of monitoring wells and their locations in this paragraph is found in Post Oak Ex. 5 at 33.

²⁵² 30 Tex. Admin. Code § 330.63(f)(3).

²⁵³ ED Ex. AA-1 at 16-18.

the 325 Sand is the uppermost aquifer for some portions of the site, the opposing parties argue that any migration through the 325 Clay beneath it would be unmonitored and undetected. Each of these arguments is discussed in more detail below.

As to the characterization of the site, the ALJs have previously addressed this issue. Applicant drilled 90 borings and completed a full evaluation of the subsurface geology and hydrology at the site. The ALJs believe that its characterization of the subsurface properties at the site is proper and supported by the preponderant evidence. Given the varying nature of the subsurface strata in this portion of the Wilcox Aquifer, there is certainly the potential for an isolated stringer to exist that has been missed by borings or monitoring wells. However, such stringers would likely either connect into one of the three water-bearing levels at the site (the 425 Sand, the 395 Sand, or the 325 Sand) where they would be detected by monitoring wells, or would terminate by pinching out, resulting in any contaminants being essentially trapped by surrounding clay layers. Thus, the ALJs do not believe that the potential for stringers renders Post Oak's groundwater sampling and analysis plan deficient.

Next, the opposing parties argue that Post Oak improperly ignored water-level readings from monitoring well MW-32S. Specifically, they contend that the logs for monitoring well MW-32S show water at a level that is lower than the wells that are supposed to be downgradient of it to the south.²⁵⁴ The opposing parties contend that this calls into question Post Oak's conclusions about the flow directions in the various strata. If water flows downgradient to the south from monitoring well MW-32S, then the water levels in monitoring well MW-32S should be higher than those wells downgradient to the south. But the water level readings were actually lower (or non-existent, as discussed in more detail below).

Post Oak acknowledges that monitoring well MW-32S showed some very small amounts of water in it, but its expert concluded that this was just "end cap water" and not actual groundwater.

²⁵⁴ SPOD Ex. 4 at 11.

End cap water is water trapped at the very bottom end cap of the monitoring well, which comes not from groundwater but from condensation that collects in the end cap and remains there.²⁵⁵ Therefore, Post Oak argues that it did not ignore the water level readings in monitoring well MW-32S; it simply determined they were not an indication of groundwater. In response to this, the opposing parties argue that even if this is true, the issue still remains: why would monitoring well MW-32S show no groundwater when wells supposedly downgradient of it show groundwater at levels higher than any water noted in monitoring well MW-32S. This supposedly is inconsistent with Post Oak's groundwater flow contours.

The issue of monitoring well MW-32S is troubling. At the hearing, the parties appeared to focus solely on the disagreement about whether the water readings in monitoring well MW-32S represented groundwater or end cap water. Post Oak persuasively explained why it concluded the water was not groundwater, and the ALJs find that it did not ignore the water readings and that it properly disregarded them as not being reflective of groundwater.

However, Post Oak has offered no explanation to the argument stressed by the opposing parties in their closing briefing—that it is unusual that monitoring well MW-32S would have no measurable water, whereas other monitoring wells downgradient show water at levels higher than what should otherwise show in monitoring well MW-32S given the flow directions determined by Post Oak. It is troubling that Post Oak chose not to respond to this contention at all in its closing arguments. On the other hand, the opposing parties also did not explore this issue in detail, and their experts did not elaborate on it in any meaningful way. Ultimately, given the lack of persuasive evidence and discussion related to the impact of the lack of measurable water in monitoring well MW-32S, the ALJs find that it is not significant enough to render Post Oak's groundwater analysis and monitoring plan ineffective or unsatisfactory from a regulatory standpoint.

²⁵⁵ Tr. Vol. 8 at 1634, 1640-41.

There is no dispute that the subsurface stratigraphy in the area of the landfill site is varied and undulating. The gradients of the subsurface are not flat planes. Thus, the ALJs do not believe the existence of an isolated outlier in the data points renders the overall groundwater flow analyses invalid. Even though it is not fully explained, there are many potential explanations the ALJs could envision. Regardless, given the vibrancy of Post Oak's efforts to characterize the subsurface and to establish an adequate monitoring system, the ALJs do not find the unexplained absence of water in monitoring well MW-32S to be a sufficient basis for denying the application or finding Post Oak's analysis or groundwater monitoring plan deficient.

Lastly, the opposing parties argue that Post Oak has failed to properly consider and account for the potential that contamination could reach the sand beneath the 325 Clay through old oil wells on site or through sand units on the site that are not properly measured by monitoring wells. SPOD's expert, Mr. Phillips, testified that there could be isolated channels of sand that run between monitoring well locations that could allow an undetected release, or the different sand layers could be interconnected in ways that Post Oak does not model, and such interconnection could allow contaminants to move downward through different layers into the 325 Sand or below, where they could be undetected.²⁵⁶

In response, Post Oak asserts that the concerns about there being channels of sand that would allow for undetected migration of contaminants is pure speculation by the opposing parties and not supported by any specific scientific evidence. Post Oak notes that its monitoring wells will monitor all three sand levels deemed to be the uppermost aquifers on the site, and argues that this will be sufficient to detect any contamination in the unlikely event that such escapes through the liner.

Similarly, the ED asserts that there is no justified concern that contaminants will escape the landfill site through oil and gas wells, because all such wells are required to be plugged to prevent such migration. Further, the ED notes that there is no evidence actually demonstrating that the clay

²⁵⁶ SPOD Ex. 4 at 11-12.

layers separating the different sand layers are not continuous; thus, there is no actual basis for the concern that contaminants could migrate through interconnected sand layers.

The ALJs find that this issue is just a continuation of the opposing parties' argument that Post Oak failed to properly characterize the subsurface geology and hydrology. As the ALJs have previously noted, they find that Post Oak's geology report and characterization of the subsurface stratigraphy is full and adequate and properly describes the subsurface of the site. The preponderant evidence indicates that the different sand layers are not connected and the intervening clay layers are continuous. However, even if the 425, 395, or 325 Sands were hydraulically connected, Post Oak's monitoring wells would be expected to detect contaminants, as all three sand layers are monitored at the point of compliance. Further, the concern about isolated channels of sand is essentially the same as the concern about stringers, which the ALJs discussed above.

As to the possibility that contamination could escape through abandoned oil wells, the ALJs note that this concern is addressed above under the oil and gas wells section of this PFD. The opposing parties' concerns are legitimate, but if the Commission agrees that the ED's proposed special provision should be utilized to allow oil and gas wells to be plugged later, the ALJs must presume that will suffice to eliminate them as potential pathways.

The concerns raised by the opposing parties about oil wells being a pathway for contaminants is predicated on a number of contingencies and failings, each of which is necessary for the opposing parties' concerns to become reality—the failure of the liner to work as designed, the failure of oil wells to be plugged, and the oil well actually being connected to an aquifer below the 325 Sand, among others. Expecting Post Oak to plan for such a long list of contingencies and failings in designing its monitoring well system is not reasonable. The TCEQ rules require Post Oak to plan and account for “the *most likely pathway(s)* for pollutant migration in the event that the primary barrier liner system is penetrated.”²⁵⁷ The most likely pathways do not include abandoned oil wells

²⁵⁷ 30 Tex. Admin. Code § 330.63(f)(3) (emphasis added).

that are required to be plugged. Thus, Post Oak was not required to develop a monitoring system that anticipates migration through them.

B. Whether the Design of the Waste Management Units is Sufficient, Including Whether the Design Sufficiently Addresses Site-Specific Design Considerations

1. Special Site-Specific Conditions

The opposing parties contend that the proposed landfill site is particularly sensitive and unique, in that it is located over the recharge zone of the Wilcox Aquifer, which is relied upon by many local municipalities as their municipal water supply, including as a primary source of drinking water. The municipalities and entities that rely on the Wilcox Aquifer include Schertz, Seguin, San Antonio Water System, Spring Hills Water Supply Corporation, Canyon Regional Water Authority, Gonzales County Groundwater Conservation District, and numerous other municipalities and entities that receive water from those listed. The opposing parties note that these municipalities and entities have either opposed the landfill or have raised concerns about it. Because of the number of people that ultimately depend on water from the Wilcox Aquifer, the opposing parties assert that the landfill site is a particularly poor location for a solid waste facility.

This argument is a continuation of other arguments made by the opposing parties and discussed throughout the PFD (under land use compatibility, the relevance of the GCGCD prohibition on landfills, and the geology characterization topics, among others). As noted previously, the specific location of the site over the recharge zone of the Wilcox Aquifer is not a ground for denying the permit. The groundwater concerns raised by the parties are adequately addressed through the groundwater sampling plan and other conditions to be included in the permit, and those conditions and permit requirements should provide adequate protection for the aquifer.

2. Leachate Recirculation

The TCEQ rules require that “[a]ny required leachate collection system shall be designed to handle both the leachate generated and the groundwater inflow from materials beneath and lateral to the liner system.”²⁵⁸ The opposing parties contend that Post Oak has not properly accounted for the effects of leachate recirculation when calculating the full amount of leachate expected to be produced within the landfill units. Specifically, they note that leachate recirculation significantly increases the amount of leachate generated. However, in evaluating the liner’s ability to handle the leachate generated, Post Oak did not consider the leachate recirculation’s impact upon the amount of leachate generated. Thus, the opposing parties allege that Post Oak has not shown that its liner and overall proposed leachate collection system is designed to handle all of the potential leachate that may be generated by the landfill if leachate recirculation is used.

The ED has agreed with the opposing parties on this point and has proposed a special provision to the Draft Permit to clarify the permit does not allow leachate recirculation. Also, the ED asserts that provisions in the Draft Permit relating to leachate recirculation should be deleted. Post Oak agrees to these changes and the prohibition on leachate recirculation. Therefore, the ALJs agree that such changes should be made, and the proposed order provided with this PFD includes such changes.

3. Groundwater Inflow Concerns

The opposing parties assert that Post Oak’s leachate collection analysis is deficient because it fails to account for inflows that will occur if the excavation of the landfill is significantly below the water table—by as much as 14 feet according to the opposing parties. This argument is based upon the opposing parties’ contentions that the seasonal high water levels in some locations at the site are higher than the excavation of the landfill, as noted by the logs for borings B-6 and B-15 and the

²⁵⁸ 30 Tex. Admin. Code § 330.337(d).

reading in piezometer PZ-45. Those assertions are discussed previously in this PFD. As discussed in that section, the ALJs have concluded that the excavation of the landfill is below the seasonal high water level in only one place—at piezometer PZ-45—and then only by six inches. At only six inches of inflow, the groundwater would be in the clay liner and would not reach the geomembrane or the leachate collection system; thus, it would have no impact on the leachate collection analysis. Accordingly, the opposing parties' arguments in this regard are without merit.

4. Alternate Liner Demonstration

Under TCEQ rules, a landfill applicant must establish certain criteria in order to be authorized to use an alternate liner design. In particular, 30 Texas Administrative Code § 330.335 states:

Alternative liner designs, which for Type I landfills must include a leachate management system, may be authorized by the executive director if the owner or operator provides a demonstration by computerized design modeling that the maximum contaminant levels detailed in §330.331 of this title (relating to Design Criteria), Table 1 will not be exceeded at the point of compliance. (emphasis added)

The opposing parties argue that Post Oak's alternate liner demonstration is flawed because it does not demonstrate the projected concentration levels at the point of compliance, but simply provides dilution attenuation factors (DAFs), designed to show how much a contaminant would be diluted by the time it reached the point of compliance, thus demonstrating that the concentration levels of the pollutant will not exceed the maximum contaminant levels allowed. The opposing parties argue that this is not enough, as the rule specifically requires Post Oak to consider the background concentrations and add them to the expected concentration levels from the landfill to come up with a determination of whether the maximum concentration levels will be exceeded at the point of compliance. It is undisputed that Post Oak did not do this.

Further, the opposing parties argue that Post Oak's analysis also fails because it did not account for the more significant leakage that might occur at sumps and trenches, as opposed to

through the geocomposite layer that would underlie the site. They argue that Post Oak calculated the average leakage rate as if only 1% of the leakage at the site would occur through sumps and trenches, while 99% would occur through the geocomposite layer. But, they argue, the leakage through sumps and trenches is exponentially greater than it would be through the geocomposite layer, so sumps and trenches should have accounted for more than 1% in Post Oak's leakage rate analysis.

Post Oak and the ED dismiss this last argument, noting that sumps and trenches will account for only 1% of the site's area, and so it was proper to account for the leakage rate from them at 1% of the total in coming up with an average leakage rate. The ALJs agree. Although the rate of leakage may be higher from them, and sumps and trenches may be the most likely source of leakage, in calculating an average leakage rate for the entire site it is proper for Post Oak to account for them based upon their area. This is true because leakage can happen only through the confined space in which the area of leakage encompasses. So, if 99% of the area of the landfill site allows for a low leakage rate, and only 1% of the area has a higher leakage rate, it would be erroneous to calculate an average leakage rate as if a greater area of the site would leak at a higher rate when it would not. The significantly higher leakage rate from the sumps and trenches is accounted for not by acting as if more than 1% of the site was comprised of sumps and trenches, but by using the higher leakage rate from the sumps and trenches when calculating the average. Post Oak did this. Therefore, the ALJs find no flaw in Post Oak's average leakage rate calculations.

However, neither Post Oak nor the ED directly address the opposing parties' main contention: that calculation of DAFs does not satisfy what the rule requires—namely that maximum concentration levels will not be exceeded at the point of compliance. This is troubling, because the rule's language appears quite clear. It allows an alternate liner to be used only if the applicant “provides a demonstration . . . that the maximum contaminant levels . . . will not be exceeded at the point of compliance.” This language clearly appears to require a calculation of the actual expected maximum contaminant levels at the point of compliance under the operation of the landfill. This implies expected real world operating scenarios, which by necessity include existing concentrations along with those expected from the landfill. Post Oak did not provide this, instead providing only

DAFs, showing the dilution rates that would occur of contaminants leaving the landfill. But the dilution rates by themselves do not show “that the maximum contaminant levels . . . will not be exceeded at the point of compliance” as required by the rule. In fact, Post Oak’s own expert conceded that more recent TCEQ guidance on this issue does not even speak to DAFs at all.²⁵⁹

In its closing briefing, Post Oak appears to give credence to the opposing parties’ concerns, albeit unintentionally, when it states:

Protestants then contend that any leak from the landfill would contribute to an exceedance of the maximum levels allowed under 30 Tex. Admin. Code § 330.331. This conclusion requires: (1) a release from the landfill; (2) of a constituent whose background concentration already exceeds the maximum level [limited here to three constituents]; (3) which continues to be present in concentrations exceeding the maximum levels at the point of compliance . . .

Post Oak then does not refute this scenario, but simply dismisses it (presumably either because it seems unlikely or because Post Oak believes it is not required to include background concentrations at all, but it is not clear). Either way, Post Oak acknowledges the circumstances in which such an exceedance could exist. The problem is that the rule allows an alternate liner only if the applicant shows the maximum concentration levels “will not be exceeded” at the point of compliance. Thus, it is Post Oak’s burden to make this demonstration, not to merely postulate that such an exceedance is not likely or to show that contaminants will be significantly diluted if they escape from the landfill. Under the circumstances, the ALJs can only conclude that Post Oak has not made the necessary showing to establish its right to use an alternate liner because it simply has not modeled the actual expected concentrations of contaminants at the point of compliance under operation of the landfill.

5. Geotechnical Report: Stability Evaluations

A requirement of a landfill application is a proper geotechnical report that evaluates a number of things, including the stability of different components of the landfill facility. Such stability is

²⁵⁹ Tr. Vol. 5 at 938-39.

shown by, among other things, the determination of the minimum shear strength requirements of the liner components. The information from the geotechnical report is then used to develop materials and construction methods for construction of the facility, including its liner components.

The opposing parties assert that Post Oak's geotechnical report is inadequate for three primary reasons: (1) it was based upon incorrect seasonal high water levels; (2) it failed to properly include leachate recirculation in the stability analysis; and (3) it failed to include the shear strength requirements from the analysis in the materials specifications for the liner. The first two arguments have already been addressed elsewhere in this PFD. Post Oak's seasonal high water level calculations were accurate, and Post Oak has agreed to not use leachate recirculation. Therefore, both of those issues do not present a legitimate challenge to the adequacy of Post Oak's geotechnical report.

The remaining issue relates to whether Post Oak's shear strength requirements have been properly reflected in the design specifications. The opposing parties rely on the testimony of Dr. Zornberg for their position. Dr. Zornberg agreed that Post Oak did the correct calculations with the data it had. That is not disputed. Rather, Dr. Zornberg's sole criticism was that those calculations have not been fully incorporated into the design specifications.²⁶⁰ Because of this, the actual contractors installing the liner will not know the precise specifications that will be needed to satisfy the stability calculations. Post Oak and the ED argue that the stability calculations have been referenced in the materials specifications and that is enough. In contrast, the opposing parties argue that the calculations must actually be put into applicable specifications that the contractor can use to ensure that the landfill is built as designed.

Ultimately, this is a fairly straightforward issue. The TCEQ rules require that each landfill must have a liner quality control plan which, among other things, (1) provides guidance needed for testing and reporting evaluation procedures to the professional who will prepare the soil liner

²⁶⁰ Tr. Vol. 6 at 1297-1300.

evaluation reports for the facility, and (2) specifies materials, equipment, and construction methods for the compaction of clay soils to form impermeable liners for the conditions.²⁶¹

In this case, Post Oak has done the necessary calculations to determine the shear strength needs for the liner, but it has not translated those into the design specifications. It is not clear from the rules that it is actually required to do the extra step of translating the strength requirements into the design specifications themselves. Regardless, the ALJs find it appropriate to simply include a permit condition requiring Post Oak to take those shear strength calculations and put them directly into design specifications to be added to the Soils and Geosynthetics Construction Quality Assurance Plan prior to construction. Post Oak should be required to submit the updated Geosynthetics Construction Quality Assurance Plan to the ED for approval before construction is started. Dr. Zornberg's primary concern was that the contractor would not properly build the landfill if the specifications are not detailed enough to include the shear strength calculations.²⁶² The inclusion of a permit condition requiring Post Oak to reduce those calculations to more defined specifications is sufficient to address this concern. Therefore, the ALJs do not find that this is a basis for denying the application, but do find it appropriate to include a permit condition addressing the opposing parties' concerns.

6. Hydrostatic Uplift

The TCEQ rules require a landfill applicant to demonstrate that the liner of the landfill will not undergo hydrostatic uplift.²⁶³ According to Post Oak's own calculations, if the landfill is excavated more than six feet below the surrounding groundwater table, it will not be able to meet the minimum safety factor to protect against hydrostatic uplift. The opposing parties argue that the evidence demonstrates that the landfill excavation depth could be as much as 14 feet below the

²⁶¹ 30 Tex. Admin. Code § 330.339(b)(1)-(2).

²⁶² Tr. Vol. 7 at 1324.

²⁶³ 30 Tex. Admin. Code § 330.337(b).

groundwater table. Therefore, they argue that Post Oak has failed to demonstrate compliance with the TCEQ rules regarding hydrostatic uplift.

This issue has been addressed in detail previously in the PFD. As noted, the ALJs conclude that the evidence indicates that, at most, the landfill excavation will be only six inches below the groundwater table. According to the experts, this relatively small amount does not implicate any hydrostatic uplift concerns. Therefore, the ALJs find that Post Oak has satisfied the TCEQ rules related to ensuring against hydrostatic uplift of the liner.

7. Differential Settlement

Under the TCEQ rules, a landfill applicant must perform a preliminary foundation evaluation of the landfill site that considers issues of stability, settlement, and constructability of the site.²⁶⁴ In the application, Post Oak conducted such an evaluation and concluded that, under the operation of the landfill, there could be differential settlement between the center point of the landfill and the edge of the landfill of as much as 37 inches.²⁶⁵ This means that the center of the landfill could experience as much as 37 inches of settlement as a result of construction and operations. The opposing parties assert that this amount of settlement must be accounted for because it could affect leachate run-off calculations from the center of the landfill site. Essentially, if settlement occurs causing the center of the landfill site to be 37 inches lower than modeled, then the leachate flow rates/directions could change and even reverse, causing leachate to pool in the center of the landfill.²⁶⁶ The opposing parties argue that Post Oak did not do this required analysis and has not accounted for this differential settlement in the application at all, despite acknowledging it could exist.

²⁶⁴ 30 Tex. Admin. Code § 330.337(e).

²⁶⁵ Post Oak Ex. 1 at 873.

²⁶⁶ Tr. Vol. 7 at 1452-53.

In response, Post Oak argues that it has accounted for this concern properly and that this is simply a design factor that needs to be taken into account when the landfill is actually constructed. The ED also asserts that the application already properly accounts for this differential settlement in the landfill design. Specifically, the ED contends that the evidence shows that differential settlement would affect the leachate collection pipes in the center of the landfill by reducing their slope by only 0.1°. However, the lines have a 0.5% gradient (equivalent to a 0.3° slope),²⁶⁷ so even with a reduction in their slope from differential settlement, the leachate collection pipes will still flow toward the sumps, rather than reversing or allowing leachate to stagnate.

After considering the evidence and arguments, the ALJs conclude that the expected differential settlement of 37 inches from the center of the landfill has been properly accounted for by Post Oak. Although it is true that this settlement amount is not discussed in detail in the design specifications, the ED is correct that the current design adequately allows for this amount of settlement without compromising the integrity of the leachate collection system. Moreover, during the construction process, Post Oak will be required to ensure that the actual construction of the landfill takes into account this differential settlement to ensure that the leachate collection system operates in a manner consistent with the application's modeling and design. The ALJs believe that this is sufficient to satisfy the TCEQ's rules.

C. Whether the Waste Acceptance Plan is Sufficient

The TCEQ rules prohibit the unloading of prohibited wastes at municipal solid waste facilities.²⁶⁸ Prohibited wastes include many things, such as radioactive materials and hazardous wastes.²⁶⁹ A facility must develop a waste acceptance plan and must identify in its SOP the procedures it will use to prevent the acceptance of prohibited wastes.²⁷⁰

²⁶⁷ Post Oak Ex. 1 at 837.

²⁶⁸ 30 Tex. Admin. Code § 330.133(c).

²⁶⁹ 30 Tex. Admin. Code § 330.15(e).

²⁷⁰ 30 Tex. Admin. Code §§ 330.61(b), 330.127.

The opposing parties contend that Post Oak has not developed a sufficiently specific waste acceptance plan or procedures in its SOP for preventing the acceptance of prohibited wastes. They assert that the TCEQ rules require a greater level of specificity and detail than Post Oak has provided. Further, they contend that this greater level of specificity is particularly important for an applicant like Post Oak, which has no prior experience operating a landfill and had more than 35 deficiencies identified by the ED related to the waste acceptance requirements in the application. The opposing parties claim the SOP lacks any enforceable plan details for, among other things: implementing proper training for employees for detecting and preventing prohibited wastes; conducting inspections, including random inspections, to detect prohibited wastes; or identifying radioactive materials. The opposing parties contend that a proper waste acceptance plan and SOP provisions for preventing prohibited waste must be specific and detailed enough so as to inform employees on the procedures to be followed and to provide commitment obligations that can be enforced by TCEQ if violated. According to them, Post Oak's plans do not satisfy these requirements.

Further, the opposing parties take issue with some of the details provided in Post Oak's SOP. For example, they note that Post Oak proposes to inspect loads at the active disposal area of the landfill—a proposal they claim makes no sense if Post Oak is really trying to prevent the acceptance of improper wastes. Rather, they claim a specially-identified area away from the landfill face should be utilized for inspections, to ensure that prohibited wastes are not commingled with other wastes at the active face of the landfill. They claim that proposed procedures like this reflect a lack of seriousness by Post Oak in trying to prevent prohibited wastes.

Post Oak and the ED both argue that the waste acceptance plan and the SOP provisions related to waste acceptance are detailed enough and comply with the applicable rules. As previously pointed out in this PFD, Post Oak has noted that the TCEQ changed its rules in 2006 (in response to the *BFI* case) to not require the level of specificity the opposing parties argue is required. Post Oak further notes that it retained Wade Wheatley, a longtime TCEQ employee and the former director of

the TCEQ's Waste Permits Division, to review the application, and he testified that the waste acceptance plan and SOP satisfied the requirements of the TCEQ's rules.²⁷¹

After considering the information in Post Oak's waste acceptance plan and the relevant SOP provisions, the ALJs find that Post Oak has satisfied the required rules related to preventing the acceptance of prohibited waste, with one caveat related to radioactive waste for which the ALJs propose an addition to the SOP.

First, the ALJs find that Post Oak's waste acceptance plan clearly meets the requirements of 30 Texas Administrative Code § 330.61(b), which requires that:

(1) The owner or operator shall identify the sources and characteristics of wastes (*i.e.*, residential, commercial, grease trap, grit trap, soluble sludges, septage, special wastes, Class 2 or Class 3 industrial solid wastes, compost feedstocks, etc.) proposed to be received for storage, processing, or disposal. Municipal solid waste facilities may not receive regulated hazardous waste. If a waste constituent or characteristic could be a limiting parameter that may impact or influence the design and operation of the facility, the owner or operator shall specify parameter limitations of each type of waste to be managed by the facility, which may include constituent concentrations and characteristics such as pH, fats, oil and grease concentrations, total suspended solids, chemical oxygen demand, biochemical oxygen demand, organic and metal constituent concentrations, water content, or other constituents. The owner or operator shall include:

(A) a brief description of the general sources and generation areas contributing wastes to the facility. This description shall include an estimate of the population or population equivalent served by the facility. Additionally, if applicable, a descriptive narrative must be included that describes the percentage of incoming waste that must be recovered and its intended use;

(B) for transfer stations, the maximum amount of solid waste to be received daily and annually projected for five years, the maximum amount of solid waste to be stored, the maximum and average lengths of time that solid waste is to remain at the facility, and the intended destination of the solid waste received at this facility; and

²⁷¹ Post Oak Ex. 2 at 23, 34-54.

(C) for landfills, an estimated maximum annual waste acceptance rate for the facility projected for five years.

Post Oak's application identified all of the information required above.²⁷²

The ALJs also conclude that Post Oak's SOP generally provides the requisite specificity to satisfy the TCEQ's rules. The TCEQ's rule regarding the SOP states:

A site operating plan must include provisions for site management and the site operating personnel to meet the general and site-specific requirements of this subchapter. A site operating plan must be retained during the active life of the facility and throughout the post-closure care maintenance period. A site operating plan must include the following:

- (1) a description of functions and minimum qualifications for each category of key personnel to be employed at the facility and for the supervisory personnel in the chain of command;
- (2) a description, including the minimum number, size, type, and function, of the equipment to be utilized at the facility based on the estimated waste acceptance rate and other operational requirements, and a description of the provisions for back-up equipment during periods of breakdown or maintenance of this listed equipment;
- (3) a description of the general instructions that the operating personnel shall follow concerning the operational requirements of this subchapter;
- (4) identification of applicable training requirements under §335.586(a) and (c) of this title (relating to Personnel Training) that shall be followed;
- (5) procedures for the detection and prevention of the disposal of prohibited wastes, including regulated hazardous waste as defined in 40 Code of Federal Regulations (CFR) Part 261, and of polychlorinated biphenyls (PCB) wastes as defined in accordance with 40 CFR Part 761 unless authorized by the United States Environmental Protection Agency. The detection and prevention program must include the following:

²⁷² Post Oak Ex. 1 at 27-32, 77, 92; Post Oak Ex. 2 at 23; Post Oak Ex. 11 at 4.

(A) procedures to be used by the owner or operator to control the receipt of prohibited waste. The procedures must include the random inspections of incoming loads and must include the inspection of compactor vehicles. In addition to the random inspections, trained staff shall observe each load that is disposed at the landfill;

(B) records of all inspections;

(C) training for appropriate facility personnel responsible for inspecting or observing loads to recognize prohibited waste;

(D) notification to the executive director, and any local pollution agency with jurisdiction that has requested to be notified, of any incident involving the receipt or disposal of regulated hazardous waste or PCB waste at the landfill; and

(E) provisions for the remediation of the incident; and

(6) general instructions required to be included in the site operating plan by other sections of this subchapter.²⁷³

As can be seen by these provisions, the TCEQ rules regarding an SOP are not extensive nor do they appear to require high levels of specificity.

In this case, Post Oak has provided an SOP related to prohibited wastes that provides a reasonable level of detail. For example, the SOP provides the following:

- The landfill manager or supervisor shall complete a training class on the recognition and handling of prohibited wastes;
- All personnel involved in waste screening shall be provided training classes that include a number of items, such as the listing of wastes that cannot be accepted, understanding signage related to prohibited wastes, understanding how to visually detect prohibited wastes, understanding how to detect nervous or uncooperative drivers who might have prohibited wastes, understanding how to handle prohibited wastes when found, proper safety equipment for handling prohibited wastes;

²⁷³ 30 Tex. Admin. Code § 330.127.

- Documentation of training shall be kept;
- Trained staff shall visually inspect each load arriving at the facility;
- More-detailed random inspections will be conducted on a minimum of 12 incoming loads each week, with such inspections at either the active disposal area or a citizen convenience area. Records of such inspections shall be maintained;
- Signs and/or lists of prohibited wastes shall be provided informing customers and waste carriers of prohibited wastes;
- Customer contracts shall identify prohibited wastes and customers shall be sent annual reminder of prohibited wastes;
- Customers without contracts will be required to sign paperwork certifying that any waste being delivered does not contain prohibited wastes; and
- Specific procedures for handling prohibited wastes that are discovered and for notifying the TCEQ of such wastes.²⁷⁴

The ALJs find that these requirements in the SOP are sufficiently detailed as to satisfy the TCEQ's rules for an SOP, with one exception noted below.

The opposing parties expressed more serious concerns about the potential for receipt of radioactive waste. The SOP does not specifically address the detection of radioactive waste and it is not clear precisely how Post Oak would inspect for radioactive waste, which is not necessarily detectable simply by visual observation. Accordingly, the ALJs conclude that Post Oak should be required to identify with specificity the equipment and procedures it will use to attempt to ensure that no radioactive materials are accepted at the site. Such procedures should include the use of proper equipment that can detect radioactive material and posted signs advising incoming waste disposers that: (1) disposal of radioactive waste is prohibited by law, (2) Post Oak uses equipment to detect unlawful radioactive waste, and (3) Post Oak will notify the appropriate authorities if a waste disposer is found attempting to dispose of radioactive waste. With these additional requirements, the

²⁷⁴ Post Oak Ex. 1 at 2051-53.

ALJs find no other deficiencies in Post Oak's proposed waste acceptance plan or SOP procedures for ensuring that prohibited wastes are not received at the site.

D. Whether the Site Operating Plan is Sufficient

The alleged inadequacy of Post Oak's proposed SOP is discussed in other portions of this PFD in regard to specific issues, although the parties also included a separate section in their briefing outline related to it in a general sense. In their briefing, the opposing parties argue that Post Oak's proposed SOP is deficient in many regards because it fails to provide actual plans for implementing many different requirements of the TCEQ rules. They argue that the SOP amounts to little more than an agreement to follow the rules or a plan to have a plan, at least in regard to some issues. Specifically, in addition to the other issues discussed in this PFD, the opposing parties highlighted and discussed alleged failings in the SOP in regard to vector control, windblown waste, and leachate collection. They contend that the SOP provisions related to these issues do not provide any meaningful enforceable requirements on Post Oak. Thus, they argue that these provisions do not meet the TCEQ requirements for an SOP.

In response, the ED and Post Oak both contend that the SOP is adequate and complies with the TCEQ's rules. These parties point to the testimony of Mr. Wheatley, who opined that the SOP met all requirements of the applicable rules. However, the ED and Post Oak did not point out any additional provisions in the SOP other than those noted by the opposing parties as being simply a restatement of the rule requirements.

The TCEQ's rules related to vectors require a site operator to have specified plans for dealing with vectors. Specifically, 30 Texas Administrative Code § 330.151 states:

Disease Vector Control. A site operator shall control on-site populations of disease vectors using proper compaction and daily cover procedures, and the use of other approved methods when needed. *The general methods and performance-based frequencies for disease vector control must be specified in the site operating plan.* (Emphasis added)

Thus, the rule requires that methods and frequencies for vector control be specified in the SOP. However, the rule does not specify the steps that must be taken to control vectors, other than using proper compaction and daily cover.

In its SOP, Post Oak basically parrots the language of the rule, advising that “vectors will be controlled by the proper compaction of waste, the use of six inches of daily cover or an approved alternate, and adherence to the ponded water plan.”²⁷⁵ The SOP goes on to state that “the operator at the site shall continuously evaluate the situation and take additional action should it be required. Professional exterminators will be contacted, if necessary, to eliminate rodents or other pests that may appear at the site.”²⁷⁶ Further, in other areas of the SOP, Post Oak provides details related to vector control. For example, scrap tires at the site will be kept in containers, and the SOP states: “Containers holding tires will be monitored for vectors on days the citizen convenience area receives waste.”²⁷⁷ Further, reusable containers containing food wastes “will be maintained in a clean condition so that they do not constitute a nuisance and to retard the presence of vectors. If a vector problem develops, a pest control service will be consulted and actions taken to eliminate the problem.”²⁷⁸ The SOP also provides that “nonreusable containers must be of suitable strength to minimize animal scavenging”²⁷⁹ The daily cover procedures and ponded water procedures contain higher levels of specificity regarding the procedures to be used.²⁸⁰

Although Post Oak’s SOP is bare bones in regard to vector control, the ALJs find that it meets the minimum requirements of the TCEQ rules. The SOP provides for continuous monitoring by the site operator of the site, and specific monitoring of certain areas, such as the tire containers, on

²⁷⁵ Post Oak Ex. 1 at 2066.

²⁷⁶ Post Oak Ex. 1 at 2066.

²⁷⁷ Post Oak Ex. 1 at 2075.

²⁷⁸ Post Oak Ex. 1 at 2076.

²⁷⁹ Post Oak Ex. 1 at 2076.

²⁸⁰ Post Oak Ex. 1 at 2069-72.

days those areas are being used. The SOP provides detailed information related to ponded water and daily cover procedures, which the rules recognize are the primary methods for vector control. Further, the SOP provides that exterminators will be used in the event of vector problems. While these procedures are minimal, they appear to satisfy the TCEQ's rules.

In regard to windblown waste, the TCEQ's rules require that "[a] site operating plan must specify the means for confining windblown waste and litter," that "litter scattered throughout the site . . . must be picked up once a day on days the facility is in operation," and the SOP "must specify the means for complying with this requirement."²⁸¹ In regard to windblown waste, the SOP provides:

9.0 CONTROL OF WINDBLOWN SOLID WASTE AND LITTER 330.139

The site will be operated to minimize windblown material. The working face will be covered daily to avoid prolonged exposure of waste. A minimum 6 foot high wire mesh fence will be installed at the active portion of the landfill as temporary litter control fences. When feasible, the facility will attempt to have the landfill working face oriented and located to minimize wind-blown waste based on expected wind directions. Site personnel will collect litter within and around the site daily to minimize unhealthy, unsafe, or unsightly conditions.²⁸²

This language does not provide any specificity as to when the litter will be picked up daily or how that process will be accomplished. Because the rule requires that the SOP must "specify the means for complying with" the requirement for daily litter pick-up, the SOP is deficient. It simply contains nothing regarding how the daily litter pick-up will be accomplished—such as the time of day, which personnel are responsible for it, or how it will be conducted. Even something as simple as "at the end of each working day, a site employee will walk the perimeter and internal area of the site and collect all visible windblown waste in a trash bag" would likely suffice. But there is nothing to that effect. So, in regard to windblown waste, the ALJs agree that additional SOP provisions are necessary. As with radioactive waste, the ALJs do not specify the precise SOP provisions that must be included, because there are numerous ways the tasks can be accomplished. Rather, the ALJs

²⁸¹ 30 Tex. Admin Code § 330.139.

²⁸² Post Oak Ex. 1 at 2062.

simply note that the SOP is deficient and must be modified to include the specificity required by the rule before the landfill could be permitted to operate.

Finally, the opposing parties also allege that the SOP is deficient in regard to leachate collection and storage. However, unlike some other areas, the TCEQ rules do not require detailed information related to leachate collection and storage. Rather, the rules simply require that the liquids resulting from the operation of the facility be disposed of in a manner that will not result in pollution; the rules then provide various requirements for the disposal of such liquids.²⁸³ Post Oak has proposed to use leachate collection ponds to be located in appropriate areas throughout the site and is obligated to follow the procedures required by the TCEQ rules. The ALJs do not find any basis for requiring additional SOP provisions for leachate collection and storage beyond that already contained in the rules and the SOP.

E. Whether the Closure and Post-Closure Plans are Sufficient

The TCEQ rules require that a landfill applicant submit closure and post-closure plans that address how the landfill will be closed and that address post-closure care to ensure the landfill does not have contamination migration, among other things. Of particular relevance, 30 Texas Administrative Code 330.63(h)-(j) states:

(h) Closure plan. The facility closure plan shall be prepared in accordance with Subchapter K of this chapter (relating to Closure and Post-Closure). For a landfill unit, the closure plan will include a contour map showing the final constructed contour of the entire landfill to include internal drainage and side slopes plus accommodation of surface drainage entering and departing the completed fill area plus areas subject to flooding due to a 100-year frequency flood. Cross-sections shall be provided.

(i) Post-closure plan. The facility post-closure care plan shall be prepared in accordance with Subchapter K of this chapter.

²⁸³ Tex. Admin. Code § 330.207.

(j) Cost estimate for closure and post-closure care. The owner or operator shall submit a cost estimate for closure and post-closure care in accordance with Subchapter L of this chapter (relating to Closure, Post-Closure, and Corrective Action Cost Estimates). For an existing facility, the owner or operator shall also submit a copy of the documentation required to demonstrate financial assurance as specified in Chapter 37, Subchapter R of this title (relating to Financial Assurance for Municipal Solid Waste Facilities). For a new facility, a copy of the required documentation shall be submitted 60 days prior to the initial receipt of waste.

Subchapter K is found at 30 Texas Administrative Code § 330.451-330.465, and sets out numerous requirements for the closure and post-closure of a facility.

The opposing parties allege that Post Oak's closure and post-closure plans are so lacking in specificity and details as to make any evaluation of them impossible. The opposing parties' expert, Dr. Zornberg, testified that he could not analyze the adequacy of the closure and post-closure plans because there is little to no information in the application regarding the basis for the design and the selection of the different components of the closure system.²⁸⁴ Dr. Zornberg testified the application does not contain information related to:

- final grading of the closure system;
- calculations nor rationale for selection of the geomembrane and of the liquid collection layer identified in the application;
- a predication of long-term total settlements and differential settlements for the proposed closure system;
- calculations to justify the in-plane drainage capacity of the proposed drainage layer system; or
- any discussion of the rationale for selecting the proposed geomembrane material in the cover system.²⁸⁵

²⁸⁴ SSLGC Ex. 6 at 37-39.

²⁸⁵ SSLGC Ex. 6 at 38.

In response, the ED and Post Oak contend that the closure and post-closure plans are adequate and meet the minimum requirements of the rules. Their respective experts testified as much, indicating that the closure and post-closure plans satisfied all of the requirements of the TCEQ rules. Further, the ED notes that long-term settlement and differential settlement are not calculable or predictable and nothing in the rules requires their analysis.

Post Oak's closure and post-closure plans and cost estimates are found at Attachments 7, 7A, 8, and 8A to the application.²⁸⁶ Although the opposing parties argue the plans should include more technical details, as noted by Dr. Zornberg's criticisms discussed above, the ALJs do not find any requirement in the Commission's closure and post-closure rules for the type of information the opposing parties want included. Rather, all of the required information in Subchapter K is addressed by Post Oak's closure and post-closure plans. While the opposing parties might want more, it is infeasible to require the types of information sought by the opposing parties at this stage of the process, before the facility has even been built. While there are many things that Post Oak must show, as noted by the rules, most of the information sought by the opposing parties would become known only at the time the landfill is closed. The rules do not require Post Oak to calculate such matters at this point and the ALJs find no basis for concluding that the lack of such information is fatal to the application. Rather, all of the information required by Subchapter K has been included in the application and closure and post-closure plans.

F. Whether the Proposed Facility and Operations will be Protective of Human Health and the Environment

The opposing parties contend that the various failings identified previously and discussed above in this PFD demonstrate that the facility will not be protective of human health and the environment. However, they do not raise new issues in this section of their arguments. For the reasons discussed previously in this PFD, the ALJs find that the proposed facility will be protective of human health and the environment, with the conditions discussed by the ALJs in this PFD.

²⁸⁶ Post Oak Ex. 1 at 2007-38.

V. ASSESSMENT OF TRANSCRIPT COSTS

In this case, the ALJs ordered Post Oak to arrange for and pay the costs of having a court reporter attend the hearing and prepare a transcript, subject to allocation of such costs at the end of the proceeding. The TCEQ's rules prohibit the assessment of any cost to a statutory party who is precluded by law from appealing any ruling, decision, or other act of the Commission.²⁸⁷ Therefore, no costs may be assessed against the ED or OPIC. However, the other parties may be assessed a portion of the transcript costs. The factors to be considered in assessing costs include: the party who requested the transcript; the financial ability of the party to pay the costs; the extent to which the party participated in the hearing; the relative benefits to the various parties of having a transcript; the budgetary constraints of a state or federal administrative agency participating in the proceeding; and any other factor which is relevant to a just and reasonable assessment of the costs.²⁸⁸

Post Oak has requested that transcript costs be split evenly between it and the opposing parties as a group, with the opposing parties then choosing how to allocate their 50% apportionment. The opposing parties argue that Post Oak is the only party that can benefit financially from having a transcript and asks the Commission to assess all transcript costs against Post Oak. Without explaining the reasoning, except to say that Post Oak does not oppose payment of transcript costs, the ED suggests that Post Oak bear all the transcript costs.

The ALJs agree with Post Oak that assessing half the cost against Post Oak and half the cost against the opposing parties is an appropriate apportionment. However, Post Oak provided no evidence as to the amount of transcript costs or what they include (for example, if Post Oak sought an expedited transcript and other parties did not, it would be unfair to assess costs associated with such expediting to the other parties). Therefore, the ALJs make no specific recommendation as to the transcript costs except to note that the apportionment proposed by Post Oak is reasonable given

²⁸⁷ 30 Tex. Admin. Code § 80.23(d)(2).

²⁸⁸ 30 Tex. Admin. Code § 80.23(d)(1).

the sophistication of the other parties, their use of the transcript, their participation in the hearing, and their available resources.

VI. CONCLUSION

In conclusion, the ALJs find that there are numerous deficiencies in the application. However, to the extent the Commission concludes those deficiencies may be overcome by the recommended permit conditions, then Post Oak has otherwise made the required demonstrations to enable it to be entitled to receive a permit to operate a Type I MSW facility. To assist the Commission in resolving this matter, the ALJs have prepared for the Commission's consideration a proposed order consistent with the additional conditions recommended by the ALJs. That proposed order is attached to this proposal for decision. In preparing the proposed order, the ALJs considered proposed findings of fact and conclusions of law submitted by the parties. Any proposed findings or conclusions not adopted in the attached proposed order are rejected by the ALJs.

SIGNED September 23, 2016.



**CRAIG R. BENNETT
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS**



**SARAH G. RAMOS
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS**