

Control Number: 49715



Item Number: 82

Addendum StartPage: 0

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**OF**

## ADMINISTRATIVE HEARINGS



**MAY 18, 2020**

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**EXHIBITS**

DB-1	Qualifications of David Bautista
DB-2	Letter from Texas Parks and Wildlife Department file-stamped January 15, 2019

1    **I.     STATEMENT OF QUALIFICATIONS**

2    **Q.     Please state your name, occupation and business address.**

3    A.     My name is David Bautista. I am employed by the Public Utility Commission of  
4           Texas (the Commission) as an Engineer in the Infrastructure Division. My  
5           business address is 1701 North Congress Avenue, Austin, Texas 78711-3326.

6    **Q.     Please briefly outline your educational and professional background.**

7    A.     I have a Bachelor of Science in Electrical Engineering from Texas A&M  
8           University-Kingsville. I completed my degree in December of 1999 and have  
9           been employed at the Commission since April 2018. A more detailed summary of  
10          my experience is provided in Exhibit DB-1.

11   **Q.     Are you a registered professional engineer?**

12   A.     Yes, I am a registered Professional Engineer in Texas and my member number  
13          is 103418.

14   **Q.     Have you previously filed testimony as an expert before the Commission?**

15   A.     Yes. A list of the dockets in which I have filed testimony is provided as Exhibit  
16          DB-1.

17   **II.    SCOPE OF TESTIMONY**

18   **Q.     What is the purpose of your testimony in this proceeding?**

19   A.     The purpose of my testimony is to present Commission Staff's recommendations  
20          in support of the settlement in this docket concerning the application of Entergy  
21          Texas, Inc. (ETI) to amend its Certificate of Convenience and Necessity (CCN) to  
22          construct a new double-circuit capable steel monopole 230-kV transmission line  
23          that will connect the new Timberland substation to the existing China to Heights

1 transmission line.

2 **Q. What are the statutory requirements that a utility must meet to amend its**  
3 **CCN to construct a new transmission line?**

4 A. Section 37.056(a) of the Public Utility Regulatory Act (PURA)<sup>1</sup> states that the  
5 Commission may approve an application for a CCN only if the Commission finds  
6 that the certificate is necessary for the service, accommodation, convenience, or  
7 safety of the public. Further, the Commission shall approve, deny, or modify a  
8 request for a transmission line after considering the factors specified in PURA §  
9 37.056(c), which are as follows:

- 10 (1) the adequacy of existing service;
- 11 (2) the need for additional service;
- 12 (3) the effect of granting the certificate on the recipient of the  
13 certificate and any electric utility serving the proximate area; and
- 14 (4) other factors, such as:
- 15 (A) community values;
- 16 (B) recreational and park areas;
- 17 (C) historical and aesthetic values;
- 18 (D) environmental integrity;
- 19 (E) the probable improvement of service or lowering of cost to  
20 consumers in the area if the certificate is granted; and
- 21 (F) to the extent applicable, the effect of granting the certificate  
22 on the ability of this state to meet the goal established by

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<sup>1</sup> Public Utility Regulatory Act, Tex. Util. Code Ann. §§ 11.001-66.016 (PURA).

1 PURA § 39.904(a).

2 **Q. Do the Commission's rules provide any instruction regarding routing**  
3 **criteria?**

4 A. Yes. 16 Texas Administrative Code (TAC) § 25.101(b)(3)(B) requires that an  
5 application for a new transmission line address the criteria in PURA § 37.056(c),  
6 and that upon considering those criteria, engineering constraints and costs, the line  
7 shall be routed to the extent reasonable to moderate the impact on the affected  
8 community and landowners, unless grid reliability and security dictate otherwise.  
9 The following factors shall be considered in the selection of the route that best  
10 addresses the requirements of PURA and the Commission's rules:

- 11 (i) whether the routes parallel or utilize existing compatible rights-of-  
12 way for electric facilities, including the use of vacant positions on  
13 existing multiple-circuit transmission lines;
- 14 (ii) whether the routes parallel or utilize existing compatible rights-of-  
15 way, including roads, highways, railroads, or telephone utility  
16 rights-of-way;
- 17 (iii) whether the routes parallel property lines or other natural or cultural  
18 features; and
- 19 (iv) whether the routes conform with the policy of prudent avoidance.<sup>2</sup>

20 **Q. What issues identified by the Commission must be addressed in this docket?**

21 A. In the Order of Referral and Preliminary Order issued on October 1, 2019, the  
22 Commission identified eight issues that must be addressed:

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<sup>2</sup> 16 Tex. Admin. Code § 25.101(b)(3)(B)(i)-(iv) (TAC).

- 1           1.     Is ETI's application to amend their CCN adequate? Does the application  
2                 contain an adequate number of reasonably differentiated alternative routes  
3                 to conduct a proper evaluation? In answering this question, consideration  
4                 must be given to the number of proposed alternatives, the locations of the  
5                 proposed transmission line, and any associated proposed facilities that  
6                 influence the location of the line. Consideration may also be given to the  
7                 facts and circumstances specific to the geographic area under  
8                 consideration, and to any analysis and reasoned justification presented for a  
9                 limited number of alternative routes. A limited number of alternative routes  
10                is not in itself a sufficient basis for finding an application inadequate when  
11                the facts and circumstances or a reasoned justification demonstrates a  
12                reasonable basis for presenting a limited number of alternatives. If an  
13                adequate number of routes is not presented in the application, the ALJ shall  
14                allow ETI to amend the application and to provide proper notice to affected  
15                landowners; if ETI chooses not to amend the application, the ALJ may  
16                dismiss the case without prejudice.
- 17           2.     Are the proposed facilities necessary for the service, accommodation,  
18                 convenience, or safety of the public within the meaning of PURA  
19                 § 37.056(a), taking into account the factors set out in PURA § 37.056(c)?  
20                 In addition,
- 21                 (a)     How does the proposed facility support the reliability and adequacy  
22                         of the interconnected transmission system?
- 23                 (b)     Does the proposed facility facilitate robust wholesale competition?



- 1 (c) What recommendation, if any, has an independent organization, as  
2 defined in PURA § 39.151, made regarding the proposed facility?
- 3 (d) Is the proposed facility needed to interconnect a new transmission  
4 service customer?
- 5 3. Is the transmission project the better option to meet this need when  
6 compared to employing distribution facilities? If ETI is not subject to the  
7 unbundling requirements of PURA § 39.051, is the project the better option  
8 to meet the need when compared to a combination of distributed generation  
9 and energy efficiency?
- 10 4. Which proposed transmission line route is the best alternative upon  
11 weighing the factors set forth in PURA § 37.056(c) and 16 TAC §  
12 25.101(b)(3)(B)?
- 13 5. Are there alternative routes or facility configurations that would have a less  
14 negative impact on landowners? What would be the incremental cost of  
15 those routes?
- 16 6. If alternative routes or facility configurations are considered due to  
17 individual landowner preference:
- 18 (a) Have the affected landowners made adequate contributions to offset  
19 any additional cost associated with the accommodations?
- 20 (b) Have the accommodations to landowners diminished the electric  
21 efficiency of the line or reliability?
- 22 7. On or after September 1, 2009, did the Texas Parks and Wildlife  
23 Department provide any recommendations or informational comments

1 regarding this application pursuant to Section 12.0011(b) of the Texas  
2 Parks and Wildlife Code? If so, please address the following issues:

3 (a) What modifications, if any, should be made to the proposed project  
4 as a result of any recommendations or comments?

5 (b) What conditions or limitations, if any, should be included in the  
6 final order in this docket as a result of any recommendations or  
7 comments?

8 (c) What other disposition, if any, should be made of any  
9 recommendations or comments?

10 (d) If any recommendation or comment should not be incorporated in  
11 this project or the final order, or should not be acted upon, or is  
12 otherwise inappropriate or incorrect in light of the specific facts and  
13 circumstances presented by this application or the law applicable to  
14 contested cases, please explain why that is the case.

15 8. Are the circumstances for this line such that the seven-year limit discussed  
16 in section III of the Order of Referral and Preliminary Order should be  
17 changed?

18 **Q. Which issues in this proceeding have you addressed in your testimony?**

19 A. I have addressed all eight issues from the Order of Referral and Preliminary Order  
20 and the requirements of PURA § 37.056 and 16 TAC § 25.101.

21 **Q. What have you relied upon or considered to reach your conclusions and make**  
22 **your recommendation?**

23 A. I have relied upon my review and analysis of the data contained in ETI's

1 application and the application's accompanying attachments, including the  
 2 *Environmental Assessment and Alternative Route Analysis* (EA) prepared by  
 3 Power Engineers. I have also relied upon my review of the direct testimonies and  
 4 statements of position filed in this proceeding by or on behalf of ETI and the  
 5 intervenors, responses to requests for information, and the letter from the Texas  
 6 Parks and Wildlife Department to Ms. Karen Hubbard, filed August 30, 2019.<sup>3</sup>

### 8 **III. CONCLUSIONS AND RECOMMENDATIONS**

9 **Q. Based on your evaluation of ETI's application and other relevant material,**  
 10 **what conclusions have you reached regarding the application and the**  
 11 **proposed project?**

- 12 1. I conclude that the application is adequate and that ETI's proposed routes  
 13 are adequate in number and geographic diversity.
- 14 2. I conclude that the application complies with the notice requirements in 16  
 15 TAC § 22.52(a).
- 16 3. I conclude that, taking into account the factors set out in PURA §  
 17 37.056(c), the proposed project is necessary for the service,  
 18 accommodation, convenience and safety of the public.
- 19 4. I conclude that the proposed project is the best option to meet the need  
 20 when compared with other alternatives.
- 21 5. I conclude that Settlement Route 2 is the best route when weighing, as a  
 22 whole, the factors set forth in PURA § 37.056(c)(4) and in 16 TAC §

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<sup>3</sup> Exhibit DB-2.

1 25.101(b)(3)(B).

2 6. I conclude that the Texas Parks and Wildlife Department provided  
3 mitigation measures regarding the application, and that the mitigation  
4 measures provided in Items 3, 4, 5, and 7 on Pages 12 and 13, of my  
5 testimony, as well as mitigation measures mentioned in the environmental  
6 concerns on pages 21 through 23 of my testimony, are sufficient to address  
7 the Texas Parks and Wildlife Department's mitigation recommendations. I  
8 also conclude that ETI has the resources and procedures in place in order to  
9 accommodate the mitigation recommendations by the Texas Parks and  
10 Wildlife Department.

11 **Q. What recommendation do you have regarding ETI's application?**

12 A. I recommend that the Commission approve ETI's application to amend its CCN in  
13 order to construct a new double-circuit 230-kV transmission line within Liberty  
14 and Harris Counties, Texas. I also recommend that the Commission order ETI to  
15 construct the proposed transmission line on Settlement Route 2 (Segments A1, A2,  
16 D, F, J Modified, K1 Modified, K2, and N). I further recommend that the  
17 Commission include in its order approving ETI's application the following  
18 paragraphs in order to mitigate the impact of the proposed project:

- 19 1. ETI shall conduct surveys to identify pipelines that could be affected by the  
20 proposed transmission line, if not already completed, and coordinate with  
21 pipeline owners in modeling and analyzing potential hazards because of  
22 alternating-current interference affecting pipelines being paralleled.
- 23 2. In the event ETI or their contractors encounter any archeological artifacts

1 or other cultural resources during project construction, work shall cease  
2 immediately in the vicinity of the resource, and the discovery shall be  
3 reported to the Texas Historical Commission. ETI shall take action as  
4 directed by the Texas Historical Commission.

- 5 3. ETI shall follow the procedures outlined in the following publications for  
6 protecting raptors: *Suggested Practices for Avian Protection on Power*  
7 *Lines, The State of the Art in 2006*, Avian Power Line Interaction  
8 Committee (APLIC, 2006), the *Avian Protection Plan Guidelines*, (APLIC,  
9 2005), and *Reducing Avian Collisions with Power Lines: The State of the*  
10 *Art in 2012*, (APLIC, 2012). ETI shall take precautions to avoid disturbing  
11 occupied nests and will take steps to minimize the impact of construction  
12 on migratory birds, particularly during nesting season.

- 13 4. ETI shall exercise extreme care to avoid affecting non-targeted vegetation  
14 or animal life when using chemical herbicides to control vegetation within  
15 the right-of-way and shall ensure that such herbicide use shall comply with  
16 rules and guidelines established in the *Federal Insecticide Fungicide and*  
17 *Rodenticide Act* and with the Texas Department of Agriculture regulations.

- 18 5. ETI shall minimize the amount of flora and fauna disturbed during  
19 construction of the transmission line, except to the extent necessary to  
20 establish appropriate right-of-way clearance for the transmission line. In  
21 addition, ETI shall revegetate, using native species, and shall consider  
22 landowner preferences in doing so. Furthermore, to the maximum extent  
23 practicable, ETI shall avoid adverse environmental impact to sensitive

1 plant and animal species and their habitats, as identified by the Texas Parks  
2 and Wildlife Department and the U.S. Fish and Wildlife Service.

3 6. ETI shall implement erosion control measures as appropriate. Also, ETI  
4 shall return each affected landowner's property to its original contours and  
5 grades unless otherwise agreed to by the landowner or the landowner's  
6 representative. ETI shall not be required to restore original contours and  
7 grades where a different contour or grade is necessary to ensure the safety  
8 or stability of the project's structures or the safe operation and maintenance  
9 of the line.

10 7. ETI shall use best management practices to minimize the potential impact  
11 to migratory birds and threatened or endangered species.

12 8. ETI shall cooperate with directly affected landowners to implement minor  
13 deviations in the approved route to minimize the impact of the transmission  
14 line. Any minor deviations to the approved route shall only directly affect  
15 landowners that received notice of the transmission line in accordance with  
16 16 TAC § 22.52(a)(3) and shall directly affect only those landowners that  
17 that have agreed to the minor deviation, excluding public rights-of-way.

18 9. ETI shall comply with the reporting requirements of 16 TAC § 25.83.

19 **Q. Does your recommended route differ from the one that ETI believes best**  
20 **addresses the requirements of PURA and the Commission's rules?**

21 A. No. My recommended route is the same as ETI's recommendation. In my  
22 opinion, Settlement Route 2 best addresses the requirements of PURA and the  
23 Commission's rules.

1 **IV. PROJECT JUSTIFICATION**

2 **A. DESCRIPTION OF THE PROJECT**

3 **Q. Please describe the proposed project.**

4 A. ETI proposed a new 230-kV transmission line project for a double-circuit single  
5 pole transmission line connecting the proposed Timberland substation near the  
6 community of Plum Grove in Liberty County to the existing China to Heights  
7 transmission line, in the vicinity of Eastgate and Luce Bayou. This transmission  
8 line will be approximately 8.90 miles in length and will be erected predominately  
9 utilizing either concrete or steel single-pole structures within a right-a-way that  
10 would be up to 125 feet wide.

11 **Q. Does ETI's application contain a number of alternative routes sufficient to**  
12 **conduct a proper evaluation?**

13 A. Yes. ETI's application proposed 10 routes for the proposed project.

14

ROUTE	LENGTH (miles)
Route 10	7.73
Route 1	7.95
Route 6	8.43
<b>Settlement Route 2</b>	<b>8.90</b>
Route 3	9.40
Route 9	9.47
Route 7	10.04
Route 8	10.53
Route 5	11.57

Route 4	11.65
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1

2 **Q. Is the proposed project located within the incorporated boundaries of any**  
3 **municipality?**

4 A. No. The routes for the proposed project are not located within city limits or extra-  
5 territorial jurisdiction of any municipality.

6 **Q. Does any part of this project lie within the Texas Coastal Management**  
7 **Program (TCMP) boundary?**

8 A. No. The proposed project is not located, either in whole or in part, within the  
9 TCMP boundary.

10 **B. NEED FOR THE PROJECT**

11 **Q. Could you briefly summarize the need for the project?**

12 A. Yes. The New Caney network which is located north east of Houston along  
13 Interstate 69 and serves the communities of Kingwood, Porter, New Caney,  
14 Roman Forest, Tamina, and Splendora is expected to undergo significant growth  
15 as the newer segment of the Grand Parkway (SH 99) loop is constructed and  
16 completed by 2022.<sup>4</sup> Several large tracts of land in this area are expected to bring  
17 development opportunities. These projects include the Kingland development,  
18 Santa Fe by Colony Ridge and others. The new load from these activities is  
19 estimated to reach 55 MVA.<sup>5</sup> Currently, ETI is building field ties in the

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<sup>4</sup> Application at 8.

<sup>5</sup> *Id.*



1 distribution area to shift load from some of the limited capacity substations.<sup>6</sup>  
2 However, a long-term solution is needed. ETI proposes this radial transmission  
3 line to feed the proposed Timberland substation. This station will initially connect  
4 to two 40 MVA distribution transformers. The station will have the capacity for  
5 one more 40 MVA transformer in the future.

6 In addition to the substation's capacity for three transformers to serve  
7 ETI's load growth, this radial line is projected to interconnect a new point of  
8 delivery for Sam Houston Electric Cooperative (SHECO). The application does  
9 not address the size SHECO's load, however, SHECO submitted the project to  
10 Midcontinent Independent System Operator (MISO) for review. SHECO's project  
11 is under review as part of MISO's 2019 MISO Transmission Expansion Plan  
12 (MTEP) study cycle (project ID 15734) The substation interconnection is targeted  
13 with a coordinated in-service date similar to the Timberland substation.<sup>7</sup> ETI is  
14 proposing this 230-kV line, which will be referred to as the *Proposed Project* in  
15 the remainder of my testimony.

16 **Has an independent organization, as defined in PURA § 39.151, determined**  
17 **that there is a need for the Proposed Project?**

- 18 A. Yes. ETI is a member of the MISO. As part of its annual transmission expansion  
19 planning, MTEP process, MISO reviewed the Proposed Project with stakeholders  
20 and determined it does not adversely impact the transmission system. The  
21 Proposed Project was classified as an "Other" project and was approved by

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<sup>6</sup> Application at 9.

<sup>7</sup> Application at 11.

1 MISO's board of directors on December 6, 2018.<sup>8</sup>

2 **Q. ETI is proposing this CCN before the need for SHECO's project has been**  
3 **determined by MISO. Is this a reasonable decision? If so, why?**

4 A. In my opinion, this is a reasonable decision. MISO has reviewed and approved the  
5 Timberland project and ETI is proposing to build the Proposed Project based on  
6 that need – the ETI load growth reviewed and approved by MISO in 2018.  
7 However, ETI recognizes that SHECO's project is being reviewed and  
8 acknowledges that, upon approval and justified need, ETI would be tasked with  
9 interconnecting SHECO's project to the bulk power system. The Proposed Project  
10 gives ETI the ability to meet the need of its own projected load growth to relieve  
11 heavily loaded feeders, and allows enough capacity to provide a source for  
12 SHECO's project without necessitating an additional transmission line in the same  
13 location.

14 **Q. Are the proposed facilities necessary for the service, accommodation,**  
15 **convenience, or safety of the public within the meaning of PURA § 37.056(a)?**

16 A. Yes. Based on the information provided by ETI in their application, direct  
17 testimonies regarding the load associated with the expansion of the SH-99 corridor  
18 and the new point of delivery to SHECO, it is evident that there is a need for the  
19 proposed transmission line.  
20  
21

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<sup>8</sup> Application at 11.

1   **C.     PROJECT ALTERNATIVES**

2   **Q.     Did ETI consider distribution alternatives to the proposed project?**

3   A.     Yes.   ETI considered upgrading two transformers at the existing Parkway  
4           Substation with two 40 MVA units.   However, the Parkway Substation is  
5           approximately 8.8 miles from the future developments.   This substation will have  
6           excessive feeder lengths to the growing areas.   In my experience, the combination  
7           of excessive feeder length coupled with the load growth will create voltage drop  
8           problems that might be difficult to tame.

9   **Q.     Did ETI investigate other alternatives to the proposed project?**

10  A.     Yes.   ETI also considered building a 138kV transmission line from another source  
11           to the Timberland Substation.   However, the ultimate plan for this transmission  
12           corridor is to connect the Timberland Substation with the 230kV Jacinto  
13           Substation.   Connecting now at 138kV will require future upgrades including an  
14           autotransformer to conform with the needs of the transmission plan.<sup>9</sup>   Connecting  
15           at 138kV now will result in much higher costs in the near future.

16  **Q.     Do you agree that the proposed project is the best option when compared to**  
17           **other alternatives?**

18  A.     Yes.  
19  
20  
21  
22

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<sup>9</sup> Application at 12.

**V. ROUTING**

**A. STAFF RECOMMENDATION**

**Q. What route do you recommend upon considering all factors, including the factors in PURA § 37.056(c) and 16 TAC § 25.101(b)(3)(B)?**

A. Based on my analysis of all the factors that the Commission must consider under PURA § 37.056 and 16 TAC § 25.101, I recommend that Settlement Route 2 be approved for the proposed project. The basis for my recommendation is discussed in more detail in the remainder of my testimony.

**Q. Which route did ETI select as the route which they believe best addresses the requirements of PURA and the Commission's rules?**

A. ETI originally selected Route 2 as the route which it believes best addresses the requirements of PURA and the Commission's rules. However, through the course of the proceeding, ETI has amended its selection to Settlement Route 2. Settlement Route 2 includes a very minor modification to the intersection of line segments J and K1 that was made to accommodate certain landowners.

**B. COMMUNITY VALUES**

**Q. Has ETI sought input from the local community regarding community values?**

A. Yes. ETI held an open house meeting pursuant to 16 TAC § 22.52(a)(4) on September 27, 2018, at the Garza Event Center in Cleveland, Texas.<sup>10</sup> Ten individuals attended according to the sign-in-sheet. ETI presented attendees with three handouts. The first handout was general information about the project. The

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<sup>10</sup> Application at 18.

1 second was a questionnaire that solicited comments on the project and an  
2 evaluation on the information presented. The final handout was a frequently asked  
3 questions document providing an overview to the project as well as a description  
4 of the regulatory process. In addition, one computer station with GIS personnel  
5 was set-up. ETI received responses to several questionnaires.<sup>11</sup>

6 **Q. Did members of the community who attended the open house meetings**  
7 **express concerns about the proposed project?**

8 A. Yes. ETI and Power Engineers initially presented 18 preliminary alternative route  
9 segments. After the public meeting, some segments were added, some were  
10 modified, and some were deleted.<sup>12</sup>

11 **Q. Are property values and the impact on future/potential development factors**  
12 **considered by the Commission in a CCN proceeding under PURA**  
13 **§ 37.056(c)(4) or in 16 TAC § 25.101(b)(3)(B)?**

14 A. No. PURA and the Commission's rules do not list these two issues as factors that  
15 are to be considered by the Commission in a CCN proceeding.

16 **Q. Is there any route that received specific opposition from intervenors?**

17 A. Yes. In testimony, two intervenors opposed any route containing line segments B1,  
18 C, G, H, M, O, P, Q, R, and S. These line segments help comprise parts of  
19 Proposed Routes 3, 4, 5, 6, 7, 8, 9, and 10. In addition, both intervenors agreed  
20 with ETI on Settlement Route 2 as the preferred route.

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<sup>11</sup> Application Attachment 2 at pp. 2.1.7 and 6.0 (Environmental Assessment).

<sup>12</sup> Application Attachment 2 at pp. 2.1.7 (Environmental Assessment).

1   **Q.    What electronic installations are located within 10,000 feet or 2,000 feet of the**  
2       **centerline of the proposed transmission line?**

3    A.    There are no known commercial AM radio transmitters located within 10,000 feet  
4       of the centerline of any of the proposed transmission line routes. There are no FM  
5       or communication towers (cellular or other similar electronic installations) located  
6       within 2,000 feet of the centerline of any of the proposed alternative transmission  
7       line routes.

8   **Q.    What private airstrips, airports registered with the Federal Aviation**  
9       **Administration, or heliports are located within 10,000 feet, 20,000 feet, or**  
10      **5,000 feet of the centerline of the transmission line?**

11   A.    There are no private airstrips located within 10,000 feet of the centerline of the  
12       Settlement Route 2. There are no Federal Aviation Administration registered  
13       airports within 20,000 feet of the centerline of the Settlement Route 2. There are  
14       no heliports within 5,000 feet of the centerline of the Settlement Route 2.

15   **C.    RECREATIONAL AND PARK AREAS**

16   **Q.    Are any parks or recreational areas located within 1,000 feet of the centerline**  
17      **of any of the alternative routes?**

18   A.    There are no parks or recreational areas located within 1,000 feet of the centerline  
19       of the proposed alternative routes as listed in the route data provided by Power  
20       Engineers.<sup>13</sup>

21   **D.    HISTORICAL VALUES**

22   **Q.    Are there possible impacts from the proposed project on archeological and**

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<sup>13</sup> Application at 24.

1        **historical values, including known cultural resources crossed by any of the**  
2        **alternative routes or that are located within 1,000 feet of the centerline of any**  
3        **of the alternative routes?**

4        A.     Settlement Route 2 has two recorded archaeological sites within 1,000 feet of the  
5        centerline. Both sites are prehistoric in age and have been determined ineligible  
6        for listing on the National Register of Historic Places.<sup>14</sup> There are no cemeteries  
7        within 1,000 feet of all the route centerlines. If any further archeological or  
8        cultural resources are found during construction of the proposed transmission line,  
9        ETI should immediately cease work in the vicinity of the archeological or cultural  
10       resources and should immediately notify the Texas Historical Commission.

11       **E.     AESTHETIC VALUES**

12       **Q.     In your opinion, which of the proposed alternative routes would result in a**  
13       **negative impact on aesthetic values, and which portions of the study area will**  
14       **be affected?**

15       A.     In my opinion, all of the proposed alternative routes would result in a negative  
16       impact on aesthetic values, some routes more than others, depending on the  
17       visibility from homes and public roadways. Temporary effects would include  
18       views of the actual transmission line construction (*e.g.* assembly and erection of  
19       the structures) and of any clearing of rights-of-way. Permanent effects would  
20       involve the visibility of the structures and the lines. I therefore conclude that  
21       aesthetic values would be impacted throughout the study area, and that these

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<sup>14</sup> *Id.*

temporary and permanent negative aesthetic effects will occur on any route approved by the Commission.

**F. ENVIRONMENTAL INTEGRITY**

**Q. Please provide a general description of the area traversed by the proposed routes.**

A. The study area is located within the Coastal Prairies sub-provinces of the Gulf Coastal Plains Physiographic Region of Texas. This region extends inland from The Texas Gulf Coast. It is characterized by young deltaic sand, silts, and clays creating a nearly flat grassland area. The area's elevation ranges from 50 feet above mean sea level to approximately 110 feet above mean sea level near the northern portion of the study area.<sup>15</sup>

**Q. Did TPWD express any specific concerns with the proposed project?**

A. In its letter filed August 30, 2019, the Texas Parks and Wildlife Department (TPWD) stated that Route 3 is TPWD's recommended route. However, TPWD did not oppose Route 2. As stated previously in my testimony, the difference between Settlement Route 2 and the original Route 2 is very minor. Neither route contains line segments opposed by TPWD.

**Q. Do you conclude that Settlement Route 2 is acceptable from an environmental and land use perspective?**

A. Yes.

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<sup>15</sup> Application Attachment 2, Environmental Assessment at pg. 33.



1 **G. ENGINEERING CONSTRAINTS**

2 **Q. Are there any special circumstances for this project that would warrant an**  
 3 **extension beyond the seven-year approval limit for the energization of the**  
 4 **line?**

5 A. No, ETI has not described any special circumstances that would merit an extension  
 6 of the standard seven-year CCN time limit.

7 **Q. Are there any possible engineering constraints associated with this project?**

8 A. There are no specific engineering constraints that are not present in any  
 9 transmission line project. In my opinion, all of the possible constraints can be  
 10 adequately addressed by using design and construction practices/techniques that  
 11 are usual and customary in the electric utility industry.

12 **H. COSTS**

13 **Q. What are ETI's estimated costs of constructing the proposed project on each**  
 14 **of the proposed alternative routes?**

15 A. Attachment 1 to the application specifies ETI's estimated cost of constructing each  
 16 recommended route plus the substation preparation work to accommodate the line  
 17 connection. The table below shows ETI's estimated cost of the proposed project  
 18 from the least expensive route to the most expensive route:

<u>Route</u>	<u>Estimated Cost</u>
3	\$57,346,349.00
<b>2</b>	<b>\$57,373,961.00</b>
<b>Settlement 2</b>	<b>\$57,441,059.00</b>
10	\$57,452,344.00
1	\$57,699,698.00
9	\$58,411,999.00
7	\$59,183,055.00
6	\$59,284,732.00

8	\$59,696,007.00
5	\$60,203,209.00
4	\$60,683,034.00

1

2 As the table illustrates, Settlement Route 2 is approximately \$57,441,059,  
3 including the substation costs. That is \$67,098 more than the original Route 2, or  
4 an approximately 0.11% increase. Settlement Route 2 is the third least costly route  
5 of all the proposed alternative routes. The substation cost is approximately  
6 \$23,348,490 which is almost the same for every route.

7 **Q. Does ETI's estimated costs of constructing the proposed transmission line**  
8 **appear to be reasonable?**

9 A. After reviewing ETI's estimates, their costs are higher than what is typically seen  
10 on a per mile basis of transmission line but are not unreasonable. One possible  
11 explanation for these higher costs is that this project is in the North Houston Area,  
12 which is developing quickly, and real estate costs are much higher than in more  
13 rural areas. The reasonableness of the final installed cost of the entire project both  
14 transmission and substation will be determined at a future date in the course of a  
15 rate proceeding. Nonetheless, I think the project is needed to accommodate the  
16 load growth in the area.

17 **Q. Could you briefly discuss the less expensive routes and why Settlement Route**  
18 **2 is still Staff's recommendation?**

19 A. Yes. Route 3 is the least expensive route followed by Route 2. Settlement Route 2  
20 is the third least expensive route. The difference in cost between Route 3 and  
21 Settlement Route 2 is only \$94,710, or approximately 0.17%. However, Route 3  
22 has 6 habitable structures within 300 feet of the centerline while Settlement Route

1 2 has no habitable structures within 300 feet of the centerline.<sup>16</sup> Settlement Route  
2 2 is the fourth shortest and Route 3 is fifth shortest. Further, Route 3 contains  
3 three-line segments that are opposed by one of the intervenors, Eastgate Alliance  
4 as outlined in the direct testimony of Carl “Allen” and Heather Lott.<sup>17</sup>

5 **I. MODERATION OF IMPACT ON THE AFFECTED COMMUNITY AND**  
6 **LANDOWNERS**

7 **Q. Do the Commission’s rules address routing alternatives intended to moderate**  
8 **the impact on landowners?**

9 A. Yes. 16 TAC § 25.101(b)(3)(B) provides that “the line shall be routed to the  
10 extent reasonable to moderate the impact on the affected community and  
11 landowners unless grid reliability and security dictate otherwise.”

12 **Q. Subsequent to filing their application, has ETI made or proposed any routing**  
13 **adjustments to accommodate landowners?**

14 A. Yes.

15 **Q. Has ETI proposed any specific means by which they will moderate the impact**  
16 **of the proposed project on landowners or the affected community other than**  
17 **adherence to the Commission’s orders, the use of good utility practices,**  
18 **acquisition of and adherence to the terms of all required permits, and what**  
19 **you have discussed above?**

20 A. Not to my knowledge.

---

<sup>16</sup> Application at 22.

<sup>17</sup> Direct Testimony of Carl “Allen” and Heather Lott at 12.

1     **J.     RIGHTS-OF-WAY**

2     **Q.     Do the Commission's rules address routing along existing corridors?**

3     A.     Yes. 16 TAC § 25.101(b)(3)(B) provides that the following factors are to be  
4           considered:

5           (i)     whether the routes parallel or utilize existing compatible rights-of-way for  
6                   electric facilities, including the use of vacant positions on existing  
7                   multiple-circuit transmission lines;

8           (ii)    whether the routes parallel or utilize existing compatible rights-of-way,  
9                   including roads, highways, railroads, or telephone utility rights-of-way;

10          (iii)   whether the routes parallel property lines or other natural or cultural  
11                  features; and

12          (iv)    whether the routes conform with the policy of prudent avoidance.

13    **1.     USE AND PARALLELING OF EXISTING, COMPATIBLE RIGHTS-OF-**  
14           **WAY.**

15    **Q.     Describe how ETI proposes to use existing compatible rights-of-way for the**  
16           **proposed project.**

17    A.     Each proposed alternative route parallels apparent property boundaries and  
18           existing compatible rights-of-way. The percentage of Settlement Route 2's length  
19           that parallels existing compatible rights-of-way is approximately 32%. The table  
20           below summarizes the length, length parallel to either a compatible right-of-way or  
21           to a property boundary, and the total percentage of parallel right-of-way used by  
22           each proposed alternative route.

23

1

<u>Route</u>	<u>Length (Miles)</u>	<u>Length Parallel to ROW (Miles)</u>	<u>Percentage</u>
7	10.04	3.89	39%
<b>2</b>	<b>8.90</b>	<b>2.88</b>	<b>32%</b>
9	9.47	2.76	30%
8	10.53	2.61	25%
3	9.40	1.60	17%
6	8.43	1.01	12%
7	11.57	1.10	10%
4	11.65	0.83	7%
10	7.73	0	0%
1	7.95	0	0%

2

3

4 **Q. Could you briefly explain why the route with better right-of-way paralleling**  
5 **was not selected?**

6 A. Yes. Route 7 performs best with regard to paralleling right of way. However,  
7 Route 7 has 23 habitable structures within 300 feet of the centerline and Settlement  
8 Route 2 has none. In addition, the cost of Route 7 is \$59,183,055 while the cost of  
9 Settlement Route 2, the preferred route is \$57,441,059, a difference in cost of  
10 \$1,741,996.

11 **2. PARALLELING OF NATURAL OR CULTURAL FEATURES**

12 **Q. Describe how ETI proposes to parallel natural or cultural features for the**  
13 **proposed project.**

14 A. The only natural features identified in the EA that will be paralleled are streams.<sup>18</sup>

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<sup>18</sup> Application Attachment 2 Table 4-1.

In general, paralleling of streams can be undesirable from an environmental perspective, thus paralleling of that feature has not been included in my assessment of compatible paralleling.

**K. PRUDENT AVOIDANCE**

**Q. Define prudent avoidance.**

A. Prudent avoidance is defined by 16 TAC § 25.101(a)(6) as follows: “The limiting of exposures to electric and magnetic fields that can be avoided with reasonable investments of money and effort.”

**Q. How can exposure to electric and magnetic fields be limited when routing transmission lines?**

A. Primarily by proposing alternative routes that would minimize, to the extent reasonable, the number of habitable structures located in close proximity to the routes. Settlement Route 2 has no habitable structures within 300 feet of the centerline.

**Q. How many habitable structures are located in close proximity to each of the proposed alternative routes?**

A. The table below ranks the number of habitable structures that are within 300 feet of the centerline of each of the proposed alternative routes:

<u>Route</u>	<u>Number of Habitable Structures</u>
1	0
<b>Settlement 2</b>	<b>0</b>
10	5
5	5

9	5
3	6
4	6
6	23
7	23
8	29

1

2 Settlement Route 2 and Route 1 have no habitable structures that are within 300  
3 feet of the centerline, which makes them the lowest number in that criterion.

4 **Q. Do you conclude that ETI proposed alternative routes that minimized, to the**  
5 **extent reasonable, the number of habitable structures located in close**  
6 **proximity to the routes?**

7 A. Yes.

8

## 9 **VI. CONCLUSION**

10 **Q. In your opinion, is any one of the proposed alternative routes better than all**  
11 **of the other routes in all respects?**

12 A. No.

13 **Q. If no proposed alternative route is better than all of the others in all respects,**  
14 **why have you recommended Settlement Route 2 instead of one of the other**  
15 **routes?**

16 A. In summary, after analyzing all the factors that the Commission must consider  
17 under PURA § 37.056 and 16 TAC § 25.101, I conclude that Settlement Route 2  
18 best meets the criteria of PURA and the Commission's rules because:

19       ▪ Settlement Route 2 is the fourth shortest of all the routes at 8.9  
20 miles long.

- 1                   ▪ Settlement Route 2 has the second greatest length (32%) of route  
2                   that is parallel to other existing compatible ROW at 2.88 miles,  
3                   which makes it the 2<sup>nd</sup> highest.
- 4                   ▪ Settlement Route 2 costs \$57,441,059.00, which is the third least  
5                   costly of the 11 proposed routes.
- 6                   ▪ Settlement Route 2 contains no habitable structures within 300 feet  
7                   of its centerline.
- 8                   ▪ Settlement Route 2 is acceptable from the aspect of community  
9                   values, recreational and park areas, historical and aesthetic values,  
10                  and environmental integrity.

11           I consider Settlement Route 2 to have the most advantages and to be superior to  
12           the other proposed alternative routes.

13   **Q.   In your opinion, if the Commission considered the criteria of PURA and the**  
14           **Commission's rules in a way that favored any of the other proposed**  
15           **alternative routes over Settlement Route 2, do you believe those other**  
16           **proposed alternative routes are viable?**

17   A.   Yes.

18   **Q.   Does this conclude your testimony?**

19   A.   Yes.





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August 22, 2019

Ms. Karen Hubbard  
Public Utility Commission  
P.O. Box 13326  
Austin, TX 78711-3326

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RE: PUC Docket No. 49715: Application of Entergy Texas, Inc. to Amend their Certificate of Convenience and Necessity for the Proposed Timberland 230-kilovolt Transmission Line Project in Liberty and Harris Counties, Texas

Dear Ms. Hubbard:

Texas Parks and Wildlife Department (TPWD) has received the Environmental Assessment and Alternative Routes Analysis (EA) regarding the above-referenced proposed transmission line project. TPWD offers the following comments concerning this project.

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife (TPW) Code, Section 12.0011. For tracking purposes, please refer to TPWD project number 42214 in any return correspondence regarding this project.

**Project Description**

Entergy Texas, Inc. (ETI) proposes to construct a new double-circuit 230-kilovolt(kV) electric transmission line in Harris and Liberty counties. The proposed project will consist of a new substation and a new transmission line.

The goal of the proposed Timberland 230-kV electric transmission line is to connect ETI's existing Line-822 (China to Heights) 230-kV transmission line to the proposed Timberland Substation. This transmission line will extend the existing China to Heights 230-kV transmission line, in the vicinity of Eastgate and Luce Bayou, and connect to the Timberland Substation. The new transmission line will be approximately 7.7 to 11.6 miles in length and will be supported by concrete or steel single-pole structures within a 125-foot wide right-of-way (ROW).

ETI retained POWER Engineers Inc. (POWER) to prepare an Environmental Assessment and Alternative Route Analysis (EA). The EA will support ETI's application for Certificate of Convenience and Necessity (CCN) for this project.

### **Previous Coordination**

TPWD provided information and recommendations regarding the preliminary study area for this project to POWER on July 17, 2018. This letter is included in Appendix A of the EA.

**Recommendation:** Please review the TPWD correspondence in Appendix A and consider the recommendations provided, as they remain applicable to the project as proposed.

### **Proposed Alternative Routes**

#### *ETI's Recommended Route*

ETI and POWER developed 23 primary alternative segments. Using these primary alternative segments, 10 primary alternative routes were identified with each primary alternative segment incorporated in at least one route. All primary alternative routes were carried forward to be analyzed in the EA. POWER conducted a preliminary route analysis. The consensus opinion of the POWER evaluators was that alternative Route 1 best meets the requirements of the Texas Utilities Code and the Public Utility Commission of Texas's (PUC) Substantive Rules.

#### Route 1:

- Is the second shortest route, at 7.95 miles;
- has zero habitable structures within 300 feet of its centerline;
- has the greatest length of route parallel to pipeline ROW, at 6.62 miles (83 percent of its length);
- has no length across cropland;
- has only one Interstate, US Highway (US Hwy), or State Highway (SH) crossing;
- has no length across open water;
- has the shortest length parallel within 100 feet to natural streams or rivers, at 0.0 mile;
- is tied with two other routes with the third shortest length across Federal Emergency Management Agency (FEMA) 100-year floodplains, at 0.64 mile;
- has no recorded historic or prehistoric sites crossed or within 1,000 feet of a route;
- does not cross or lie within 1,000 feet of a park or recreation area;
- has no length of route across land irrigated by traveling systems;

- does not cross any gravel pits, mines, or quarries;
- has no electric transmission line crossings;
- has no Farm to Market (FM) road or Ranch to Market (RM) road crossings;
- has no cemeteries within 1,000 feet of the route;
- has no private airstrips within 10,000 feet of the route centerline;
- has no heliports within 5,000 feet of the route centerline;
- is not within 20,000 feet of a public use airport having a runway greater than 3,200 feet;
- is not within 10,000 feet of a public use airport having a runway less than 3,200 feet;
- has no commercial AM radio transmitters within 10,000 feet of the route;
- has no FM radio transmitters, microwave towers, etc., within 2,000 feet of the route;
- has no existing water wells within 200 feet of the route;
- has no oil and gas wells within 200 feet of the route;
- has no estimated length of route within foreground visual zone of US Hwys or SH;
- has no estimated length of route within foreground visual zone of FM/RM roads;
- has no estimated length of route within foreground visual zone of parks/recreational areas;
- crosses no known habitat of federally endangered or threatened species; and
- does not cross or lie within 1,000 feet of any sites listed or eligible for listing on the National Register of Historic Places.

ETI performed an additional route analysis considering other factors, including engineering and construction constraints, and estimated costs. ETI concluded after reviewing the results of POWER's evaluation that alternative Route 2 best addresses the requirements of the PURA and PUC Substantive Rules.

**Comment:** In comparison to the route recommended by TPWD, Route 2 has over twice the length of route through bottomland/riparian woodlands (2.79 miles). Route 2 also has among the highest acreage of impact to both National Wetland Inventory (NWI) mapped forested or scrub/shrub wetlands (23.46 acres) and NWI mapped emergent wetlands (3.24 acres).

TPWD notes that none of the proposed route alternatives cross or lie within 1,000 feet of a park or recreation area, have length of route within foreground visual zone of parks/recreational areas, or cross known habitat of federally

endangered or threatened species. These are named in Section 7.2 of the EA as benefits of Route 2 but are true of all the routes considered.

*TPWD's Recommended Route*

To evaluate the potential impacts to fish and wildlife resources, 20 criteria from Table 2-2 in the EA were used. The criteria TPWD used to evaluate potential impacts to fish and wildlife resources include:

- Length of alternative route
- Length of route utilizing existing electric transmission line ROW
- Length of route parallel to existing electric transmission line ROW
- Length of route parallel to existing transmission line ROW
- Length of route parallel to existing pipeline ROW
- Length of route paralleling apparent property lines (or other natural or cultural features)
- Length of route parallel to other existing compatible ROWs (roadway, etc.)
- Length of route parallel to existing pipeline ROW

---

- Length of route across parks/recreational areas
- Number of additional parks/recreational areas within 1,000 feet of the route centerline
- Estimated length of route within foreground visual zone of park and recreational areas
- Length of route across pasture/rangeland
- Length of route across upland forest
- Length of route across bottomland/riparian woodlands
- Length of route across NWI mapped forested or scrub/shrub wetlands
- Length of route across NWI mapped emergent wetlands
- Length of route across known habitat of federal endangered/threatened species of plants or animals
- Length of route across open water (lakes or ponds)
- Number of stream/river/canal crossings
- Length of route parallel (within 100 feet) to natural streams, rivers, or canals

TPWD typically recommends that transmission line routes be located adjacent to previously disturbed areas such as existing utility or transportation ROWs and discourages fragmenting habitat or locating in areas that could directly negatively impact wildlife, including listed species. After careful evaluation of the 10 routes filed with the CCN application, TPWD selected Route 3 as the route having the

least potential to impact fish and wildlife resources. The decision to recommend Route 3 was based primarily on the following factors:

- Follows the second-greatest length of property lines (or other natural or cultural features), at 3.78 miles.
- Has the shortest length across bottomland/riparian woodlands (1.21 miles).
- Has the lowest acres of impact to NWI mapped forested or scrub/shrub wetlands (6.75 acres).
- Has the lowest acres of impact to NWI mapped emergent wetlands (0.36 acre).
- Tied for the lowest number of stream/river/canal crossings (1).

The EA failed to provide sufficient information based on surveys (aerial or field), remote sensing, modeling, or other available analysis techniques to determine which route would best minimize impacts to important, rare, and protected species. Therefore, TPWD's routing recommendation is based solely on the natural resource information provided in the CCN application and the EA, as well as publicly available information examined in a Geographic Information System (GIS).

---

**Recommendation:** Of the 10 routes evaluated in the EA, Route 3 appears to be the route that causes the least adverse impacts to natural resources. Generally, TPWD's primary recommendation to the PUC is to select a route that minimizes the fragmentation of intact lands because such a route should have the least adverse impacts to natural resources. TPWD believes the State's long-term interests are best served when new utility lines and pipelines are sited where possible in or adjacent to existing utility corridors, roads, or rail lines instead of fragmenting intact lands. In this case, however, some segments that follow existing pipeline ROW, namely segments L1 and L2, would entail extensive clearing of both upland and bottomland/riparian woodlands. Such impacts to priority habitats, as defined in the Texas Conservation Action Plan (TCAP), cannot be recommended by TPWD. TPWD recommends the PUC select a route that avoids or minimizes impacts to bottomland/riparian woodlands and wetlands.

**Comment:** TPWD notes that Route 3 was selected as the highest-ranking route alternative by the POWER Ecology Specialist, as presented in Table 7-1 of the EA.

**Comment:** TPWD acknowledges that Route 3 has significant impacts to upland forest. However, the overall avoidance of bottomland/riparian

woodlands, wetlands, and stream crossings afforded by Route 3 leads TPWD to consider it the most acceptable alternative presented in the EA.

### **Construction Recommendations**

#### *General Construction Recommendations*

**Recommendation:** For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding rather than erosion control blankets or mats due to a reduced risk to wildlife. If erosion control blankets or mats will be used, the product should contain no netting or contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic mesh matting should be avoided.

---

**Recommendation:** If trenching or other excavation is involved in construction, TPWD recommends that contractors keep trenching/excavation and backfilling crews close together to minimize the amount of trenches/excavation areas left open at any given time during construction. TPWD recommends that any open trenches or excavation areas be covered overnight and/or inspected every morning to ensure no reptiles or other wildlife species have been trapped. Trenches left open for more than two daylight hours should be inspected for the presence of trapped wildlife prior to backfilling. If trenches/excavation areas cannot be backfilled the day of initial excavation, then escape ramps should be installed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface at an angle less than 45 degrees (1:1).

**Recommendation:** Inappropriately timed trimming and/or clearing can contribute to oak wilt, a disease that has killed over 1 million trees in Texas. Live oaks have intermediate susceptibility to oak wilt. TPWD advises against vegetation clearing between February 1 and June 15, which is the highest risk season for oak wilt. The use of a rotary mower along ROW borders leaves splintered, jagged cuts and adjacent vegetation communities become vulnerable to disease and infestations (e.g. oak wilt, oak decline). TPWD recommends hand-clearing within areas of native oaks.

**Recommendation:** During construction, operation, and maintenance of the proposed facility, TPWD recommends observing slow (25 miles per hour, or less) speed limits within the project site. Reduced speed limits would allow personnel to see wildlife in the vehicle path and avoid harming them.

*Federal Law: Migratory Bird Treaty Act*

The Migratory Bird Treaty Act (MBTA) prohibits direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species.

Section 4.1.9 of the EA states “If ROW clearing occurs during bird nesting seasons, potential impacts could occur within the ROW area related to potential takes of bird eggs and/or nestlings. Increases in noise and equipment activity levels during construction could also potentially disturb breeding or other activities of species nesting in areas immediately adjacent to the ROW. ETI proposes to ~~implement applicable avian protection guidelines recommended by USFWS and~~ construction activities compliant with the MBTA to avoid or minimize these potential impacts.”

**Recommendation:** TPWD recommends any PUC certificate preclude vegetation clearing activities during the general bird nesting season, March 15 through September 15, to avoid adverse impacts to birds. If clearing vegetation during the migratory bird nesting season is unavoidable, TPWD recommends ETI survey the proposed route for active nests (nests with eggs or young). TPWD recommends that a minimum 150-foot buffer of vegetation remain around any nests that are observed prior to disturbance and occupied nests and buffer vegetation not be disturbed until the eggs have hatched and the young have fledged.

Section 4.1.9 also states that electrocution hazards to birds would be low, because the distance between conductors or conductor and ground wire exceeds the wingspan of birds in the area. No details are presented regarding the electrocution hazards encountered by birds perching on project structures, nor the reduction of those hazards. The risk of birds colliding with powerlines is briefly discussed, and the EA acknowledges that “potential for wire strikes can be reduced by marking the lines with swan-flight diverters within areas of potential high avian use.” No commitments are made to utilize flight diverters.

**Recommendation:** TPWD recommends minimizing electrocution hazards to perching birds and marking lines in areas of high bird use to minimize collision risks. For additional information, please see the guidelines published by USFWS and the Avian Power Lines Interaction Committee (APLIC) in the updated guidance document *Reducing Avian Collisions with Power Lines: State of the Art in 2012*. This manual, released on December 20, 2012, identifies best practices and provides specific guidance to help electric utilities and cooperatives reduce bird collisions with power lines. A companion document, *Suggested Practices for Avian Protection on Power Lines*, was published by APLIC and the USFWS in 2006.

*State Law: Parks and Wildlife Code – Chapter 64, Birds*

TPW Code Section 64.002, regarding protection of nongame birds, provides that, “no person may . . . catch, kill, injure, pursue, or possess . . . a bird that is not a game bird.” TPW Code Section 64.003, regarding destroying nests or eggs, provides that, “[n]o person may destroy or take the nests, eggs, or, young and any wild game bird, wild bird, or wild fowl . . . .” TPW Code Chapter 64 does not allow for incidental take and, therefore, is more restrictive than the MBTA.

---

**Recommendation:** Please review the *Federal Law: Migratory Bird Treaty Act* section above for recommendations as they are also applicable for Chapter 64 of the TPW Code compliance.

*State Law: Aquatic Resources*

TPW Code Section 1.011 grants TPWD authority to regulate and conserve aquatic animal life of public waters. Title 31, Chapter 57, Subchapter B, Section 57.157 of the Texas Administrative Code (TAC) regulates take of mussels and clams, and Section 12.301 of the TPW Code identifies liability for wildlife taken in violation of TPW Code or a regulation adopted under TPW Code.

Intermittent streams and smaller perennial streams provide important habitat for fish by providing spawning and nursery habitat as well as providing invertebrate, detritus, and other organic matter to downstream food webs. Fish also serve as hosts for mussel larvae and are essential in completing the mussel life cycle. Because the waters of the project area may provide important fish habitat, avoiding impacts to stream habitat, fish, mussels, and other aquatic life during construction is encouraged.

Section 1.5.7 of the EA notes that a Stormwater Pollution Prevention Plan (SWPPP) may be required if project impacts exceed 1 acre and are less than 5



acres. No details are provided on what specific measures the SWPPP would include. Section 4.1.3 of the EA states that "ETI proposes to span all surface waters...where practical." Section 4.1.7 of the EA states that ETI "may opt to...span wetland areas where practical." Hand-clearing of woody vegetation in wetland and riparian areas may be implemented. No details are provided regarding the crossing of surface waters by equipment, dewatering, or similar activities.

**Recommendation:** To avoid or minimize potential adverse impacts to aquatic species, TPWD recommends implementing additional construction methodologies and best management practices (BMPs), including constructing stream crossings that do not obstruct flow and ensuring that permanent or temporary fills do not smother freshwater mussels.

**Recommendation:** To minimize disturbance to streams and to minimize impacts to aquatic life, TPWD recommends allowing personnel and equipment to enter streams only when essential to the work being done. If work would be conducted within riparian areas, only vegetation impeding construction should be removed, equipment should not be driven over vegetation when it is wet, and heavy machinery should not be stored on vegetative cover for long periods of time. Protective mats should be utilized during construction to reduce the amount of soil and root disturbance and aid in the recovery of plants. When gabion mattresses, walls, riprap or other bank stabilization devices are necessary, their placement should not impede the movement of aquatic and terrestrial wildlife within and along the stream. In some instances, the bank stabilization device can be back-filled with topsoil and planted with native vegetation. As an alternative, TPWD recommends considering biotechnical streambank stabilization methods using live native vegetation or a combination of vegetative and structural materials.

Dewatering, maintenance, and construction-related activities in rivers, creeks, streams, lakes, sloughs, reservoirs, bays, estuaries, stilling basins, and other flood control structures may negatively impact fish, shellfish, and other aquatic resources. TPWD is the state agency with primary responsibility for protecting the state's fish and wildlife resources. The TPW Code authorizes the department to investigate fish kills and any type of pollution that may cause loss of fish or wildlife resources, estimate the monetary value of lost resources, and seek restitution or restoration from the party responsible for the fish kill or pollution through suit in county or district court. The TAC requires the department to actively seek full restitution for and/or restoration of fish, wildlife, and habitat loss occurring as a result of human activities. The restitution value of lost resources can be significant, in particular for species classified as threatened or endangered.

Restitution for each individual of a threatened species is at least \$500 and for each individual of an endangered species is at least \$1,000. In addition, the TPW Code makes it a criminal offense to kill any fish or wildlife resources classified as threatened or endangered.

**Recommendation:** If dewatering, maintenance, or construction related activities within water resources are anticipated to occur, then TPWD recommends ETI coordinate with TPWD Kills and Spills Team (KAST) to develop a plan to avoid impacts to aquatic resources and, in some instances, relocate aquatic resources outside of the project area. The coordination process should include the development of a written Aquatic Resources Relocation Plan (ARRP) to control and limit the impacts of dewatering, maintenance, or construction related projects on aquatic resources. An ARRP for this project can be submitted to Ms. Colleen Roco at 281-534-0139 or Colleen.Roco@tpwd.texas.gov.

**Recommendation:** If construction occurs during times when water is present in streams and dewatering activities or other harmful construction activities are involved, then TPWD recommends relocating potentially impacted native aquatic resources in conjunction with the *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters* and an ARRP. The ARRP should be completed and approved by the department 30 days prior to dewatering and/or resource relocation and submitted with the application for a no-cost *Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters*. ETI must receive formal approval of the ARRP by TPWD prior to initiating dewatering, maintenance, or construction related activities.

**Recommendations:** TPWD recommends use of BMPs for riparian areas to minimize potential impacts to sensitive aquatic organisms. BMPs would include measures such as avoiding construction during spawning periods and use of double silt fences and doubling soil stabilization measures along the banks to avoid increasing the turbidity of the creek. If dewatering activities and other project-related activities cause mortality to fish and wildlife species, then the responsible party would be subject to investigation by the TPWD KAST and will be liable for the value of the lost resources under the authority of TPW Code Sections 12.0011 (b) (1) and 12.301.

*State Law: Parks and Wildlife Code, Section 68.015*

Section 68.015 of the TPW Code regulates state-listed species. Please note that there is no provision that allows for the capture, trapping, taking, or killing (incidental or otherwise) of state-listed species. *TPWD Guidelines for Protection*

*of State-Listed Species* includes a list of penalties for take of species and can be found on the Wildlife Habitat Assessment Program website. State-listed species may only be handled by persons with authorization obtained through TPWD. For more information on this permit, please contact the Wildlife Permits Office at (512) 389-4647.

Section 3.1.10 of the EA does acknowledge potential habitat for multiple state-listed species as occurring within the project area. No commitments are made in the EA to allow state-listed species to safely leave the project area, or for those species to be relocated by a permitted individual.

TPWD provides online access to state-listed species information through the TPWD Rare, Threatened, and Endangered Species of Texas by County (RTEST) application. This application provides county-level information regarding occurrence of protected species (federal- or state-listed threatened or endangered) and may be utilized to inform development project planning. The RTEST application underwent a major update in April 2019, and therefore the information utilized in preparation of the EA and presented therein is not current. Additionally, records of occurrence for these protected species are tracked within the Texas Natural Diversity Database (TXNDD) and are publicly available by request. In reviewing these data sources, aerial imagery, the EA, and spatial data provided by POWER, TPWD has determined the project area appears to provide suitable habitat for multiple state-listed species, such as the following species:

- Bachman's sparrow (*Peucaea aestivalis*, threatened)
- bald eagle (*Haliaeetus leucocephalus*, threatened)
- swallow-tailed kite (*Elanoides forficatus*, threatened)
- wood stork (*Mycteria americana*, threatened)
- Rafinesque's big-eared bat (*Corynorhinus rafinesquii*, threatened)
- alligator snapping turtle (*Macrochelys temminckii*, threatened)
- timber rattlesnake (*Crotalus horridus*, threatened)
- western creek chubsucker (*Erimyzon claviformis*, threatened)
- Louisiana pigtoe (*Pleurobema riddellii*, threatened)
- Texas heelsplitter (*Potamilus amphichaenus*, threatened)
- sandbank pocketbook (*Lampsilis satura*, threatened)

**Comment:** The selection of a route that minimizes impacts to intact habitats would minimize potential impacts to the above-listed species.

Birds

In Texas, the Bachman's sparrow is a permanent resident and occurs only in the eastern portion of the state. Within this area, this sparrow inhabits areas described as either open, mature pine forests with a grassy understory, regenerating pine clearcuts, or open grassy habitat. Bachman's sparrow is most abundant in forests managed for open longleaf pine savannah. The Bachman's sparrow prefers areas with a high density of herbaceous cover and a low density of mid- and overstory. Historically, the pineywoods portion of the southeastern U.S. had vast, mature, open pine forests and savannahs maintained by frequent fires. With the dramatic decline of the Bachman's sparrow's preferred forest type, it appears to be utilizing treeless, grassy areas such as abandoned fields or early successional forests.

The bald eagle is present year-round throughout Texas as spring and fall migrants, breeders, or winter residents. The bald eagle population in Texas is divided into two populations; breeding birds and nonbreeding or wintering birds. Breeding populations occur primarily in the eastern half of the state and along coastal counties from Rockport to Houston. Nonbreeding or wintering populations are ~~located primarily in the Panhandle, Central, and East Texas, and in other areas of~~ suitable habitat throughout the state. This species is typically found near rivers and large lakes, perching on tall trees that allow a wide view. Bald eagles are opportunistic predators. The bald eagle feeds primarily on fish, but also eats a variety of waterfowl and other birds, small mammals, and turtles, when these foods are readily available. Carrion is also common in the diet, particularly in younger birds. In Texas, bald eagles nest from October to July. The young generally fledge in 11 to 12 weeks, but the adults continue to feed them for another 4 to 6 weeks while they learn to hunt. When they are on their own, young bald eagles migrate northward out of Texas, returning by September or October.

Swallow-tailed kites breed in swamps, lowland forests, and marshes of the southeastern U.S.; historically, the U.S. breeding range covered at least 16 states, but it is now restricted to 7 states. They require tall trees for nesting and open areas full of small prey to feed their nestlings. Swallow-tailed kites build their nests in open woodlands or stands of trees, usually in an exposed site near the top of one of the tallest trees. They generally build a new nest each year, though they may occupy and refurbish an old nest early in the season before abandoning it. Nesting and foraging habitat includes slash pine wetlands, edges of pine forest, cypress swamps, wet prairies, freshwater and brackish marshes, hardwood hammocks, and mangrove forests. Swallow-tailed kites often roost communally near nests, and right before migration hundreds of kites may roost together.

The wood stork is associated with various habitats featuring shallow, standing water, such as prairie ponds, ditches, mudflats, flooded fields, and natural wetlands. This species will utilize both freshwater and saltwater systems, located in either open or forested areas. The wood stork roosts communally in snags, sometimes in association with other species of wading birds (e.g., herons).

**Recommendation:** TPWD recommends avoiding disturbance to habitats required by the above-listed birds. If disturbance of these habitats is anticipated, ETI should coordinate with TPWD to determine avoidance, minimization, and mitigation strategies.

Wood storks are sometimes found nesting communally with other species, such as herons or egrets. In general, nesting dates for herons and egrets range from early February to late August in Texas, depending on the species. Great Blue Herons (GBHE) are usually the first to nest. If nesting GBHE are disrupted and abandon nesting, other species of wading birds may not attempt to nest at the rookery that year. Nesting dates for Texas species within rookeries can be found in *Nuisance Heronries in Texas*, available at the TPWD Nuisance Wildlife in Texas webpage.

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**Recommendation:** If rookeries are encountered, TPWD recommends avoiding and minimizing disturbance during nesting. TPWD recommends a primary buffer area of 300 meters (984 feet) from the rookery periphery to avoid any vegetation clearing as a protection measure to protect the rookery species and their habitat. Transmission line construction and permanent easements that would encroach within this buffer area should be re-routed, adjusted, or narrowed to avoid clearing within this buffer area. Utilizing areas that have already been cleared within this buffer area may be acceptable depending on site-specific characteristics. Additionally, human foot traffic or machinery use should not occur within this buffer area during the nesting season.

TPWD recommends a secondary buffer area of 1000 meters (3281 feet) from the rookery periphery to avoid clearing activities or construction using heavy machinery during the breeding season (courting and nesting). If rookeries are identified in the project area and details regarding the rookeries are provided, TPWD staff can discuss the ability to feasibly meet the recommended setback distances. Details to aid in decision making includes the size of the rookery (number of nests and area of rookery), species utilizing the rookery, distance of rookery periphery from the construction area, and characteristics regarding the habitat within and surrounding the rookery.

**Recommendation:** Please refer to the *Federal Law: Migratory Bird Treaty Act* section above, and within TPWD's prior project correspondence (July 2018) in Appendix A of the EA, as the previously mentioned recommendations to avoid and minimize impacts to migratory birds and federally-listed birds are applicable in avoiding and minimizing impacts to state-listed birds as well.

### Mammals

The Rafinesque's big-eared bat is a cavity roosting bat species that is also known to utilize buildings and other infrastructure, like culverts, water wells, and bridges. Another important component of suitable habitat for the bats is a source of fresh drinking water, such as lakes, ponds, or streams. Rafinesque's big-eared bat is a non-migratory species and remains active nearly year-round in the southern part of its range. Within areas of suitable habitat, this species will segregate into bachelor and maternity colonies. Maternity colonies are established in late spring, and normally disband by October.

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Adverse impacts, such as habitat loss, to bats are being compounded due to a deadly disease known as white-nose syndrome (WNS). This disease is associated with the fungus, *Pseudogymnoascus destructans*, which appears to impact certain species of hibernating bats and frequently results in death of the infected bats. This fungus has wiped out entire colonies of hibernating bats in states east of Texas. As of May 2019, the fungus that causes WNS has been detected in 22 Texas Counties. Bats appear to spread WNS among colonies and roosts; however, there is evidence that humans can transport the fungus on their shoes, gear, and clothing after entering infected bat caves and roosts. TPWD is concerned that WNS could be spread by personnel or consultants working on development projects in states where WNS has been detected, and then inadvertently bring the fungus to Texas on gear or clothing that has not been properly decontaminated.

To determine the appropriate BMP to avoid or minimize impacts to bats, review the habitat descriptions for the Rafinesque's big-eared bat on the TPWD county list or other trusted resources. All bat surveys and other activities that include direct contact with bats shall comply with TPWD-recommended WNS protocols located on the TPWD Wildlife Habitat Assessment Program website under "Project Design and Construction."

The following survey and exclusion protocols should be followed prior to commencement of construction activities. For the purposes of this letter, structures are defined as bridges, culverts (concrete or metal), wells, and buildings. For activities that have the potential to impact structures, cliffs or

caves, or trees; a qualified biologist should perform a habitat assessment and occupancy survey of the feature(s) with roost potential as early in the planning process as possible or within one year before construction is scheduled to begin.

**Recommendation:** TPWD recommends surveying the PUC-selected route for potential bat habitat. Surveys should be conducted by a qualified biologist to determine roost site potential and occupancy. Bat surveys of structures/features should include visual inspections for the presence of bats. If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction. For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.

**Recommendation:** TPWD recommends avoiding disturbance of roost sites that may provide habitat for Rafinesque's big-eared bat. Where suitable roosts occur, ~~TPWD recommends any necessary clearing occur outside of the young-rearing period of approximately May – October.~~ Young bats cannot fly (nonvolant) for three weeks after parturition; thus, young bats are unable to escape and avoid habitat or roost impacts, such as those caused by the clearing of roost trees.

**Recommendation:** For exclusion of bats, TPWD recommends locating and sealing the entrances through which bats make ingress/egress. Before excluding bats from any occupied structure/feature, bat species, weather, temperature, season, and geographic location must be incorporated into any exclusion plans to avoid unnecessary harm or death to bats. Winter exclusion must entail a survey to confirm either, 1) bats are absent or 2) present but active (i.e. continuously active – not intermittently active due to arousals from hibernation). Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, install alternate roosts to mitigate for the loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area.

Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are above 50 degrees Fahrenheit and minimum daytime temperatures are above 70 degrees

Fahrenheit. TPWD offers the following best-practices regarding bat exclusion devices and activities:

- Avoid using materials that degrade quickly, like paper, steel wool or rags, to close holes.
- Avoid using products or making structural modifications that may block natural ventilation, like hanging plastic sheeting over an active roost entrance, thereby altering roost microclimate.
- Avoid using chemical and ultrasonic repellents.
- Avoid use of silicone, polyurethane or similar non-water-based caulk products.
- Avoid use of expandable foam products at occupied sites.
- Avoid the use of flexible netting attached with duct tape.
- In order to avoid entombing bats, exclusion activities should be only implemented by a qualified individual. A qualified individual or company should possess at least the following minimum qualifications:
  - Experience in bat exclusion (the individual, not just the company).
  - Proof of rabies pre-exposure vaccinations.
  - Demonstrated knowledge of the relevant bat species, including maternity season date range and habitat requirements.
  - Demonstrated knowledge of rabies and histoplasmosis in relation to bat roosts.
- Contact TPWD for additional resources and information to assist in executing successful bat exclusions that will avoid unnecessary harm or death in bats.

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### Reptiles

The alligator snapping turtle is the largest freshwater turtle in North America and inhabits both lentic and lotic systems within the southeastern United States. Perennial water is required by the alligator snapping turtle and this species is most often found within the deep-water portions of rivers, canals, oxbows, and swamps. This species prefers muddy substrates with sufficient vegetation. Individual turtles are known to make movements of several river-miles. Nesting occurs in the spring, when female turtles will lay a single clutch of eggs on dry land not far from a water source. Nest sites typically include river berms, high banks, and artificial spoil mounds. Hatchling turtles emerge in the late summer.



While alligator snapping turtles can coexist with some degree of channel modification, negative effects of these activities include the removal of important habitat features (e.g., large woody debris), alteration of hydrology, and/or disruption of nesting sites.

**Recommendation:** TPWD recommends ETI and its contractors be aware that alligator snapping turtles or common snapping turtles, which are of similar appearance, may be encountered near water resources when they go on land to lay eggs.

**Recommendation:** TPWD recommends avoiding disturbance of the waterways within the study area that may be inhabited by the alligator snapping turtle. TPWD recommends ETI inform employees and contractors of the potential for the alligator snapping turtle to occur in or near waterbodies within the project area and to avoid harming this species if encountered.

Timber rattlesnakes utilize a variety of habitats which include swamps, floodplains, lowland forests, upland pine and deciduous woodlands, riparian areas, thickets, and abandoned farmland. Timber rattlesnakes prefer areas with dense groundcover by vegetation such as woody vines or palmetto. Tree stumps, logs and branches, and limestone bluffs are important habitat features, as these structures provide important refugia for the timber rattlesnake. More open habitat types, such as ROW edge, may be utilized by timber rattlesnakes for basking, or traversed by snakes moving from one habitat patch to another.

**Recommendation:** Because snakes are generally perceived as a threat and killed when encountered during clearing or construction, TPWD recommends ETI inform employees and contractors of the potential for the state-listed threatened Texas scarlet snake and timber rattlesnake to occur in the project area. Contractors should be advised to avoid impacts to snakes. Injury to humans usually occurs when the snake becomes agitated following harassment or when someone attempts to handle a recently dead venomous snake that retains its bite reflex. Therefore, contractors should avoid contact with snakes if encountered and allow all native snakes to safely leave the project area.

**Recommendation:** A mixture of cover, food sources, and open ground is important to wildlife. TPWD recommends revegetating disturbed areas within suitable habitat with site-specific native, patchy vegetation rather than sod-forming grasses.

Fish and Mussels

The western creek chubsucker occurs within Eastern Texas streams, from the Red River to the San Jacinto drainage. Habitat includes silt-, sand-, and gravel-bottomed pools of clear headwaters, creeks, and small rivers and is often associated with vegetation. This species may occasionally be found in lakes. Spawning occurs in river mouths or pools, riffles, lake outlets, or upstream creeks.

Freshwater mussels are one of the most imperiled groups of animals in the U.S. Texas hosts more than 50 species of native freshwater mussels; fourteen freshwater mussel species are listed as threatened in Texas. Populations of these invertebrates have declined precipitously across North America. Most species are very sensitive to disturbance due to their sedentary lifestyle and dependence upon good water quality. Habitat alteration and loss, illegal and over-harvesting, and competition from introduced species are some of the factors in their decline.

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**Recommendation:** TPWD recommends use of BMPs for riparian areas to minimize impacts on mussels and western creek chubsucker (as well as all fish species which may serve as the mussels' larval host). BMPs should include measures such as spanning water features, avoiding construction during fish and mussel spawning periods, and use of double silt fences and doubling soil stabilization measures along the banks to avoid increasing the turbidity of the creek. If mussel populations are present within the limits of the proposed project area, those populations should be protected from disturbance to the greatest extent possible. TPWD recommends review and implementation of strategies discussed in the above *State Law: Aquatic Resources* section and prior TPWD project correspondence (July 2018) in Appendix A of the EA regarding aquatic resources and Clean Water Act compliance.

**Recommendation:** TPWD recommends ETI survey the approved route to determine the potential of the site to support the aforementioned state-listed species or their habitat. Surveying the route prior to construction will provide an opportunity to adequately plan to avoid or minimize impacts to state-listed species. Please be aware that species not occurring during site surveys may utilize the habitat within the project area at times beyond those during which the survey was conducted, such as daily or seasonal activity cycles.

**Recommendation:** TPWD recommends avoiding disturbance to state-listed species during clearing, construction, operation, and maintenance of the proposed transmission line and associated ROW. TPWD recommends a biological monitor be present during construction to assist in detecting state-

listed species in the ROW, especially in areas of suitable habitat including riparian woodlands, bottomland forest, and upland forest. For purposes of relocation, surveys, monitoring, and research, terrestrial state-listed species may only be handled by persons permitted through the TPWD Wildlife Permits Office.

Section 4.1.10 of the EA states "The construction of a transmission line does not include activities associated with collecting, hooking, hunting, netting, shooting, or snaring by any means or device and does not include an attempt to conduct such activities. Therefore, "take" of state-listed species as defined in Section 68.015 of the Texas Parks and Wildlife Code, is not anticipated by this Project."

**Recommendation:** The definition of take cited within the EA is provided in Section 1.101(5) of the TPW Code, not Section 68.015 of the TPW Code. Please note that Section 68.015 of the TPW Code identifies other prohibited acts regarding state-listed fish or wildlife. Section 68.015 of the TPW Code prohibits capture, trap, take, or kill, or attempts to capture, trap, take or kill of state-listed fish or wildlife; thus, activities associated with the project that trap or kill a state-listed species may be in violation of state law. There is no provision for the capture, trap, take, or kill (incidental or otherwise) of state-listed species. TPWD recommends POWER and ETI review the *TPWD Guidelines for Protection of State-Listed Species*, which can be found on the TPWD website.

#### *Species of Concern/Special Features*

In addition to state and federally-protected species, TPWD tracks special features, natural communities, and rare species that are not listed as threatened or endangered but are considered to be SGCN. TPWD actively promotes their conservation and considers it important to evaluate and, if necessary, minimize impacts to rare species and their habitat to reduce the likelihood of endangerment and preclude the need to list. These species and communities are tracked in the TXNDD.

**Recommendation:** Please review the TPWD county list of rare and protected species for Liberty and Harris Counties because species in addition to those discussed in this letter could be present within the project area depending upon habitat availability. **Please note that the TPWD county list was updated in April and July 2019. Please review the updated county list for this and all other proposed projects moving forward.** The USFWS should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally-listed species.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence. If encountered during construction, measures should be taken to avoid impacting all wildlife, regardless of listing status.

### *Vegetation*

The study area is located within the ecotone of the Western Gulf Coastal Plain region (also known as the Pineywoods) and the Gulf Coast Prairies and Marshes region. The TCAP identifies several priority habitats for these regions, some of which could be impacted by the project. Examples are pine-hardwood flatwoods, wet hardwood flatwoods, and fringe forest and woodland. These habitats are deemed a conservation priority because of their productivity, ecosystem services, and/or rarity on the landscape. Conservation of these priority habitats is necessary to facilitate sustaining and improving wildlife species' populations, thereby preventing the need to list species as threatened or endangered.

The EA presents no discussion or environmental commitments regarding revegetation practices or mitigation for impacts to these high-value habitats.

**Recommendation:** TPWD recommends ETI reduce the amount of vegetation proposed for clearing and minimize clearing of native vegetation, particularly mature native trees, riparian vegetation, and shrubs to the greatest extent practicable. TPWD also recommends ETI prepare a site reclamation plan if one has not been prepared to date. Due to the extensive vegetation and wildlife habitat impacts associated with the proposed project, TPWD recommends off-site mitigation for removed trees. For losses determined to be unavoidable, TPWD recommends a 1:1 acreage replacement of high-quality habitat lost or a replacement ratio of three trees for every mature tree lost. For trees in the project area determined to be old timber (100+ years and/or with a diameter breast height >25 inches) the value of each tree should be estimated using current insurance schedules or replaced at a ratio of 10 trees for each tree lost. A three to five-year maintenance plan that ensures an 85 percent survival rate should be developed for the replacement vegetation.

Mitigation should be planned for unavoidable loss of native vegetation disturbed by project activities and should be developed in coordination with TPWD. TPWD recommends utilizing online resources concerning vegetation,

clearing, and revegetation, available at the TPWD Wildlife Habitat Assessment Program: Planning Tools and Best Management Practices webpage. Specific requirements apply to impacts to wetlands; please reference the above *State Law: Aquatic Resources* section and previous correspondence (July 2018) for information on coordination for wetland mitigation with federal and state agencies.

Alternatively, mitigation could be coordinated with a local land trust or other conservation organization.

*Texas Administrative Code Title 31 §357.8.*

TPWD has identified Ecologically Significant Stream Segments (ESSS) throughout the state to assist regional water planning groups in identifying ecologically unique stream segments under Texas Administrative Code Title 31 §357.8. Until approved by the legislature, this is not a legal designation. ESSS are designated based on habitat value, biodiversity, and aesthetics. As noted in Section 3.1.3 of the EA, Luce Bayou has been designated by TPWD as ESSSs.

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**Recommendation:** Measures should be taken to ensure that activities that could adversely impact these ecologically significant streams are avoided and/or minimized. Water quality, aesthetic value, and unique habitats should be preserved during project planning and construction.

All waterways and associated floodplains, riparian corridors, playa lakes, and wetlands provide valuable wildlife habitat and should be protected to the maximum extent possible. Natural buffers contiguous to any wetlands or aquatic systems should remain undisturbed to preserve wildlife cover, food sources, and travel corridors. During construction, trucks and equipment should use existing bridge or culvert structures to cross creeks. Destruction of inert microhabitats in waterways such as snags, brush piles, fallen logs, creek banks, pools, and gravel stream bottoms should be avoided, as these provide habitat for a variety of fish and wildlife species and their food sources. Erosion controls and sediment runoff control measures should be installed prior to construction and maintained until disturbed areas are permanently revegetated using site specific native vegetation. Measures should be properly installed in order to effectively minimize the amount of sediment and other debris entering the waterway.

*Invasive Species*

The EA does not address invasive species or make commitments to implement

BMPs aimed at their prevention or management. The proposed project area is susceptible to colonization by a variety of invasive species of terrestrial plants. These plants often outcompete native plant species and establish monocultures, making the area less beneficial for wildlife and people and lowering aesthetic value of an invaded area. Invasive species of particular concern are giant salvinia (*Salvinia molesta*), common water hyacinth (*Eichhornia crassipes*), alligatorweed (*Alternanthera philoxeroides*), deep-rooted sedge (*Cyperus entrerianus*), guineagrass (*Urochloa maxima*), Chinese tallow (*Triadica sebifera*), chinaberry (*Melia azedarach*), Brazilian peppertree (*Schinus terebinthifolius*), trifoliate orange (*Poncirus trifoliata*), salt cedar (*Tamarix ramosissima*), Chinese privet (*Ligustrum sinense*), Japanese honeysuckle (*Lonicera japonica*), and any non-native grass species.

**Recommendation:** TPWD recommends ETI establish sanitation procedures to prevent the spread of invasive terrestrial plants. TPWD recommends such a plan include the following measures to minimize invasive plant spread: 1) Inspect the site for infestation prior to operations. 2) Avoid driving vehicles, mowers, all-terrain vehicles, or spray equipment through infestations in seed or fruit. 3) ~~Brush and wipe all seeds and debris from clothes, boots, socks, and~~ personal protective equipment. 4) Clean motorized equipment, especially the undercarriage and tire surfaces. 5) Cover loads or bag cut invasive plants before transport.

**Recommendation:** TPWD recommends ETI avoid utilizing invasive species in seed mixes or plantings for revegetation or soil stabilization purposes. More information and resources regarding revegetation and restoration with native plants may be found at TPWD's Wildlife Habitat Assessment Program: Planning Tools and Best Management Practices webpage and at the Pollinator Partnership Planting Guides webpage.

#### **Data Reporting and the Texas Natural Diversity Database**

As mentioned earlier in this letter, TPWD maintains records of occurrence for protected and rare species, or SGCN, within the TXNDD and these data are publicly available by request. The TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. The TXNDD is updated continuously, and relies partially on information submitted by private parties, such as developers or their consultants. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not

Ms. Karen Hubbard  
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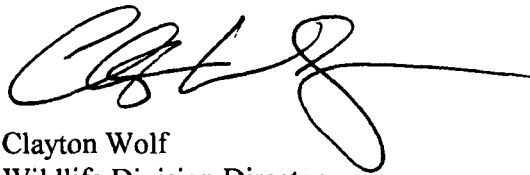
provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for field surveys. The TXNDD is updated continuously based on new, updated and undigitized records; therefore, TPWD recommends requesting the most recent TXNDD data on a regular basis. For questions regarding a record or to request the most recent data, please contact [TexasNatural.DiversityDatabase@tpwd.texas.gov](mailto:TexasNatural.DiversityDatabase@tpwd.texas.gov).

**Recommendation:** To aid in the scientific knowledge of a species' status and current range, TPWD encourages reporting encounters of protected and rare species to the TXNDD according to the data submittal instructions found at the TPWD Texas Natural Diversity Database: Submit Data webpage.

TPWD appreciates the opportunity to review and comment on this EA. Please contact Ms. Rachel Lange at 361-412-9012 or [Rachel.Lange@tpwd.texas.gov](mailto:Rachel.Lange@tpwd.texas.gov) if you have any questions. Thank you for your favorable consideration.

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Sincerely,

A handwritten signature in black ink, appearing to read 'Clayton Wolf', with a long horizontal line extending to the right.

Clayton Wolf  
Wildlife Division Director

RL:jn.42214

cc: Mr. Carl Olson, Entergy Texas, Inc.

### **Attachment DB-1: Qualifications of David Bautista**

In December 1999 I received a Bachelor of Science in Electrical Engineering from Texas A&M University-Kingsville. In June of 2009 I passed my professional engineering exam in power engineering and received my professional engineering license (TX License 103418).

I joined the Public Utility Commission in April 2018 as an Engineering Specialist for the Infrastructure and Reliability Division. Prior to that I worked one year as an engineering teacher for Southwest Independent School District in San Antonio. Prior to being a teacher, I worked in the electric utility business as an engineer for various companies in Texas as well as in North Dakota.

I started my career as an underground distribution engineer for City Public Service in San Antonio. I was responsible for three-phase commercial design of underground distribution circuits. I also served as a project manager for all my designs, which included overhead to underground conversions, system improvements, military bases and commercial applications.

After two short stops at Austin Energy and Rio Grande Electric Cooperative, I joined Bluebonnet Electric Cooperative (BEC). I started as a System Engineer I and progressed to the System Engineer III level. At BEC, I was responsible for system protection, system planning, power factor correction and other distribution engineering needs.

In addition to my utility experience, I also worked as an Engineering Consultant for more than two years. As a consultant, I provided engineering solutions to various utility companies throughout the State of Texas. Such solutions included design of 12.5kV to 34.5kV projects, system protection, distribution planning, construction specifications, development of load trees for steel and concrete pole fabrication, development of sag/tension charts and equipment specifications.