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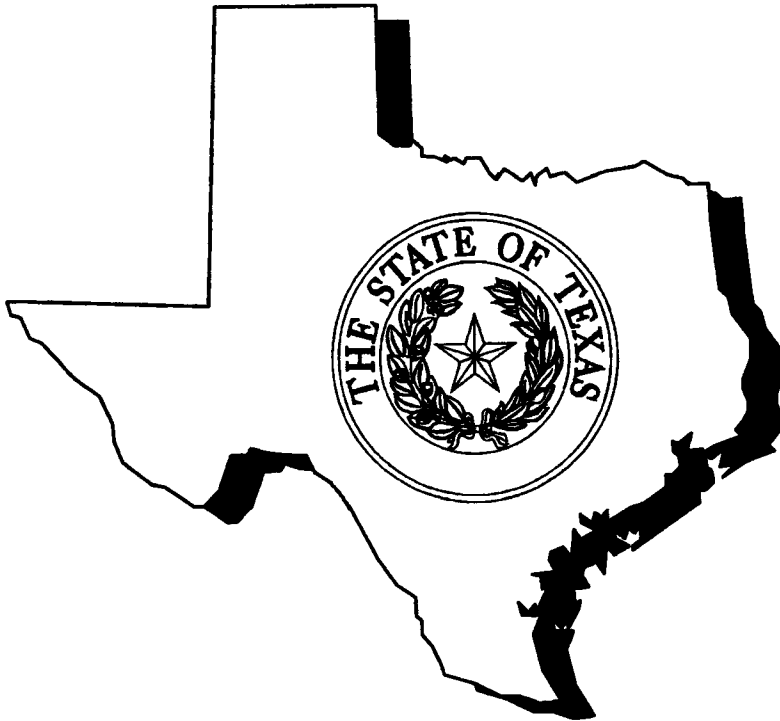
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PUC DOCKET NO. 35665

COMMISSION STAFF'S PETITION §
FOR THE SELECTION OF §
ENTITIES RESPONSIBLE FOR §
TRANSMISSION IMPROVEMENTS §
NECESSARY TO DELIVER §
RENEWABLE ENERGY FROM §
COMPETITIVE RENEWABLE §
ENERGY ZONES §

BEFORE THE
PUBLIC UTILITY COMMISSION
OF TEXAS



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DIRECT TESTIMONY OF
MICHAEL J. LEE, P. E.
INFRASTRUCTURE & RELIABILITY DIVISION
PUBLIC UTILITY COMMISSION OF TEXAS

October 28, 2008

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EXHIBITS

ML-1 Qualifications of Michael J. Lee

ML-2 List of PUCT Dockets Containing Testimony of Michael J. Lee

I. QUALIFICATIONS

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

2 A. My name is Michael J. Lee. I am employed by the Public Utility Commission of Texas
3 (“PUC” or the “Commission”) as an Electric Utility Engineer in the Infrastructure &
4 Reliability Division. My business address is 1701 North Congress Avenue, Austin,
5 Texas 78701.

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

7 A. I have a Bachelor of Science in Electrical Engineering. My thirty-seven years of
8 professional experience includes electronic engineering, air quality regulation, and
9 electric utility transmission engineering, maintenance, and operation. I have been
10 employed by the PUC since March, 2004. A more detailed resume of my experience is
11 provided in Exhibit ML-1.

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

13 A. Yes, Certificate Number 76846 in the State of Texas.

14 **Q. Have you filed testimony at the Commission in previous cases?**

15 A. Yes, a list of PUC Dockets in which I have filed testimony is provided in Exhibit ML-2.

16 **II. SCOPE OF TESTIMONY**

17 **Q. What is the purpose of your testimony?**

18 A. The purpose of my testimony is to present my conclusions regarding whether it is
19 reasonable to assume that the Interested Transmission Service Providers (TSPs)¹ that

¹ See Definitions, PUC SUBST. R. 25.216(c)

1 filed CTP Proposals² in this docket (see list below) will be able to successfully and
2 adequately construct, operate and maintain CREZ Facilities.³ My testimony will also
3 present my recommendations regarding operations and maintenance (O&M) and control
4 of the CREZ facilities.

5 Oncor Electric Delivery Company LLC. (“Oncor”)

6 Sharyland Utilities, LP (“Sharyland”)

7 AEP Texas Central Company (“AEP TCC”)

8 AEP Texas North Company (“AEP TNC”)

9 Electric Transmission Texas, LLC (“ETT”)

10 Texas-New Mexico Power Company (“TNMP”)

11 CPS Energy (“CPS”)

12 City of Garland (“Garland”)

13 Texas Municipal Power Agency (“TMPA”)

14 South Texas Electric Cooperative, Inc. (“STEC”)

15 LCRA Transmission Services Corporation (“LCRA TSC”)

16 Cross Texas Transmission, LLC (“Cross Texas”)

17 Tejas Transmission LLC (“Tejas”)

18 Lone Star Transmission, LLC (“Lone Star”)

19 Isolux Corsan Concesiones S.A. (“Isolux”)

20 [Note: Isolux submitted a CTP Proposal in its own name. However, the proposal
21 states⁴ that Isolux and Brookfield Asset Management, Inc. (“Brookfield”) have
22 formed a joint venture (Wind Energy Transmission Texas, LLC or “WETT”)
23 through which the proposed CREZ facilities will be constructed and operated. In
24 the remainder of my testimony, therefore, I will refer to WETT as the entity

² *Id.*

³ *Id.*

⁴ Isolux CTP Proposal, page 1, paragraph 1.

1 which will construct, operate and maintain the CREZ facilities in Isolux's CTP
2 Proposal.]
3

4 **Q. Upon what information have you relied to reach your conclusions and to make your**
5 **recommendations?**

6 A. I have relied upon information in the CTP Proposals submitted by the Interested TSPs
7 and my professional experience to reach my conclusions and make my recommendations.

8 **III. CONCLUSIONS**

9 **Q. What are your conclusions regarding whether it is reasonable to assume that Oncor,**
10 **Sharyland, TNMP, CPS, Garland, TMPA, STEC and LCRA will be able to**
11 **successfully and adequately construct, operate and maintain CREZ Facilities?**

12 A. I conclude that it is reasonable to assume that each of them will be able to successfully
13 and adequately construct, operate and maintain CREZ Facilities.

14 **Q. Why do you conclude that it is reasonable to assume that Oncor, Sharyland, TNMP,**
15 **CPS, Garland, TMPA, STEC and LCRA will be able to successfully and adequately**
16 **construct, operate and maintain CREZ Facilities?**

17 A. Each of these TSPs has previously constructed, operated, and maintained transmission
18 facilities in the Electric Reliability Council of Texas (ERCOT) control area, although not
19 all of them have previously constructed, operated and maintained 345 kilovolt (kV)
20 transmission facilities. Additionally, each of them continues to successfully and
21 adequately operate and maintain transmission facilities in ERCOT today. Therefore,
22 based on their prior experience with the construction, operation and maintenance of
23 transmission facilities in ERCOT, I conclude that it is reasonable to assume that each of

1 them will be able to successfully and adequately construct, operate and maintain CREZ
2 Facilities.

3 **Q. What is your conclusion regarding whether it is reasonable to assume that ETT will**
4 **be able to successfully and adequately construct, operate and maintain CREZ**
5 **Facilities?**

6 A. I conclude that it is reasonable to assume that ETT will be able to successfully and
7 adequately construct, operate and maintain CREZ Facilities.

8 **Q. Why do you conclude that it is reasonable to assume that ETT will be able to**
9 **successfully and adequately construct, operate and maintain CREZ Facilities?**

10 A. ETT has not previously constructed transmission facilities in ERCOT or elsewhere, but it
11 owns and operates transmission facilities in ERCOT which it acquired from an ERCOT
12 utility, namely AEP TCC. However, as described in the Introduction to ETT's CTP
13 Proposal, ETT is owned by Mid-American Energy Holding Company (MA) and various
14 subsidiaries of AEP. Both AEP and MA are existing transmission utilities, and AEP
15 subsidiaries AEP TNC and AEP TCC (together referred to as AEP Texas) have each
16 previously constructed, operated, and maintained transmission facilities in ERCOT and
17 each continues to successfully and adequately operate and maintain transmission facilities
18 in ERCOT today. Moreover, according to ETT's CTP Proposal, AEP Service
19 Corporation (AEPSC) and AEP Texas will "provide all of the necessary support to ETT
20 for planning, licensing, design, construction, maintenance, and operation of transmission
21 facilities."⁵ Therefore, I conclude that it is reasonable to assume that ETT, with the

⁵ ETT CTP Proposal, Introduction, page 3, lines 22-24

1 support of AEPSC and AEP Texas, will be able to successfully and adequately construct,
2 operate and maintain CREZ Facilities.

3 **Q. What are your conclusions regarding whether it is reasonable to assume that Cross**
4 **Texas, Tejas, Lone Star, and WETT will be able to successfully and adequately**
5 **construct, operate and maintain CREZ Facilities?**

6 A. I conclude that it is reasonable to assume that each of them will be able to successfully
7 and adequately construct, operate and maintain CREZ Facilities.

8 **Q. Why do you conclude that it is reasonable to assume that Cross Texas, Tejas, Lone**
9 **Star, and WETT will be able to successfully and adequately construct, operate and**
10 **maintain CREZ Facilities?**

11 A. As is the case with ETT, these companies have not previously constructed transmission
12 facilities in ERCOT, and they do not today and have not previously operated and
13 maintained such facilities in ERCOT. However, similarly to ETT, these companies are
14 affiliated with other organizations that do have significant experience with the
15 construction, operation, and maintenance of electric transmission and/or generation
16 infrastructure projects. Therefore, I conclude that it is reasonable to assume that each of
17 them, with the support of their respective affiliates, will be able to successfully and
18 adequately construct, operate and maintain CREZ Facilities.

19 **IV. RECOMMENDATIONS FOR CREZ FACILITIES O&M AND CONTROL**

20 **Q. What are your recommendations regarding the establishment of local field offices**
21 **and service centers for O&M of the CREZ facilities?**

22 A. Although some of the Interested TSPs currently have existing field O&M arrangements
23 in place in areas where CREZ facilities will be located (particularly in West Texas),

1 others do not. To ensure that adequate field O&M arrangements for all CREZ facilities
2 are in place when the facilities are available for service, I recommend that the
3 Commission require that each TSP building CREZ facilities submit to the Commission a
4 definitive plan for providing field O&M arrangements for its CREZ facilities. I further
5 recommend that the Commission encourage the TSPs building CREZ facilities to
6 consider establishing joint field O&M arrangements, including local field offices and
7 service centers, to potentially achieve economies by utilizing a few larger-scale O&M
8 installations instead of more smaller-scale installations.

9 **Q. What are your recommendations regarding control of the CREZ facilities?**

10 A. Again, some of the Interested TSPs currently have existing control centers that are
11 controlling transmission facilities in areas where CREZ facilities will be located
12 (particularly in West Texas), but others do not. To ensure that adequate arrangements
13 for control of all CREZ facilities are in place when the facilities are available for service,
14 I recommend that the Commission require that each TSP building CREZ facilities submit
15 to the Commission a definitive plan for providing control of its CREZ facilities. I further
16 recommend that the Commission encourage the TSPs building CREZ facilities to
17 consider establishing joint arrangements for control of CREZ facilities, perhaps by using
18 an existing TSP control center, to potentially avoid establishing multiple small control
19 centers at greater expense.

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

21 A. Yes.

QUALIFICATIONS
OF
MICHAEL J. LEE

I received a Bachelor of Science in Electrical Engineering from the University of Texas in 1965. After receiving my engineering degree, I studied mathematics at UT as both an undergraduate and graduate student, but I did not complete a graduate degree program. I have attended seminars, symposiums, conferences, and workshops covering the design, operation, and maintenance of electric transmission systems.

In 1969 I was employed with Texas Instruments (Austin, Texas) as a design engineer, and in 1973 I joined the Texas Air Control Board as a stack sampling engineer. In 1974 I was employed with the Lower Colorado River Authority (Austin, Texas) as an engineer in the Communications and Remote Control Section of the Transmission Engineering Department, and I continued my employment with LCRA until 2001.

My initial duties at LCRA included the system design and preparation of equipment specifications required to implement a communications and control system which would provide remote monitoring and control of the LCRA transmission network. These systems incorporated microwave radio, power line carrier, telemetering, voice communication, and SCADA equipment which were installed in transmission substations and power plants. In 1977 I assumed the position of Supervisor of the Section and continued in that position until 1988. In 1988 I was made Supervisor of the Customer Contracts Section in Transmission Engineering, in which position I prepared, reviewed, and evaluated contracts and agreements with LCRA's wholesale electric customers, other electric transmission utilities, consulting engineering firms, and various contractors.

In 1995 I was assigned as a staff support engineer to LCRA's Transmission Maintenance Department and I continued in that position until my retirement in 2001. I was responsible for preparation of maintenance procedures and guidelines, equipment failure analysis, investigation of operational problems, and general technical support for transmission field operations, maintenance, and construction personnel. For two years I was the primary contact person at LCRA for maintenance and operational problems relating to LCRA's first interconnection with a wind power IPP.

I was briefly employed by The University of Texas (Austin, Texas) in 2001 as Manager of Electrical Maintenance in the Utilities Department. I began my employment with the Public Utility Commission of Texas in March, 2004 as an Electric Utility Engineer.

I am a registered Professional Engineer in the State of Texas (Certificate Number 76846).

LIST OF PUCT DOCKETS CONTAINING TESTIMONY OF
MICHAEL J. LEE

<u>Docket No.</u>	<u>Docket Description</u>
29196	Application of Southwestern Electric Power Company for Approval of Reconciliation of Purchase Power and Conservation Program Costs
30254	Application of Wood County Electric Cooperative, Inc. for a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line in Wood, County, Texas
30617	Application of CenterPoint Energy Houston Electric, LLC for a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line within Brazoria County, Texas
31591	Application of CenterPoint Energy Houston Electric, LLC for a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line within Fort Bend, Wharton, and Brazoria Counties, Texas
32018	Notice of Violation by TXU Electric Delivery of PURA §38.005, Relating to Electric Service Reliability Measures, and P.U.C. Subst. R. 25.52, Relating to Reliability and Continuity of Service
32707	Application of Rayburn Country Electric Cooperative, Inc. for a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line within Henderson and Van Zandt Counties, Texas
34440	Application of Oncor Electric Delivery Company to Amend a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line within Bell and Williamson Counties, Texas
35460	Petition of PNM Resources, Inc. and Cap Rock Energy Corporation Regarding Proposed Merger and Acquisition of Stock