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JOINT APPELLANTS' APPEAL AND §
COMPLAINT CONCERNING THE §
ERCOT BOARD'S ADOPTION OF §
NPRR 269 AND REQUEST FOR §
RELATED RELIEF §

BEFORE THE
PUBLIC UTILITY COMMISSION
OF TEXAS

ORIGINAL APPEAL AND COMPLAINT CONCERNING THE ERCOT BOARD'S
ADOPTION OF NPRR 269 AND RELATED REQUESTS FOR WAIVER OF ADR
REQUIREMENTS, SUSPENSION OF NPRR 269, CONSOLIDATION WITH DOCKET
NO. 37817, AND COMMISSION HEARING, IF NECESSARY

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COMES NOW Horizon Wind Energy LLC, Post Oak Wind LLC and Mesquite Wind LLC (collectively “Horizon”); Sweetwater Wind 1 LLC, Sweetwater Wind 2 LLC, Sweetwater Wind 3 LLC, Sweetwater Wind 4 LLC, and Sweetwater Wind 5 LLC (collectively “Sweetwater Wind”); Silver Star I Power Partners, LLC (“Silver Star I”); NextEra Energy Resources, LLC (“NextEra”); Buffalo Gap Wind Farm, L.L.C., Buffalo Gap Wind Farm 2, L.L.C., Buffalo Gap Wind Farm 3, L.L.C. (collectively “Buffalo Gap”); Iberdrola Renewables, Inc. on behalf of its subsidiaries Barton Chapel Wind, LLC, Peñascal Wind Power, LLC, and Peñascal Wind Power II, LLC (collectively “Iberdrola”); RES America Developments, Inc., Whirlwind Energy LLC, and Hackberry Wind LLC (collectively “RES”); and Duke Energy Corporation on behalf of its subsidiaries Ocotillo Windpower LP and Notrees Windpower LP (collectively “Duke”) (all of the preceding are collectively referred to as “Joint Appellants” in this pleading) and respectfully file this complaint and appeal of the November 16, 2010 action of the Board of Directors of the Electric Reliability Council of Texas, Inc. (“ERCOT”) adopting Nodal Protocol Revision Request (“NPRR”) 269. Joint Appellants also seek a suspension of NPRR 269 during this proceeding, request that this appeal be consolidated with the appeals currently pending in Docket No. 37817;¹ and if necessary, request that the Commissioners conduct an evidentiary hearing to consider this appeal; and, following the hearing, enter an order repealing NPRR 269.² Joint Appellants respectfully show as follows:

I. INTRODUCTION

On November 16, 2010, the ERCOT Board approved NPRR 269, which revised the Nodal Protocols to include language concerning reactive power requirements that is substantially the same as the language adopted in Protocol Revision Request (“PRR”) 830.³ Joint Appellants each have appealed the November 17, 2009 decision of the ERCOT Board to adopt PRR 830 and are appealing NPRR 269 in order to preserve their current appeal on these same issues as the market transitions to a nodal congestion management system. This appeal will enable the

¹ *Appeal and Complaint by Iberdrola Resources, Inc. Et. Al. of ERCOT Decisions to Approve PRR 830*, Docket No. 37817 (pending).

² ERCOT does not join in this appeal, but it has agreed to some of Joint Appellants’ requests in order to more efficiently address the issues raised in this appeal. Joint Appellants appreciate ERCOT’s cooperation on such issues.

³ NPRR 269 also addressed other matters, primarily concerning the definition of the term “Point of Interconnection” and its use at various places in the Nodal Protocols. Appellants do not appeal, or seek to suspend, those provisions related to the “Point of Interconnection”.

Commission to retain its jurisdiction to oversee and review all of the issues related to the implementation of the wind generation resource (“WGR”) and new reactive power requirements contained in PRR 830 and now applied also in NPRR 269 for use in the Nodal market. Joint Appellants request that the provisions of NPRR 269 also be suspended, to maintain the status quo agreed to by ERCOT and established in Docket No. 37817. Because the issues presented in this appeal will be the same or similar to the issues raised in Docket No. 37817, Joint Appellants request that the current appeals be consolidated with the appeals of PRR 830 that were originally consolidated, and remain pending, in Docket No. 37817.

Because NPRR 269 adopted the provisions of PRR 830 for use in the ERCOT Nodal Protocols, it suffers from the same procedural and substantive errors as the adoption of PRR 830 as identified in the Joint Appellants’ various initial appeals consolidated in Docket No. 37817. Those errors concerning the adoption of PRR 830 are discussed in the remainder of this appeal and are equally applicable to the adoption of NPRR 269.

The adoption of NPRR 269, like PRR 830, by the ERCOT Board if not reversed, will require wind generators in the ERCOT market to spend tens of millions of dollars to retrofit existing, operating wind generation units to meet these new requirements, despite the absence of any evidence to indicate that such expenditures are necessary to address reliability concerns. The ERCOT Board previously also rejected an appeal filed by NextEra that would have provided reasonable revisions to PRR 830 (and to the language in NPRR 269) that lessened or eliminated the objectionable portions of PRR 830. Certain of the Joint Appellants filed comments opposing the implementation of NPRR 269 for the reasons set forth herein and in the appeals of PRR 830 in Docket No. 37817 and counsel for some of the Joint Appellants presented argument to that effect at the ERCOT Board prior to the adoption of NRPRR 269. The ERCOT action is arbitrary and capricious and subjects Joint Appellants, and other similarly-situated wind generators, to unreasonable discrimination in a manner that is unlawful and inconsistent with ERCOT’s duties under the Public Utility Regulatory Act (“PURA”)⁴, the Public Utility Commission’s (“PUCT” or “Commission”) rules, and precedent and decisions of regulatory bodies, including the Commission and the Federal Energy Regulatory Commission (“FERC”). Joint Appellants request that the Commission expeditiously act to reverse ERCOT’s actions and require the adoption of Protocols that comply with all legal and policy requirements and move to suspend

⁴ TEX. UTIL. CODE ANN. §§11.001 – 66.017 (Vernon 2009)

NPRR 269, in the same manner and for the same reasons as PRR 830 was suspended, during the course of this proceeding.

Joint Appellants emphasize that they are not opposed to the requirement that wind generation resources provide reactive power in accordance with PURA §39.904(l). Joint Appellants provide reactive power on their projects, and are even providing more reactive power than the Protocols require where an interconnection study has indicated that additional reactive power is required for reliability at their locations. However, the effect of NPRR 269 is to impose expensive and unnecessary retrofit requirements on *all* existing wind generation units installed after February 17, 2004. It is the imposition of this retrofit requirement, *more than five years after* the prior version of the Protocols was adopted (pre-dating PRR 830), that is the primary focus of Joint Appellants' complaint in both this proceeding and in Docket No. 37817. Consistent with NextEra's appeal to the ERCOT Board concerning PRR 830, Horizon offered a compromise at the Board meeting, indicating that it would not oppose the imposition of the new "rectangle" reactive power requirements contained in PRR 830, provided they are applied on a prospective basis only, *i.e.*, applied to a generator that signs an interconnection agreement after the date of the adoption of the PRR - December 1, 2009. Additionally, Joint Appellants were willing to retrofit their pre-December 1, 2009 wind generation units to meet the new reactive power requirements, but only if a System Impact Study demonstrates that reactive power in that amount is required from that unit at that location to assure system reliability.

In this appeal, as in the appeal of PRR 830, Joint Appellants are willing to contribute their portion of any needed reactive power, but they cannot agree to retroactive changes that impose unnecessary costs well after they have constructed generation resources in reliance upon the then-existing requirements contained in the ERCOT Protocols. Such retroactive cost increases are detrimental to Joint Appellants and they also undermine the regulatory certainty provided by the Protocols, interfere with the investment-backed expectations of developers based upon Protocol language, discriminate against Joint Appellants in that other generators interconnected prior to 2004 are not required to retrofit, and lessen the investment incentives for wind generation and other location-constrained renewable generation in Texas.

II. JOINT APPELLANTS' AUTHORIZED REPRESENTATIVES

Joint Appellants request that all correspondence in regard to this matter be sent to each of their authorized representatives and counsel of record whose names and addresses are contained in the signature blocks for this appeal.

III. RESPONDENT

Respondent, ERCOT, manages the regional power grid located wholly within Texas covering roughly 80% of the geographic area of Texas. ERCOT's legal representative is:

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IV. SUMMARY OF THE CASE

NPRR 269 was proposed by ERCOT Staff on September 9, 2010. The revision was described by ERCOT Staff, in pertinent part, as, "This Nodal Protocol Revision Request (NPRR) synchronizes the Nodal Protocols with Protocol Revision Request (PRR) 830, Reactive Power Capability Requirement, approved by the ERCOT Board on 11/17/2009."⁵ The stated reason for the revision was, "[t]o synchronize the Nodal Protocols with PRR 830."⁶ Joint Appellants have each appealed the November 17, 2009 decision of the ERCOT Board to adopt PRR 830 and those appeals have been consolidated in currently pending Docket No. 37817. Pursuant to Order No. 6 in Docket No. 37817, implementation of portions of PRR 830 was suspended until the Commission issues its final decision in Docket No. 37817. The Nodal Protocols became effective on December 1, 2010, at which time the provisions of NPRR 269 replaced the currently suspended language of PRR 830. Joint Appellants are appealing NPRR 269 in order to preserve their current appeal of the implementation of the reactive power requirements contained in PRR 830, which are now applied also in NPRR 269.

⁵ Nodal Protocol Revision Request 269 (Sept. 9, 2010), at 1.

⁶ *Id.*

ERCOT's initial submission of PRR 830 noted that ERCOT had previously issued a Protocol Interpretation on November 13, 2008, which was subsequently withdrawn on procedural grounds, regarding the reactive power requirements applicable to generators under Sections 6.5.7.1 and Section 6.7.6 of the Protocols. The Protocol Interpretation announced that ERCOT Staff interpreted the existing Protocol language as requiring that "a Generation Resource must provide the MVAR requirement (+/- 0.95 power factor) calculated at the maximum net output to the ERCOT Transmission Grid, and that level must be available at all MW output levels." In other words, all generation resources would be required to provide reactive power at the highest level they could produce at maximum operating capability regardless of the real-time output of the unit. For simplicity in this pleading, this interpretation of the Protocol requirement shall be labeled the "rectangle" requirement.

The Protocol Interpretation was the first official notification that Joint Appellants received that ERCOT Staff interpreted the Protocols as requiring that reactive power be provided in the rectangle configuration.⁷ Prior to this time, Joint Appellants and other wind generators had reason to believe that ERCOT would continue to interpret the Protocol language as written, requiring that reactive power be provided in a "triangle" configuration, *i.e.*, the reactive power obligation would increase or decrease proportionately as output increased or decreased. Joint Appellants' interpretation of the reactive power requirements was based upon Protocol language, Operating Guide standards, and prior ERCOT action, as well as industry standards related to the calculation of power factor capability and reactive power requirements applicable to wind generation units. ERCOT's new interpretation, now contained in NPRR 269, created enormous technical and economic challenges for Joint Appellants and other wind generators who had previously invested in the Texas market installing wind generation units that provided reactive power consistent with the Protocol requirements as reflected in their signed interconnection studies.

On December 12, 2008, Horizon and other wind generators (collectively referred to as the "Competitive Wind Generators") filed a complaint against ERCOT concerning ERCOT Staff's new interpretation and the matter was docketed by the Commission as Docket No.

⁷ The matter had been discussed at an August, 2008 wind workshop, but no formal ERCOT action was taken.

36482.⁸ While Docket No. 36482 was pending, the wind generators and ERCOT attempted to negotiate an agreed resolution of the issues in the docket, but they were unsuccessful. Also while the docket was pending, in early June 2009, ERCOT withdrew its official Protocol Interpretation but sent letters to some Joint Appellants asserting that their “Generation Resource(s) are not able to comply with the 0.95 Lead/Lag requirement mandated by Protocol Section 6.5.2.1(2).” Joint Appellants responded to ERCOT’s letter, pointing out the errors in its interpretation of the reactive power Protocols and providing evidence that the resources in question complied with the +/- 0.95 lead/lag power factor requirement contained in the Protocols. Subsequently, some Joint Appellants submitted requests for alternative dispute resolution (“ADR”) concerning ERCOT’s June 5, 2009 letter, but have not yet, as of the date of this appeal of NPRR 269, received any communication from ERCOT scheduling an initial ADR senior representative meeting on this matter.

While Docket No. 36482 was pending before the Commission, PRR 830 was proposed by ERCOT Staff on September 8, 2009 in order to “clarif[y] the Reactive Power capability requirement for all Generation Resources, including existing WGRs [Wind-powered Generation Resources] who are not able to meet the 0.95 lead/lag requirement with the Generation Resource’s Unit Reactive Limit (URL).” ERCOT Staff represented that:

ERCOT files this Protocol Revision Request (PRR) to seek a prospective outcome that maintains reliability while attempting to lessen the costs and burdens of compliance with respect to the Reactive Power capability requirements in the ERCOT Protocols, and that offers a path to compliance for certain Wind-powered Generation Resources (WGRs) that are presently not able to meet 0.95 lead/lag requirement at the Point of Interconnection based solely on the unit’s Reactive Power capability.

To Joint Appellants’ knowledge, no formal studies or reports by ERCOT or findings of fact in any proceeding indicate that the ERCOT grid has suffered from an incident in which a deficit of reactive power created the need for the new requirements of PRR 830 and NPRR 269. There also were no studies that demonstrated a reliability need for wind generators to provide reactive power in accordance with the rectangular configuration or that established that conformance to the rectangular configuration would eliminate any actual reliability problems.

⁸ *Appeal of Competitive Wind Generators Regarding the Electric Reliability Council of Texas’ Interpretation of the Reactive Power Protocols*, Docket No. 36482, Order (Dec. 8, 2009).

Joint Appellants participated in the ERCOT process related to PRR 830 by filing comments on September 15, October 8, November 3, and November 10, 2009. Additionally, Joint Appellants participated in the discussion and review of PRR 830 at meetings held by the Reliability and Operations Subcommittee (“ROS”), the Protocol Revision Subcommittee (“PRS”), the Technical Advisory Committee (“TAC”) and the ERCOT Board. Joint Appellants’ comments and suggestions were not adopted during the PRR 830 adoption process.

On November 9, 2009, NextEra filed an appeal of the decision by TAC to recommend approval of PRR 830. NextEra subsequently filed documents in support of its appeal in which it made proposals for suggested changes to PRR 830 as an alternative to adoption of the version recommended by TAC. On November 10, 2009, Horizon submitted its Brief in Support of the NextEra Appeal of the Technical Advisory Committee Recommendation Report Relating to PRR 830.

At its November 17, 2009 Meeting, the ERCOT Board heard presentations from a number of interested parties, including Horizon, NextEra, and ERCOT Staff, and then voted to adopt PRR 830 as recommended by TAC, and to reject the appeal filed by NextEra. Joint Appellants’ concerns about PRR 830 are directed primarily at the significant rewriting of Protocols Sections 6.5.7.1 and 6.7.6 implemented by PRR 830 and this appeal is focused on those matters. Joint Appellants are also concerned that ERCOT’s unsupported “reliability need” for the rectangle configuration on a going-forward basis, much like the retrofit requirement for existing generation, will result in mandated “gold-plating” of the wind generation facilities without any reliability benefit. Such requirement, like the retrofit requirement, lacks a rational basis and will cause the Joint Appellants economic harm. Joint Appellants also note that the definition of “Wind-powered Generation Resource (WGR)” that was adopted as part of PRR 830 raises other concerns because of the possible unintended consequences of changing the definition of a term that is used throughout the Protocols.

The appeal of PRR 830 was timely filed and the requirements of PRR 830 were suspended by Order No. 6 in Docket No. 37817. As part of the transition to the nodal market, as set forth above, the provisions of PRR 830, including the suspended portions, were then incorporated into the ERCOT Nodal Protocols with the adoption of NPRR 269 and certain Joint Appellants filed comments and/or participated at the ERCOT Board opposing the blanket adoption of the PRR 830 standards in NPRR 269, particularly given the appeal of PRR 830

pending before this Commission. On November 16, 2010, the ERCOT Board adopted NPRR 269 and this appeal is timely filed within 35 days of the ERCOT Board's decision.

V. AFFECTED PARTIES

Joint Appellants are not aware of what other parties, if any, may be affected by this appeal. However, to the extent that other market participants in ERCOT may be affected by the issues raised in this appeal, notice as required by P.U.C. PROC. R. 22.251(e) is appropriate and should be used in this proceeding.

In addition to Joint Appellants, some other ERCOT market participants have intervened in Docket No. 37817 asserting that they could be adversely affected by the decision in that proceeding concerning PRR 830. Joint Appellants assume that those same parties may assert similar claims concerning this appeal of NPRR 269. To assure that those parties have notice of this new appeal and the related request for consolidation with Docket No. 37817, Joint Appellants are mailing a copy of this appeal to all of the parties of record in Docket No. 37817.

VI. JURISDICTION

The Commission has jurisdiction over this matter under PURA §39.151; P.U.C. SUBST. R. 25.362 and P.U.C. PROC. R. 22.251. Procedural Rule 22.251(c) requires that an entity must use Section 20 of the ERCOT Protocols, concerning Alternative Dispute Resolution Procedures, or Section 21 of the Protocols, concerning Process for Protocol Revision, before it may file a formal complaint with the Commission. Some of the Joint Appellants' representatives have participated in the protocol revision process at ERCOT concerning NPRR 269, which culminated in the adoption of NPRR 269. ERCOT Protocol Section 21.4.11.3 specifies that any Market Participant, such as each Joint Appellant, may appeal any decision by the ERCOT Board within the deadline prescribed by the Commission's rules. This appeal is filed within 35 days of the ERCOT action adopting NPRR 269 on November 16, 2010. Accordingly, Joint Appellants have complied with the requirements of Protocols Section 21 and have complied with the requirements of P.U.C. PROC. R. 22.251(c) prior to the filing of this appeal. Since all prerequisites to Commission consideration have been met, and this appeal has been timely filed, the Commission has jurisdiction over this matter.

In Docket No. 36482, the Commission voted to dismiss a complaint filed by the Competitive Wind Generators (“CWG”) concerning ERCOT’s interpretation of the existing Protocol language that was amended by PRR 830.⁹ The Commission ruled that the complaint should be dismissed because CWG failed to participate in alternative dispute resolution (“ADR”) procedures under Protocols Section 20 before filing its formal complaint with the Commission. Joint Appellants believe that such ruling is not applicable to the current appeal because P.U.C. PROC. R. 22.251 requires use of Section 20 *or* Section 21 before presenting a complaint to the Commission and Joint Appellants have complied with Section 21 by participating in the protocol revision process for PRR 830 and NPRR 269. However, in the event the Commission determines otherwise, Joint Appellants respectfully request a good cause waiver of the requirement under P.U.C. PROC. R. 22.251(c)(2) as these issues are being litigated simultaneously in Docket No. 37817 and separate ADR proceedings on the same issues would not be an efficient use of the parties’ resources.

Further, this requested waiver is based upon an agreement with ERCOT. Joint Appellants have been authorized by ERCOT to represent that ERCOT and Joint Appellants agree that use of the formal ERCOT ADR procedures would not be as productive as continuing the on-going settlement discussions in Docket No. 37817 that are nearing resolution and that this constitutes good cause for waiving any applicable formal ADR procedures in this instance.

VII. ISSUES PRESENTED FOR REVIEW

On January 5, 2010, Joint Appellants submitted a consolidated list of issues in Docket No. 37817. Joint Appellants assert that the same list of issues would apply in this proceeding, with the inclusion of the term “NPRR 269” in each issue. Exhibit A hereto contains such list of issues modified to include the references to NPRR 269.

VIII. FACTUAL ANALYSIS

In each of their original appeals of PRR 830, Joint Appellants presented a detailed factual analysis of the case concerning PRR 830.¹⁰ Because NPRR 269 merely incorporates PRR 830

⁹ D-36482 Order.

¹⁰ See, *Iberdola Renewables, Inc's Appeal and Complaint of ERCOT Decision to Approve PRR 830*, Docket No. 37817 (Dec. 22, 2009); *Duke Energy's Appeal and Complaint of ERCOT Decision to Approve PRR 830*, Docket No. 37818 (Dec. 22, 2009); *NextEra Energy Resources, LLC's Appeal and Complaint of ERCOT Decision to Approve PRR 830*, Docket No. 37819 (Dec. 22, 2009); *Horizon Wind Energy LLC, Sweetwater Wind 1, LLC, Sweetwater*

into the Nodal Protocols, Joint Appellants assert that the factual analyses presented in Joint Appellants' Original Appeals should also be considered for purposes of this appeal. Joint Appellants hereby incorporate such factual analyses by reference as if they were stated in full in this pleading.

A. Prior Protocols

The review of ERCOT's adoption of PRR 830, and subsequent adoption of NPRR 269, must begin with an analysis of the reactive power requirements that existed prior to the ERCOT Board's action. Prior to December 1, 2009, Protocols Section 6.5.7.1(1) & (2) stated:

- (1) Generation Resources required to provide VSS [Voltage Support Service] must be capable of producing a defined quantity of Reactive Power at rated capability (MW) to maintain a Voltage Profile established by ERCOT. This quantity of Reactive Power is the Unit Reactive Limit (URL).
- (2) Generation Resources required to provide VSS except as noted below in items (3) or (4), shall have and maintain a URL which has an over-excited (lagging) power factor capability of ninety-five hundredths (0.95) or less and an under-excited (leading) power factor capability of ninety-five hundredths (0.95) or less, both determined at the generating unit's maximum net power to be supplied to the transmission grid and at the transmission system Voltage Profile established by ERCOT, and both measured at the point of interconnection to the TDSP.

Protocol Section 6.7.6(5) provided as follows:

- (5) At all times a Generation Resource unit required to provide VSS is On-line, the URL must be available for utilization at the generating unit's continuous rated active power output, and Reactive Power up to the unit's operating capability must be available for utilization at lower active power output levels. In no event shall the Reactive Power available be less than the required installed reactive capability multiplied by the ratio of the lower output to the generating unit's continuous rated active power output, and any Reactive Power available for utilization must be fully deployed to support voltage upon request by ERCOT, or a TSP.

Wind 2, LLC, Sweetwater Wind 3, LLC, Sweetwater Wind 4, LLC, Sweetwater Wind 5, LLC and Silver Star I Power Partners, LLC's Appeal and Complaint of ERCOT Adoption of PRR 830, Docket No. 37823 (Dec. 22, 2009); RES America Developments, Inc., Whirlwind Energy L.L.C., and Hackberry L.L.C.'s Appeal and Complaint of ERCOT Decision to Approve PRR 830, Docket No. 37824; (Dec. 22, 2009); and Buffalo Gap Wind Farm, LLC, Buffalo Gap Wind Farm 2, LLC, and Buffalo Gap Wind Farm 3, LLC's Appeal and Complaint of ERCOT's Decision and Action Regarding PRR 830 and Motion for Suspension, Docket No. 37827, (Dec. 22, 2009). These dockets were consolidated into Docket No. 37817 by Order No. 2 in each docket.

These Protocol provisions clearly establish that reactive power is to be provided in the triangle configuration, not the rectangle configuration advocated by ERCOT Staff. Section 6.5.7.1(1) defines the URL and explains that the URL represents the quantity of reactive power a Generation Resource required to provide VSS¹¹ must be capable of producing at rated capability (MW) to maintain a Voltage Profile established by ERCOT. At the maximum real power output of all Generation Resources collectively forming a unit (the “rated capability”), the full volt-amperes reactive (“VARs” or “MVARs” for megavolt-amperes reactive) available constitute the URL. Anytime the term “URL” is used, it includes both parameters: full output and maximum VARs. The two cannot be separated from one another because they are part and parcel of the URL. Section 6.5.7.1(1) *only* identifies the reactive power requirement at the URL. It *does not* specify the level of reactive power that must be maintained *at any other operating level*.

Section 6.5.7.1(2) also addresses *only* the URL and establishes the methodology for determining the level of reactive power. It requires that the calculation be based upon a power factor of 0.95 leading/lagging and that the amount be determined by the application of that power factor “at the generating unit’s maximum net power to be supplied to the transmission grid.” The section also identifies the physical point at which the reactive power is required to be available, “measured at the point of interconnection to the TDSP.” *Nothing* in Section 6.5.7.1(2) purports to expressly address the calculation of reactive power *at levels other than the URL*.¹²

Section 6.7.6(5), however, *does* address reactive power at both the URL and at “lower active power output levels.” It requires that reactive power at the URL level must be available “at the generating unit’s continuous rated active power output.” For lower levels of power output, it requires that “Reactive Power *up to the unit’s operating capability* must be available.” By specifying a different reactive power standard for these lower levels, the Protocol language cannot be interpreted to require *the same* standard be applied to both the URL and to lower operating levels. This conclusion is confirmed in the next sentence of the Section, which further defines the separate standard for lower levels of operation. For such lower levels, the Section specifies that “[i]n no event shall the Reactive Power available be less than the required installed reactive capability *multiplied by the ratio* of the lower active power output to the generating

¹¹ Pursuant to Protocols Section 6.5.7 all Generation Resources with a gross generating unit rating of more than 20 MVA are required to provide VSS, except as noted in other Protocol sections.

¹² As explained *infra*, the use of the industry term “power factor” is consistent only with the triangle configuration for lower levels of output.

unit's continuous rated active power output." (Emphasis added.) For example, if the unit's MVAR requirement is 100 at its rated capability of 1,000 MW (its URL), when it is operating at 500 MW, its MVAR requirement is 50 [500 MW operating level ÷ 1,000 MW rated capability X 100 MVAR = 50 MVAR). The graphic depiction of this ratio calculation is two lines that start from the URL at the unit's rated capability (1,000 MW) and slope to a requirement for 0 MVARs at 0 MWs, as shown in Figure 1.¹³

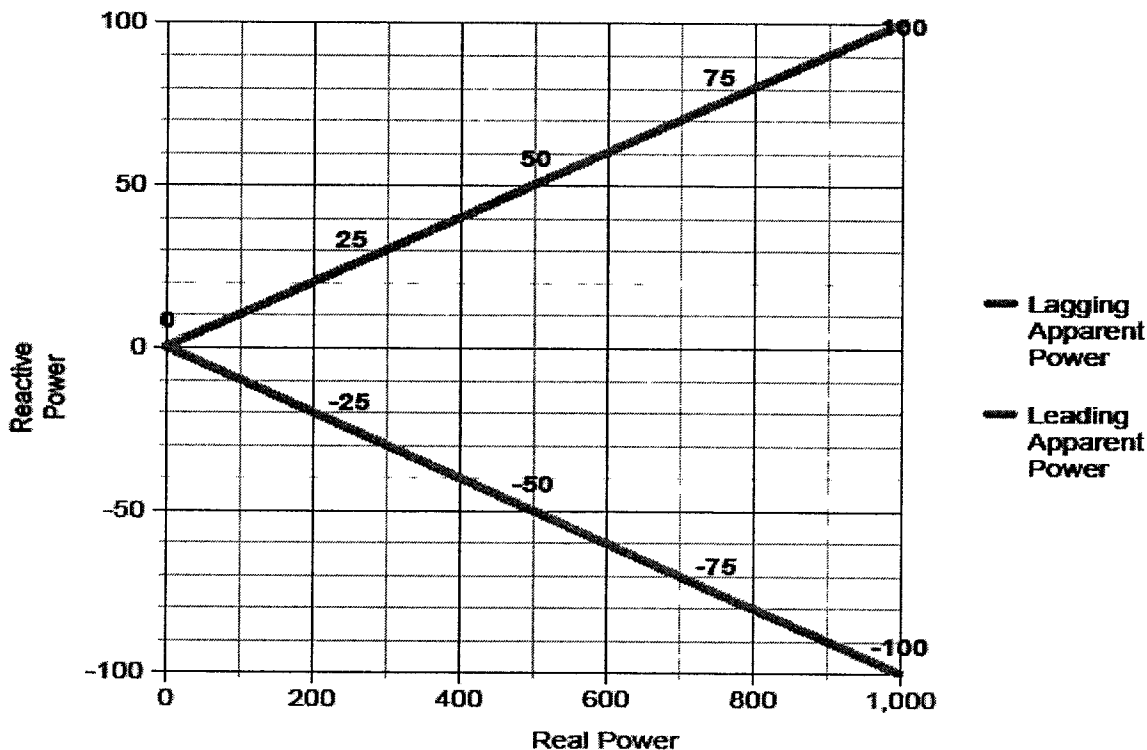


Figure 1 – Example Ratio Reduction under Section 6.7.6(5)

The triangle shape is the natural consequence of the application of the ratio calculation required by Section 6.7.6(5). It is also the shape of the power factor required by Section 6.5.7.1(2), increasing or decreasing with output on a ratio basis.

In describing a qualified scheduling entity's ("QSE's") responsibilities related to reactive power, Protocols Section 6.5.7.2(7) states as follows:

- (7) QSE shall advise ERCOT Operations whenever their Generation Resources are not operating at a power factor level as specified in the Operating Guides. Upon such notice, ERCOT Operations, in conjunction

¹³ This is a simplified example to illustrate the ratio principle.

with the appropriate TSP, shall investigate the situation with the goal of restoring the reported unit's operation to within the specified power factor range. Actions that ERCOT may take include the addition or removal of transmission reactive devices to/from service or a request to another Generator Resource within electrical proximity for the production of leading or lagging VARs (as appropriate) so as to equitably share the need for voltage support among Generation Resources. Requests arising within the context of this subsection may not result in the operation of a Generation Resource outside the specified reactive operating range. Accordingly, Generation Resources are expected to voluntarily comply with these requests. Nothing in this subsection is meant to supersede ERCOT's Dispatch authority in the event of emergency operations. (Emphasis added)

The quoted language provides important indications of what level of reactive power must be maintained by generation resources. First, the language indicates that generation resources must operate within a "power factor" level. The term "power factor" is not defined in the Protocols, but it is a commonly used and understood term in the electrical industry. "Power factor" is generally defined as the *ratio* of real power to apparent power. Alternatively, it is defined as the *cosine* of the phase angle between line current and voltage. A cosine is a trigonometric function that is defined as the length of the side adjacent to an angle divided by the length of the right triangle's hypotenuse. So, whether defined as a ratio or a cosine, a "power factor" is graphically shown as a triangle. In fact, such graphs are routinely referred to as "power factor triangles" and resemble the graph shown in Figure 1. Another important aspect of the language in Section 6.5.7.2(7) is that it requires operation within a "power factor range." This is a clear indication that the reactive power requirement varies – it is not, and cannot be, a single, unchanging MVAR level equivalent to the amount available at the URL, as ERCOT contends. Finally, the language indicates that the amount of required reactive power "may not result in the operation of a Generation Resource outside of the specified reactive operating range," so "Generation Resources are expected to voluntarily comply with these requests." Requiring most existing wind generation units to supply reactive power on a rectangle basis would require them to operate outside their operating range. Even if they wanted to voluntarily comply, they would be physically unable to comply without installing additional equipment if there was not sufficient wind available to generate the requested level of reactive power—e.g. maximum wind needed to reach maximum output allowing for maximum VARs to be produced.

In contrast to these references to a “power factor,” which is a triangular configuration, there is nothing in the ERCOT Protocols that refers to a “power factor rectangle.” Joint Appellants have been unable to find any reference to a “power factor rectangle” in usage in the electric industry. The construction of the rectangle requires more than just the plotting of the unit’s power factor capability. The “rectangle” reactive power capability is constructed using the D curve for a turbine generating unit. An example of a D curve is shown in Figure 2, below.¹⁴ The rectangle is constructed by first truncating the D curve with a vertical line drawn between the points where the sloping lines intersect with the D curve. Two horizontal lines are then drawn from the intersections of that vertical line and the D curve leftward to the vertical axis to create the “top” and “bottom” of the “rectangle” reactive power capability under ERCOT’s interpretation of the prior Protocols. In Figure 2, the top and bottom would be horizontal lines at approximately the +90 MVARs and -90 MVARs level, respectively. As can be seen, the rectangle actually *excludes* some of the unit’s reactive power capability, *i.e.*, those portions of the D curve that exceed +90 MVARs and -90 MVARs at lower power levels.

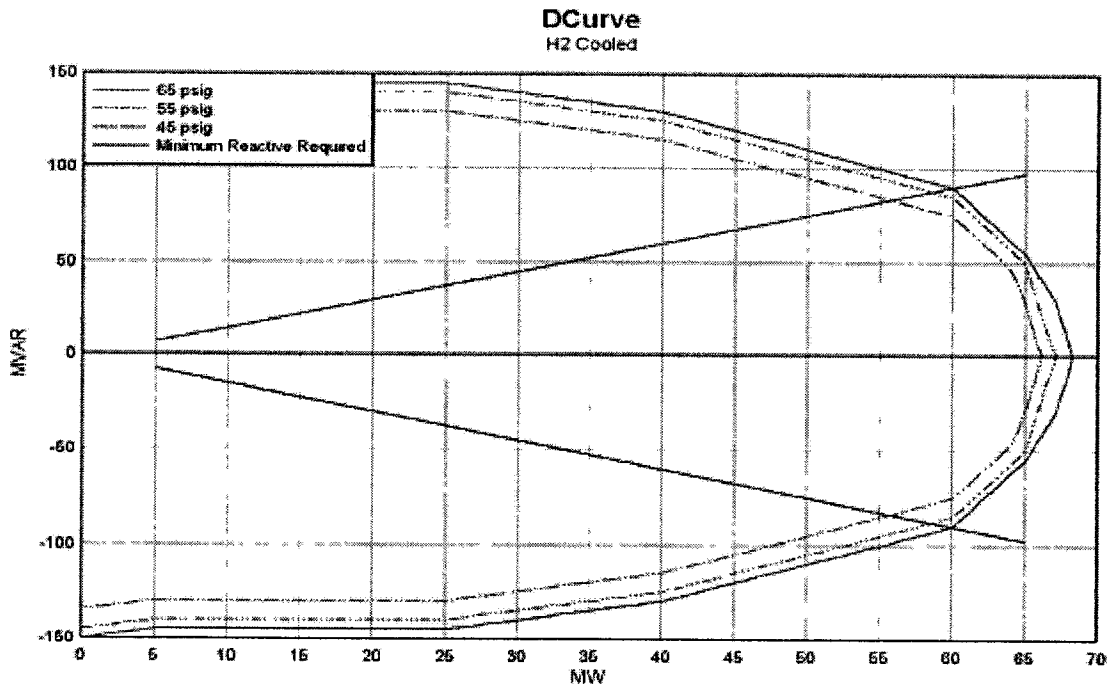


Figure 2 – Example of a D curve

¹⁴ ERCOT Resource Asset Registration Guide v4.03, page 30 of 69.

If the prior Protocols had intended to require the adoption of an unusual “power factor rectangle,” they should have used more explicit language to clearly express that requirement and explain it in detail instead of using commonly understood and applied terms like “power factor” and “power factor range.” By using the terms “power factor” and “power factor range” ERCOT has clearly indicated that MVARs will increase or decrease in value in a ratio relationship with real power output.

B. Technical Differences From Conventional Generation

While ERCOT’s new interpretation of the reactive power requirements as a rectangle may not have an impact on conventional generation units, which remain “grandfathered,”¹⁵ it has a significant impact on wind generation units. Reactive power capability for conventional generation is often depicted graphically by a diagram known as a “D-Curve,” because the generator’s output can be divided between real or reactive power. For example, a generation unit that produces 250 MWs of power can deliver 250 MWs of real power, or lower levels of real power and a quantity of reactive power. If the entire output of the unit is dedicated to reactive power, it has a power factor of zero. Conventional generation can produce power in this D-Curve shape because it can operate at *any level* of generation within the curve simply by burning more or less of its available fuel, which it can control through purchases from fuel suppliers. Wind generators, in contrast, rely upon an intermittent fuel over which they have no control, with the consequence that their maximum capability varies with the available fuel source. For certain types of wind turbines, including most of those installed in ERCOT, if the wind is sufficient to allow generation of 20 MWs of power, the wind generation unit physically can only provide real power at 20 MW, and reactive power climbing to the VARs produced at 20 MW, even if the unit is able to produce much higher levels of real and reactive power at its maximum capacity or URL. This significant technical difference between these two types of generators must be considered in any proceeding to interpret or revise the reactive power protocols.

Recognition of these technical differences does not create a reliability problem for ERCOT. Wind generators will provide reactive power to the extent of their technical capabilities. The ERCOT Protocols recognize that, if there is not sufficient installed reactive power capability, ERCOT “shall determine and demonstrate the need for any additional static

¹⁵ Board Transcript, at 138 - 139. Approximately 10,000 to 20,000 MW of conventional generation is exempted under this provision, much more than the amount of wind generation on-line at this time.

and/or dynamic Reactive Power capability” and “shall establish responsibility for any associated Facility additions among ERCOT TSPs [transmission service providers].”¹⁶ Therefore, if there is a *demonstrated need*, the TSPs are required to provide the additional reactive power to assure that system reliability is maintained. The Protocols do not authorize ERCOT to require wind generators to operate beyond their operating capabilities (even if that were possible) in order to provide the necessary reactive power. Although wind turbines with reactive power capability similar to that of gas turbine generators are now available, this was not the case when the prior reactive power Protocol language was adopted in 2004, and even these turbines can only achieve the rectangle at the turbine, not the point of interconnection as required by PRR 830 and NPRR 269.

C. FERC Precedent

The importance of the technical differences between wind and conventional generators has been recognized by FERC in its decision establishing national standards for reactive power. In Order 661,¹⁷ FERC adopted standard procedures and technical requirements for the interconnection of wind generating plants to transmission systems. As a part of that proceeding, FERC had initially proposed that large wind plants meet the same reactive power requirements imposed upon other types of generators (that is, the triangle standard) under Order No. 2003, which required the generator to “maintain a power factor within the range of 0.95 leading to 0.95 lagging.”¹⁸ FERC also noted differences between conventional generators and wind generators, stating: “Conventional generators inherently provide reactive power, whereas most induction-type generators used by wind plants currently can only provide reactive power through the addition of external devices.”¹⁹ In its final decision, FERC adopted the +/- 0.95 power factor, “triangle” standard, but with the caveat the this factor would apply to wind generators “only if the Transmission Provider shows, through the System Impact Study, that such capability is required of that plant to ensure safety or reliability.”²⁰ As a result, the “triangle” standard applies only where there is a showing of reliability need. FERC explained that:

¹⁶ Protocols, Section 5.2.1(6).

¹⁷ *Interconnection for Wind Energy*, Order No. 661, FERC Stats. & Regs. ¶31,186 (2005).

¹⁸ Order No. 661, ¶39.

¹⁹ Order No. 661, ¶39, fn. 27.

²⁰ Order No. 661, ¶50.

Establishing an achievable reactive power standard if it is needed for safety or reliability provides assurance to wind plant developers that their interconnection to the grid will not be frustrated or face uncertainty due to lack of standards, and thus will limit opportunities for undue discrimination.²¹

[The standard] also ensures that the Transmission Provider does not require a wind plant to install costly equipment that is not needed for grid safety or reliability. Furthermore, requiring that the System Impact Study find a need for reactive power will limit the opportunities for undue discrimination; a wind plant Interconnection Customer will not have its interconnection frustrated by unnecessary requirements that are not necessary to maintain safety or reliability.²²

As part of its decision, FERC also rejected requests to place a greater standard on wind generators;²³ clarified that “the wind generating plant, if required to provide reactive power capability as described above, *should be able to operate anywhere in the +/- 0.95 power factor range;*”²⁴ and noted the inclusion of language to address “the technical differences of wind plants, which cannot meet the power factor standard below certain levels of output.”²⁵

FERC re-emphasized these decisions in Order No. 661-A.²⁶ Regarding complaints about the case-by-case approach to imposing reactive power requirements, FERC rejected such complaints and reaffirmed its decision, stating:

...requiring wind plants to maintain the power factor standard only if the System Impact Study shows it to be necessary will not only ensure that increased reliance on wind power will not degrade system safety or reliability, but will also limit opportunities for undue discrimination by ensuring that Transmission Providers do not require costly equipment that is not necessary for reliability.²⁷

Regarding complaints that the new rule was discriminatory because it imposed different standards on wind generators and conventional generators, FERC rejected those arguments stating:

As we noted in the Final Rule Appendix G was adopted to take into account the technical differences between wind plants and traditional generating plants. One of these differences is that for wind plants, reactive power capability is a significant added cost, while it is not a significant additional cost for traditional generators. Given these technical differences, treating wind plants differently

²¹ *Id.*

²² Order No. 661, ¶51.

²³ Order No. 661, ¶54.

²⁴ Order No. 661, ¶53. (Emphasis added.)

²⁵ Order No. 661, ¶56.

²⁶ *Interconnection for Wind Energy*, Order on Rehearing, Order No. 661, FERC Stats. & Regs. ¶31,198 (2005).

²⁷ Order 661-A, ¶41.

with regard to reactive power requirements is not unduly discriminatory or preferential.²⁸

FERC also cautioned that these technical differences would be considered in any request by Transmission Providers to vary the requirements in the Rule.²⁹ Finally, FERC rejected requests to delete language that required entities to “tak[e] into account any limitations due to voltage level, real power output, etc.”, stating:

We stated that this language was necessary due to the technical limitations of wind generating technology. We noted that all wind generating equipment vendors cannot meet the required power factor range at all levels of output. We reiterate that these technical differences make the disputed language necessary. Furthermore, without this language, a Transmission Provider could discriminate against a wind plant by requiring it operate at the stated power factor at voltages where it is technically infeasible to do so.³⁰

FERC has recently reaffirmed its policy decision to treat wind generation resources differently than traditional generation resources. In *Southwest Power Pool, Inc.*³¹ FERC approved a cost allocation methodology that resulted in different costs for wind generation resources. FERC rejected complaints that the allocation was discriminatory, stating:

We find that SPP’s [Southwest Power Pool’s] treatment for such wind resources is reasonable because of the “location-constrained” nature of such resources. The Commission has recognized that renewable resources, such as wind, are typically constrained as a result of their location, relative size, and the immobility of their fuel sources, and therefore, present unique challenges that are not faced by other resources. ... We find it reasonable for SPP to institute a cost allocation methodology that appropriately addresses the issues created by these location-constrained wind resources, even if it is dissimilar to the allocation methodology for other resources. Dissimilar treatment of dissimilar resources does not in and of itself constitute discrimination, and we find SPP’s distinct treatment of these location-constrained resources is not unduly discriminatory given the facts and circumstances of this case.³²

D. Prior Application of the Reactive Power Requirements

Application of the reactive power Protocols as a triangle rather than a rectangle is also consistent with past ERCOT representations. Shortly after the adoption of the pre-PRR 830 reactive power requirements in 2004, ERCOT developed a document entitled “Generation

²⁸ Order 661-A, ¶45.

²⁹ Order 661-A, ¶50.

³⁰ Order 661-A, ¶52.

³¹ *Southwest Power Pool, Inc.*, 127 FERC ¶ 61,283 (2009) (“SPP Order”).

³² SPP Order, ¶29.

Interconnection or Change Request Procedure” (the “Procedure” dated August, 2004). The Procedure indicates that it is “intended to facilitate the interconnection of new and changes to existing generating units/plants” to the ERCOT transmission system by providing “accurate/appropriate data to help identify possible future transmission constraints, maintain reliability of the ERCOT System and propose related transmission projects.” The Procedure noted ERCOT’s recent adoption of reactive power standards and restated the “Installed Capability Requirements” as follows:

- Power Factor Requirements
 - Generating units to which this standard applies **shall have and maintain an overexcited (lagging) power factor capability, of 0.95 or less and an under-excited (leading) power factor capability of 0.95 or less. Both capabilities shall be determined at the generating unit’s maximum net power output to be supplied to the transmission grid and at the transmission system voltage profile established by ERCOT, and both shall be measured at the point of interconnection to the TDSP.** (*please note: not measured at generator unit terminals*) (All emphasis in original.)

Note that the bolded language in the first sentence clearly indicates that the requirement is to have and maintain *a specific power factor capability*, which as discussed above results in a triangular configuration. The language referring to “the generating unit’s maximum net power output” merely indicates what end point (in addition to “zero”) shall be used for determining the power factor. Conspicuously absent from this description is any reference to a “URL,” upon which ERCOT bases its interpretation. Also absent is any language that would suggest that the reactive power requirement is a constant value, as ERCOT assumes in its reactive power interpretation, now codified in PRR 830 and NPRR 269.

Under “Operating Requirements,” the Procedure contains essentially the same language as the Protocols regarding operation of a unit at lower power levels:

- At all times a generating unit is on-line, the required installed reactive capability must be available for utilization at the generating unit’s continuous rated active power output, and reactive power up to the unit’s operating capability must be available for utilization at lower active power output levels. In no event shall the reactive power available be less than the required installed reactive capability multiplied by the ratio of the lower active power output to the generating unit’s continuous rated active power output, and any reactive power available for utilization must be fully deployed to support system voltage upon request by ERCOT, or a Transmission Operator designated by ERCOT.

This language, particularly the reference to a ratioed reduction in the reactive power requirement, is consistent with the prior section's emphasis on the requirement as a "power factor" requirement. As noted previously, application of this language results in a triangular configuration, which is consistent with the accepted industry definition of a power factor.

The ERCOT Operating Guides, which are intended "to supplement the Protocols,"³³ also contemplate application of a power factor range rather than a constant value MVAR. The definitions of "Capacitor" and "Generator Reactive Power Sign/Direction Terminology"³⁴ clearly indicate that the amount of reactive power is anticipated to vary rather than remaining at a constant level. Operating Guide Section 3.1.4.1 specifies that "ERCOT has the right and obligation to Dispatch the reactive output (VARs) of each generation Facility *within its design capability* to maintain adequate transmission voltage in ERCOT." (Emphasis added.) The reactive power design capability of typical wind generation units including those owned by Joint Appellants is the triangle configuration, not the rectangular configuration that some conventional generation units are capable of maintaining. Therefore, under the Operating Guides, ERCOT can only require reactive power for wind generation based upon their triangular-shaped reactive power capabilities, although it has the ability to require reactive power in the rectangular configuration from some conventional generation due to their dissimilar "design capability."

Section 1.5 of the Operating Guides indicates that ERCOT's operating practices are "consistent with the North American Electric Reliability Corporation ("NERC") Operating Policies and standards." It also notes that "some NERC Policies must be adapted to fit the unique characteristics of the ERCOT System" and specifically lists the areas in which the ERCOT standards differ from the NERC standards. Glaringly absent from that list is any mention of an ERCOT reactive power standard that is different from the NERC standard that complies with FERC Orders No. 661 and 661-A. The only exceptions that are listed for "Reliability Criteria" are for operating reserves and responsive reserves. The only conclusions that can be reached from this omission is that the reactive power requirements for wind generation are consistent with the case-by-case triangular +/- 0.95 standard required by FERC or that the difference in reactive power standards is not considered to be related to "Reliability

³³ ERCOT Operating Guide, Section 1.1 (October 1, 2009).

³⁴ *Id.*, Section 1.6.

Criteria.” Either conclusion undercuts the rationale relied upon by ERCOT in adopting PRR 830 and NPRR 269.

These ERCOT-prepared documents clearly indicate that ERCOT has historically represented that reactive power in the triangle configuration is all that was required under the Protocols, Operating Guides and other ERCOT procedures. There is no indication in any of these documents that generation units were required to produce reactive power in an unusual, ERCOT-specific rectangle configuration.

E. Compliance with ERCOT Requirements

Prior to 2008, ERCOT required all generation resources to complete a reporting form entitled the Generation Resource Asset Registration Form (“GARF” or sometimes “GRARF”). As part of the GARF, generators were required to report on various aspects of their units’ capabilities, including the unit’s reactive capability. GARFs for Joint Appellants’ wind generation resources clearly showed that the amount of MVAR production capability increased with increasing levels of MW production. In short, the capability was presented as a triangle configuration, consistent with the industry-wide standards established by FERC. This representation did not result in any action by ERCOT to reject the GARFs or to question the information provided.

ERCOT has recently developed a similar form for use in the nodal market, entitled the Resource Asset Registration Form (“RARF”). ERCOT began the development of the RARF in late 2007. As early as Version 0.08 dated December 13, 2007, the RARF Guide included a Section 11.0 that described the development of the Reactive Capability Curve, or D-Curve, to demonstrate a unit’s reactive power capability. The RARF Guide included an illustration, Figure 11-1: Sample D-Curve, which showed the MVAR capability of a sample unit at varying levels of MW capacity.³⁵ It also included two lines designated “Minimum Reactive Required” that showed the requirement in a triangle configuration consistent with the industry-accepted definition of a “power factor.” It did not include the “top” and “bottom” lines that would be necessary to illustrate a “rectangle” requirement. This same illustration was included in Section 8.4 of the Official RARF Guide Version 4.00, adopted by ERCOT and effective April 8, 2008. It

³⁵ This is the same illustration that is included as Figure 2, *supra*, in this appeal.

was later moved to Section 7.4, due to renumbering of the RARF Guide, and remained in the RARF Guide until at least July 24, 2009.

RARF Guide Version 4.03, adopted February 4, 2009 through at least Version 4.06, adopted June 23, 2009 included, in Section 7.4, an example of the completed data table used to calculate the reactive capability curve of a generator. The sample showed reactive power capability (MVAR) increasing as power output (MWs) increased. At 50 MW of production, the unit is shown as having 10 MVAR lagging and -12 MVAR leading reactive power capability. At 100 MW of production, the lagging production has increased to 15 MVAR while the leading production has increased to -25 MVAR. Similar increases in MVAR capability were shown for production at 150 MW and 200 MW, ending in a maximum reactive power capability of 40 MVAR lagging and -55 MVAR leading. These example amounts are consistent with the ratioed language of Section 6.7.6(5) and result in a triangle configuration similar to Figure 1, supra. The example demonstrates that ERCOT knew that wind generation resource units produce reactive power in a triangle configuration, yet there is nothing in the RARF Guide to indicate that this result is inconsistent with the Protocols or would be a violation of the Protocols. Instead, the RARF Guide demonstrates the requirements for asset registration and that requirement is the triangle configuration for reactive power.

Moreover, reactive power is one of the items on the New Generator Interconnection Checklist, which must be reviewed and approved by ERCOT in accordance with the ERCOT Protocols before new generation is permitted to be interconnected. ERCOT approved wind generators to be interconnected, in accordance with the Protocols, knowing that they could only produce reactive power in the triangle configuration. If more was needed at a particular location, the TSPs had specifically studied the need and required the installation of additional reactive power equipment, which was then installed by the wind generator. For example, Horizon installed reactive power *based on the study* at its locations when the system had a true reliability need and the reactive equipment installed meets the criteria of the only study ever done on this issue, which was performed by the TSP prior to interconnection. These studies performed prior to interconnection showed the reactive needs and there were no discussions of any requirement for a rectangle.

Prior to the adoption of the RARF in April 2008, ERCOT held a series of workshops, conducted by ERCOT employees, to explain the new form. Each of these workshops, except the

workshop for Loads, included a presentation section on reactive power. Each of the presentations contained an illustration identical to the illustration contained in the RARF, designating the “Minimum Reactive Required” in a triangle configuration.³⁶ Each of these presentations also contained a separate illustration showing a typical D-curve and straight lines corresponding to different power factor values. The illustrated power factor values conformed to the industry standard for power factors, shown as sloped lines that result in a triangle configuration when both leading and lagging factors are plotted.

Thus, through its presentation to industry groups in 2007 to mid-2008, ERCOT represented that the “Minimum Reactive Required” is the amount specified by the applicable power factor triangle (in this case a +/- 0.95 power factor). Throughout these presentations, there was no reference to a “power factor rectangle” and nothing to indicate that reactive power must be provided in a rectangular configuration.

Joint Appellants and other wind generators submitted their RARFs as required in 2008. As with the GARFs, Joint Appellants’ RARFs clearly indicated that the reactive capability increased with the increase in power generation, based upon the power factor triangle specified in the Protocols. Joint Appellants also indicated that they were in compliance with the reactive power requirements as requested on the form. As before, the RARFs were accepted without objection from ERCOT that the reactive power capabilities did not comply with the Protocols, just as the GARFS showing the triangle configuration had been accepted by ERCOT since prior to the time of interconnection

On August 22, 2008, ERCOT Operations Planning conducted a workshop on Voltage Control Requirements. Prior to the workshop, ERCOT sent a copy of the presentation to interested persons. This presentation included a slide that showed the application of the +/- 0.95 power factor to both conventional generators and wind generators. For both types of generators, the +/- 0.95 power factor requirement was presented as a triangle configuration. The example for wind generators was accompanied by text noting the MVAR requirement as +/- 33 MVAR at 100 MWs of generation and declining to 0 MVARs at 0 MWs. About seven hours after this presentation was sent to interested persons, a second presentation was sent that “revised” the slide to reflect a reactive requirement in a rectangle configuration. This was the first indication

³⁶ This is the same illustration that is included as Figure 2, supra, in this appeal.

that Joint Appellants received that the interpretation of the reactive power Protocols was being questioned by ERCOT Staff.

As noted previously, Joint Appellants submitted, via asset registration documents, the reactive power capabilities of their units in the triangular configuration consistently over the last several years and prior to interconnection and were never notified by ERCOT that such capability was not acceptable. Under Protocols Section 6.10.9, ERCOT is to report noncompliance with the reactive power standards to the “ERCOT Compliance Office,” which will then investigate the matter and must “advise the generation Resource, its QSE, ERCOT and the TSP” of the results of such investigation. Additionally, pursuant to Protocols Section 6.5.7.3(4) it is ERCOT’s *responsibility* to notify a Market Participant in writing of a failure to meet the reactive power requirements. Yet, despite these clear duties, ERCOT never notified Joint Appellants of an alleged failure to comply with the reactive power Protocols until June 5, 2009, even though it had knowledge of the reactive power capabilities of Joint Appellants’ units since the time their individual interconnection requests were filed. ERCOT’s failure to conduct any investigations or to notify Joint Appellants of an alleged failure to comply with the Protocols is a further indication that Joint Appellants were in compliance with the reactive power requirements throughout this time. ERCOT’s inaction also supports the conclusion that ERCOT’s interpretation of the Protocols as requiring a rectangular configuration is a recent creation, not based upon Protocol language, stakeholder agreements as to the interpretation of the language, or actual ERCOT practice.

F. Basis for Changed Interpretation

The history cited above raises a question concerning what could have caused ERCOT Staff’s interpretation of the reactive power Protocols in August 2008 to be drastically different from the interpretation it had been providing to market participants prior to that time. Joint Appellants believe that the answer can be found in ERCOT’s activities related to the design of the transmission plan for the competitive renewable energy zones (“CREZs”) considered by the Commission in Docket No. 33672.³⁷ At the October 22, 2009 PRS meeting at which PRR 830 was considered, the ERCOT Independent Market Monitor asked what underlying assumptions – the triangle configuration or the rectangle configuration– were used in the CREZ Transmission

³⁷ *Commission Staff’s Petition for Designation of Competitive Renewable Energy Zones*, Docket No. 33672, Order on Rehearing (Oct. 7, 2008).

Optimization study. ERCOT Staff admitted that the modeling for the CREZ Transmission Optimization study assumed that all wind generators were meeting the full dynamic rectangle standard. Apparently, ERCOT assumed that all wind generation, both new and existing, would provide reactive power in the rectangle shape. This assumption was made without any determination that there was a need for reactive power in that amount from the wind generators. This assumption was made without regard to ERCOT's actual or constructive notice that wind generators provided reactive power in a triangle configuration, not in a rectangle configuration. Rather than basing the CREZ transmission study on modeling that reflected the actual characteristics of the ERCOT transmission system, ERCOT chose to model the system using hypothetical and unrealistic characteristics for wind generators. Once it became obvious that ERCOT's modeling did not reflect the actual system, ERCOT's response has not been to change the model to match reality, but to change the requirements so that reality eventually will match ERCOT's assumptions. Such a response is not only unreasonable, it also violates North American Electric Reliability Corporation ("NERC") requirements relating to system planning.³⁸

There is no need to adjust reality to conform to ERCOT's new interpretation of the reactive power requirements. The ERCOT system has been operating for a number of years with wind generation units that produce reactive power in the triangle configuration or less,³⁹ and there has been no evidence of any reliability problems attributed to that fact. Further, there is still no study demonstrating that reactive power in the rectangle configuration is needed to meet even local reliability issues, much less that it is required for the transmission system to accommodate CREZ generation. This is partly due to the fact that reactive power does not travel very far. It primarily addresses local voltage issues and is not effective in addressing voltage issues at remote locations. In ERCOT, the wind generators are located primarily in West Texas and the Texas Panhandle, far from the load centers where the voltage control issues arise in ERCOT. Thus any reactive power produced by wind generators will not be effective in

³⁸ See NERC Standard MOD-010 establishing standards for Transmission Owners regarding modeling the reliability of the transmission system and providing that Transmission Owners are out of compliance if the modeling data set forth in NERC Standard MOD-011 is incomplete. NERC Standard MOD-011 requires that: "Generating Units (including synchronous condensers, pumped storage, etc.): [provide] location, minimum and maximum Ratings (net Real and Reactive Power), regulated bus and voltage set point, and equipment status. (R1.2)". NERC Standard FAC-010 also requires Planning Authorities to establish System Operating Limits by modeling all Facilities and demonstrating voltage stability.

³⁹ Some very early wind generation units operate at unity power factor but have been "grandfathered" from the reactive power requirements under the Protocols.

addressing those issues, regardless of the configuration required. Any concern about the assumptions ERCOT used in the CREZ transmission study will not significantly impact the results of the study or the decision to construct the CREZ transmission.

G. Recent ERCOT Actions

The discussion about the interpretation of the reactive power requirements at the August 21, 2008 workshop apparently led one market entity to request a formal interpretation of this portion of the Protocols pursuant to the procedure authorized by P.U.C. PROC. R. 22.503. CWG appealed that interpretation to the Commission in Docket No. 36482. Subsequently, on September 8, 2009, ERCOT submitted PRR 830 to essentially codify its interpretation of the reactive power Protocols. ERCOT claimed that PRR 830 was intended to “clarify” the reactive power requirements. However, a review of PRR 830 shows that it proposed numerous and significant changes—and created completely new requirements.

Assuming that it is even possible to “clarify” the Protocols without amending them, the amount of change necessary to “clarify” the Protocols, as well as the language that is used in this instance, actually demonstrate that PRR 830 is in fact a re-write, not a clarification, of the reactive power requirements. References to “rated capability” and “URL” in Section 6.5.7.1(1) were eliminated in an attempt to broaden the application of this paragraph. Similarly, the reference to “URL” in Section 6.5.7.1(2) was eliminated and the remaining portion of this paragraph was substantially re-written and included in paragraph (1). *For the first time*, language is included in these paragraphs stating that the reactive power requirements, which previously only applied to the URL, “shall be available at all MW output levels.” An expectation that reactive power is to be provided dynamically was also inserted, contradicting rather than “clarifying” the previous language that permitted the installation of static or dynamic equipment. A new Section 6.5.7.1(2) is added, specifically applicable to wind generation resources “that commenced operation on or after February 17, 2004,” requiring them to comply with the new standards by December 31, 2010, unless ERCOT “in its sole discretion” chooses to grant an extension. Section 6.7.6(5), which previously addressed reactive power requirements at output levels lower than the URL, is deleted in its entirety, without any explanation. The language in Section 6.7.6(5) was added to the Protocols at the same time as the other prior

Protocol language on reactive power and must have been intended to serve some function, but it is ignored. These are significant changes, not merely clarifications of Protocol language.

The fact that PRR 830 was actually a substantive change in the reactive power requirements is also evidenced by other actions taken by ERCOT. On July 24, 2009, ERCOT revised the RARF Guide to remove the illustration of a generator's D-Curve and the triangular shaped "Minimum Reactive Required" notation. On September 1, 2009, ERCOT revised Section 7.3 of the RARF Guide, which defined the data fields for information from wind generation units. ERCOT is also engaged in a rewriting of the Generation Interconnection or Change Request Procedure document (the "New Procedure"). The New Procedure has not yet been adopted and "will become effective upon approval and will apply to all future and current interconnection requests that have not yet signed an Interconnection Agreement ("IA") by the date of this approval."⁴⁰ Like the current Operating Guide, the New Procedure contains a listing of the areas in the Operating Guide that differ from the NERC Standards. Unlike the Operating Guides, discussed previously, the New Procedure specifically lists Protocol Sections 6.5.7 and 6.7.6 as procedures that apply in addition to the NERC Standards. This language was not contained in Version 4.1 of the New Procedures, dated October 10, 2008, but now appears in the current draft, Version 4.10.3, dated November 18, 2009. These actions demonstrate that ERCOT is attempting to rewrite the many rules and guides that are in direct conflict with its "clarification" in PRR 830, but that fit seamlessly with the triangle reactive power requirement.

H. ERCOT Board Consideration of PRR 830

PRR 830 was considered as an "urgent" item at the November 17, 2009 ERCOT Board Meeting. After hearing a presentation by a specially appointed TAC advocate supporting the TAC recommendation to approve PRR 830, the ERCOT Chair announced that comments from interested persons would be heard in alphabetical order according to the name of the company. Despite this announced order of proceeding, ERCOT Staff was allowed to continue to participate and offer its views on the proper interpretation of the Protocols, even though ERCOT's general Counsel made clear that he was acting as an advocate for the ERCOT Staff position and not as an advisor to the Board. Such characterization also applies to the presentations from other ERCOT Staff members. Throughout the proceeding, ERCOT Staff repeated assertions that PRR 830 was

⁴⁰ Procedure, Section 1.3, at 2.

needed for reliability reasons but they never produced any evidence to demonstrate this alleged need. Some market participants urged that ERCOT Staff be required to perform a study to determine if their assumed reliability issues had any basis in fact and if the increased reactive power standard was the appropriate remedy to any problems that may be discovered. Rather than requiring such studies, the ERCOT Board voted to accept ERCOT's bald assertions of a reliability need for PRR 830 essentially because they believed these issues would be before the Commission anyway. NextEra filed an appeal of the TAC decision to recommend approval of PRR 830 to the ERCOT Board and this matter was also considered at the November 17, 2009 ERCOT Board meeting. NextEra's appeal sought to remove the most burdensome requirements in PRR 830 by eliminating the retrofit obligation for existing wind generation. NextEra's proposed changes to PRR 830 reflected comments on that language from other parties, including the Lower Colorado River Authority, ERCOT and The Wind Coalition. The NextEra proposal would expressly recognize that all existing wind generators must meet the triangle requirement contained in the prior Protocols, but would allow ERCOT to impose the rectangle requirement on existing wind generators only if ERCOT or the transmission service provider demonstrates, through a System Impact Study, that such capability is required to ensure grid safety or reliability and as a compromise, also on future projects despite the lack of any showing of reliability need by ERCOT. These changes would have avoided unnecessary retrofitting of existing equipment while still allowing for retrofitting of generation where such a need is demonstrated. Joint Appellants believe that such a revision would have been a reasonable compromise and should have been adopted by the ERCOT Board. Despite the reasonableness of this approach, the ERCOT Board rejected the appeal and the offer of compromise as part of its vote to adopt PRR 830.

IX. APPLICATION OF LAW

In each of their original appeals of PRR 830, Joint Appellants presented a detailed discussion of the application of the law to the facts of the case concerning PRR 830. Because NPRR 269 merely incorporates PRR 830 into the Nodal Protocols, Joint Appellants assert that the discussions on the application of law presented in Joint Appellants' Original Appeals should also be considered for purposes of this appeal. Joint Appellants hereby incorporate such discussions by reference as if they were stated in full in this pleading.

A. NPRR 269 violates the United States and Texas Constitutions by confiscating wind generators' property without compensation through a regulatory taking.

Both the United States Constitution⁴¹ and the Texas Constitution⁴² provide that private property may not be taken for public use without the payment of just and adequate compensation. The courts have recognized that a “taking” of property may occur as the result of a regulatory action, even if the action does not completely destroy the property’s value.⁴³ It is sufficient if the action unreasonably interferes with the owner’s rights to use and enjoy his property.⁴⁴ In order to determine if a regulatory taking has occurred, the courts will review:

- (1) “the economic impact of the regulation on the claimant”;
- (2) “the extent to which the regulation has interfered with the distinct investment-backed expectations”; and
- (3) “the character of the governmental action.”⁴⁵

Applying these factors, it is clear that NPRR 269, like PRR 830, results in a regulatory taking. Compliance with the new requirement will have a significant impact on Joint Appellants, requiring it to invest tens of millions of dollars to retrofit its existing wind generation units. As discussed above, at the time the investments in those units were made, there was no requirement that reactive power be provided based upon the rectangle configuration that PRR 830 now imposes. Joint Appellants’ “investment-backed expectations”⁴⁶ at the time the units were constructed were that the units complied with the triangle configuration required by the Protocols and Joint Appellants entered into lease agreements and power sales agreements based upon the economic impact of those requirements. Changing those reactive power requirements at such a late date clearly interferes with the investment-backed expectations that underlie the existing wind generation agreements. Since there is no demonstrated reliability reason to impose the new requirement on existing generation, the regulatory action is arbitrary and unreasonable and cannot overcome the impact to private property rights. NPRR 269 must be overturned to prevent the unconstitutional confiscation of private property through a regulatory taking.

⁴¹ U.S. Const. Amend. V.

⁴² Tex. Const. Art. I. § 17.

⁴³ *Hallco Texas, Inc. v. McMullen County*, 221 S.W.3d 50 (Tex. 2006), at 56.

⁴⁴ *Id.*

⁴⁵ *Id.*, citing *Sheffield Devel. Co. v. City of Glenn Heights*, 140 S.W. 3d 660, 670-672 (Tex. 2004).

⁴⁶ The Dallas Court of Appeals has recently emphasized the importance of this factor, stating: “The second factor – the investment-backed expectations of the property owner – *is critical* in evaluating the reasonableness of the government’s interference.” *City of Dallas v. VRC LLC*, 260 S.W.3d 60, 65 (Tex. App – Dallas 2008). (Emphasis added.)

B. NPPRR 269 violates PURA §39.904(l).

In 2005, the Texas Legislature passed Senate Bill 20, which set goals for renewable energy capacity in Texas and gave the Commission authority to take action necessary to encourage development to meet those goals. As part of that legislation, PURA §39.904(l) was enacted, directing the Commission to “adopt rules requiring renewable power facilities to have reactive power control capabilities or any *other feasible technology* designed to reduce the facilities’ *effects* on system reliability.” (Emphasis added.) The Legislature clearly indicated that any action by the Commission must be technically feasible. As discussed previously, because of the technical differences between wind generation and conventional generation, wind generation cannot produce reactive power at the same levels as conventional generation. Because NPPRR 269, like PRR 830, fails to recognize these differences, it violates the §39.904(l) requirement that the Commission can only require the implementation of feasible technology. Further, PURA §39.309(l) requires that reactive power requirements can only be imposed “to reduce the facilities’ effects on system reliability.” In order to determine the facilities’ effects, ERCOT would need to do a study of the system-wide reactive power requirements and determine how much of those requirements are caused by the renewable energy developments. However, ERCOT has refused to perform any study to demonstrate a need for doubling the reactive power capability of wind powered renewable generators. Neither ERCOT nor the Commission is authorized to impose reactive power requirements based upon speculation or an assumption of reliability needs.

A study is also needed to address possible unintended consequences of the application of the rectangle requirement, which may create other reliability problems for both ERCOT and the wind generators. Applying the rectangle reactive power capability requirement on wind generation units already operating in ERCOT presents challenges regarding both the wind farm collection system and the procedures for voltage control coordination with TSPs. Both challenges require significant study before solutions could be devised, and the design problem could, at the very least, significantly increase the cost of meeting the new requirements.

For a wind farm composed of multiple wind turbines that offer the triangle reactive power capability, additional reactive equipment will have to be installed to meet the new PRR 830 and NPPRR 269 requirements. ERCOT Operations staff can then call for the additional reactive power available from the new equipment whether the wind generator is producing real

power or not. The coordination challenge arises from the need to maintain the voltage required by the TSP at the point of interconnection. It is possible that injecting/absorbing significant amounts of reactive power (within the rectangle) during low wind periods could move the voltage at the point of interconnection outside the TSP's acceptable range. This is an issue that can be resolved by studying the system topology and coordinating the operation of the equipment in a given region, which could require additional resources and investment in control system changes. Such a study could also reveal that some of the equipment NPRR 269 would require is unnecessary, however. Either result demonstrates the need for a study before blindly applying the new reactive power requirements.

There is also an engineering design challenge that is internal to a wind generators operations. The collection system for a wind farm, which can amount to miles of lower voltage lines leading up to the point of interconnection with the ERCOT grid, was designed to maintain voltages that the individual turbines can accept. The collection system design was based on the requirements shown by the site-specific interconnection studies that involved the wind generator, the TSP and ERCOT, and assumed the triangle capability from turbines. If the voltage on the collection system exceeds that range (in order to meet the new PRR 830 and NPRR 269 requirements), the turbines will disconnect. Since voltage diminishes with the length of a conductor, the voltage that reaches each turbine needs to be considered in the overall wind farm design. Operating the new equipment required by PRR 830 and NPRR 269 to supply reactive power to the grid can negatively affect the voltage on the collector system. That impact would have to be studied to determine its degree and then any needed changes to the collector system would have to be designed to account for that impact. Even if the study shows that the necessary changes could be accomplished, they could still require considerable effort to prevent the turbines from disconnecting. A study of these impacts is also necessary to determine whether the new PRR 830 and NPRR 269 requirements actually maintain reliability or have the perverse effect of excluding wind generation from the ERCOT market.

These factors establish that until a study is done to determine the "effects on system reliability," the Commission will be unable to determine *if* reactive power control capabilities are needed, much less to determine the particular *feasible* technologies that may be needed to "*reduce*" the impact on system reliability. Because such a study has not been done, NPRR 269 does not comply with PURA §39.904(1) and must be repealed.

C. NPRR 269 violates the requirements of PURA §39.001(c).

PURA Chapter 39 establishes the Commission's authority and responsibilities in "protecting the public interest in the transition to and in the establishment of a fully competitive electric power industry."⁴⁷ Section 39.001(c) specifically requires that regulatory authorities, like the Commission and independent organizations like ERCOT to whom it has delegated authority:⁴⁸

... may not make rules or issue orders regulating competitive electric services, prices, or competitors or restricting or conditioning competition except as authorized in this title and may not discriminate against any participant or type of participant during the transition to a competitive market and in the competitive market.

It is clear that NPRR 269, like PRR 830, regulates wind generators who are competitors in the wholesale electricity market in ERCOT. As explained previously, the effect of NPRR 269 is to discriminate against wind generators by applying reactive power requirements that may be appropriate for conventional generation but which fail to account for the technical differences between the two dissimilar types of generation. FERC has concluded that it is appropriate to have different standards for the two types of generation to avoid the possibility of undue discrimination against wind generators to the benefit of conventional generation. By failing to make similar accommodations for wind generating units, ERCOT has discriminated against a particular type of market participant, in violation of PURA §39.001(c). Accordingly, NPRR 269 must be repealed.

D. NPRR 269 violates the requirements of PURA §39.001(d).

PURA §39.001(d) provides, in pertinent part, that regulatory authorities, like the Commission and its delegee ERCOT, "shall adopt rules and issue orders that are both practical and limited so as to impose the least impact on competition." NPRR 269 meets neither criterion. Requiring existing wind generation to meet the rectangle configuration in the same manner as conventional generation is not only impractical, it requires suspension of physics. Wind can only provide reactive power during times when the source of fuel (wind) is available at that location.

⁴⁷ PURA §39.001(a).

⁴⁸ Pursuant to PURA §39.151(d) the Commission may delegate authority to ERCOT to adopt rules relating to reliability and the accounting of charges for production and delivery of electricity, but such authority is limited by the requirements of PURA. Additionally, the Commission may not delegate a duty to ERCOT that is outside the scope of the Commission's authority under PURA.

Even if a wind generator wanted to provide reactive power at such times, it cannot obtain its fuel by simply contacting a supplier like a conventional generator. Because it ignores this basic factor, NPRR 269 must be viewed as impractical, akin to requiring a solar generator to produce power during the blackest night.

NPRR 269 is also not limited in application despite requests by wind generators to assure that the regulatory “fix” actually addresses the problem. A limited rule would only require the imposition of additional reactive power where there was a demonstrated need for such power. However, to determine such need, ERCOT would need to conduct a study of reactive power needs, a step that it has steadfastly refused to take. Once a study was completed, ERCOT and other participants would know where reactive power was needed and in what amounts, and ERCOT could adopt a PRR that was specifically tailored to address such matters. Alternatively, ERCOT could have adopted a case-by-case approach, like that used by FERC, to determine the need for reactive power. Because ERCOT ignored the availability of these less intrusive alternatives, NPRR 269’s blanket application to all wind generation cannot be viewed as “limited” in scope as required by PURA §39.001(d).

Rather than having “the least impact on competition,” NPRR 269 will have significant impacts upon competition. The cost of the extensive retrofitting required by NPRR 269 will increase costs to wind generators without providing any demonstrated reliability benefit. These costs may result in establishment of an economic incentive for existing generators to leave the market and decreasing the number and type of competitors in ERCOT. Although Joint Appellants and some larger wind generators may be able to comply with some parts of NPRR 269 on a prospective basis, that is for new wind generation projects, the imposition of the rectangle on new generation also has significant impact on future wind generation and may constitute a barrier to entry by new wind generators.⁴⁹ Regulatory requirements that are impractical, overbroad, and that reduce the level of competition conflict with PURA §39.001(d) and must be reversed by the Commission.

E. NPRR 269 violates PURA §39.151(a)(1).

PURA §39.151 establishes the duties of an “independent organization” like ERCOT and specifies that such an entity is required to “ensure access to the transmission and distribution

⁴⁹ See comments by Vestas- American Wind Technology submitted, at <http://www.ercot.com/mktrules/issues/prr/825-849/830/index>, that PRR 830 effectively excludes its turbines.

systems for all buyers and sellers of electricity on a nondiscriminatory basis.” NPRR 269 violates this requirement by discriminating against wind generators and by imposing standards that would effectively prevent them from gaining access to the ERCOT transmission system to deliver electricity to buyers of electricity. NPRR 269, like PRR 830, requires wind generators to meet the rectangle configuration for reactive power at all times that they are on-line, *i.e.* synchronously interconnected with ERCOT. Because of technical differences in technology, most existing, installed wind generation units cannot meet this requirement and would be required to disconnect from the ERCOT transmission system. As a result, these units are denied access to the ERCOT transmission system and their owners are unable to sell their power in the ERCOT market. As noted earlier, failing to account for the technical differences between wind generation units and conventional generation units constitutes discrimination against a wind unit by requiring it to “operate at the stated power factor at voltages where it is technically infeasible to do so.”⁵⁰ NPRR 269 therefore violates the requirement imposed by PURA §39.151(a)(1).

F. NPRR 269 violates PURA §35.004(e).

PURA §35.004(e) requires that the Commission “ensure that ancillary services ... are available at reasonable prices with terms and conditions that are not unreasonably preferential, prejudicial, discriminatory, predatory, or anticompetitive.” Reactive power is specifically listed as an ancillary service to which these statutory requirements apply. PRR 830 and NPRR 269 fail to comply with these requirements. As discussed previously, PRR 830 and NPRR 269 discriminate against wind generation units by applying reactive power standards that fail to account for the technical abilities of wind generation units. PRR 830’s and NPRR 269’s requirements are also prejudicial and preferential to conventional generation because they were designed to be consistent with the characteristics of conventional generation units and ignored the technical capabilities of location-constrained generation like wind generation units. The ultimate effect of PRR 830 and NPRR 269 is to require wind generation units to either incur unnecessary, costly, and uneconomic retrofits or disconnect from the ERCOT transmission system. Either result effectively prevents wind generators from competing for business in the ERCOT electricity market, a clearly anticompetitive outcome. Accordingly, NPRR 269 violates PURA §35.004(e) and must be repealed by the Commission.

⁵⁰ FERC Order 661-A, ¶52.

G. NPRR 269 violates PURA §39.151(a)(2) and (4).

PURA §39.151(a)(2) requires that ERCOT “ensure the reliability and adequacy of the regional electrical network,” while subsection (a)(4) requires that it “ensure that electricity production and delivery are accurately accounted for among the generators and wholesale buyers and sellers in the region.” ERCOT has not established that either PRR 830 or NPRR 269 is necessary to ensure the reliability and adequacy of the network. Unless ERCOT can establish a reliability need for reactive power in the rectangle from specific wind generating units, the effects of both PRR 830 and NPRR 269 is to require wind generators to install “costly equipment that is not necessary for reliability.”⁵¹ Because there is no justification for the imposition of these unnecessary, added costs, PRR 830 and NPRR 269 arbitrarily shift costs to wind generators and prevents ERCOT from “accurately account[ing] for [costs] among the generators and wholesale buyers and sellers in the region,” as required by PURA. Accordingly, NPRR 269 violates PURA §39.151(a)(2) and (4).

H. NPRR 269 was adopted in violation of PURA §39.1511.

PURA §39.1511(b) requires that ERCOT’s bylaws and the Commission’s rules “must ensure that a person interested in the activities of [ERCOT] has ... an opportunity to comment on matters under discussion at the meetings.” At its meeting of November 17, 2009, the ERCOT Board failed to ensure that Joint Appellants and other wind generators had an opportunity to comment on matters raised by ERCOT Staff during the course of the meeting. Despite the acknowledgement by ERCOT’s General Counsel at the end of the meeting that he had been acting as an ERCOT Officer and proponent of the approval of PRR 830 and not speaking in his role as counsel to the Board, the Board continually called upon its General Counsel and other ERCOT Staff members without providing an opportunity for Joint Appellants and others to respond to the comments of this interested party. As a result of this action, the Board did not receive a balanced view of the background and impact of PRR 830 from all interested parties. This was particularly problematic in regard to ERCOT’s continued assertion that PRR 830 was needed for reliability reasons even though there was absolutely no evidence that a reliability problem existed in regard to reactive power or that PRR 830 was the appropriate method for resolving any reliability concern. Because of these procedural errors, Joint Appellants and other

⁵¹ Order 661-A, ¶41.

wind developers did not receive a meaningful opportunity to comment on PRR 830 that was equivalent to the opportunity provided to ERCOT Staff, who clearly had a direct interest in the outcome of the proceeding. This unbalanced procedure does not comply with the requirement that interested persons have an opportunity to comment on matters under discussion at ERCOT meetings, as required by PURA §39.1511(b). NPRR 269 was adopted without regard to the pending matter before the PUCT in Docket No. 37817 and therefore suffers from the same defects as PRR 830. Accordingly, NPRR 269 must be repealed.

I. NPRR 269 violates P.U.C. SUBST. R. 25.501(a).

P.U.C. SUBST. R. 25.501(a) establishes the principles that must be considered in the development of ERCOT Protocols. Included within these principles is the requirement that the Protocols “reflect the physical realities of the ERCOT electric system.” As discussed previously, NPRR 269 fails to account for the important technical differences between wind generation and conventional generation concerning the production of reactive power. The FERC has “recognized that renewable resources, such as wind, are typically constrained as a result of their location, relative size, and the immobility of their fuel sources, and therefore, present unique challenges that are not faced by other resources,”⁵² and has established different standards for wind generators. NPRR 269, however, fails to consider these elementary and dispositive factors that demonstrate the unique character of existing wind generation. Regardless of the language that is used, the Protocols cannot override basic physics and require these existing wind generation units to provide reactive power in the same manner as conventional generation units. By failing to consider these technical differences between dissimilar generation units, NPRR 269 has violated the standards imposed by P.U.C. SUBST. R. 25.501(a) and must be repealed.

J. NPRR 269 is arbitrary, capricious and discriminatory.

PRR 830 was adopted based upon representations that it was merely a “clarification” of existing requirements and NPRR merely transferred these requirements to the Nodal Protocols. As demonstrated above, this case concerns a change of the Protocol requirements, not a “clarification” of existing requirements. The new rectangular reactive power requirement is not found anywhere in the previous versions of the Protocols, the Operating Guides, or the RARF

⁵² SPP Order, ¶29.

Guide. It is found nowhere in previous industry standards or the nation-wide standards adopted by FERC. By basing its decision on unfounded assertions and by failing to determine the actual facts concerning the existing reactive power requirements, the ERCOT Board action was arbitrary, capricious and discriminatory in applying the standards of PRR 830 and now NPRR 269 to existing wind generation. Additionally, because ERCOT has failed to produce any studies demonstrating the need for the rectangle requirement, there is no rational basis for the imposition of this requirement on existing generation or with regard to planned generation. ERCOT's action thus fails to comply with the procedural standards established by P.U.C. PROC. R. 22.251(l) and the Commission is required to make the necessary factual determinations on a *de novo* basis.

In Docket No. 23220, the Commission stated its intent to ensure fairness in the ERCOT market by retaining the ability to subject the following matters to a greater level of scrutiny:⁵³

1. Matters that have major impacts on the fundamental design and competitiveness of markets;
2. Matters that have disparate impacts on particular types of market participants;
3. Matters that may unnecessarily create barriers to entry; and
4. Matters that may conflict with legislative or Commission policies.

This proceeding involves issues that merit greater scrutiny by the Commission for all of the above reasons. PRR 830 and NPRR 269 each retain the exemption for generators that were in operation prior to September 1, 1999, a provision that excuses most existing conventional generation from the retrofit obligation. Imposition of the retrofit requirement of PRR 830 and NPRR 269 has a disparate impact on wind generators as opposed to conventional generators and impacts the competitiveness of the market by essentially eliminating existing wind generation from the market after December 31, 2010 to the detriment of both wind generators and retail customers who will face increased costs of electricity from conventional generators. The uncertainty created by PRR 830 and NPRR 269 also creates a barrier to entry by chilling the prospects for future investment in Texas, as discussed later. Finally, as discussed later, the adoption of PRR 830 and NPRR 269 conflicts with legislative policies encouraging the development of renewable energy and the legislative instruction to avoid conflicts with federal

⁵³ *Petition of the Electric Reliability Council of Texas for Approval of ERCOT Protocols*, Docket No. 23220, Order on Rehearing (Jun. 1, 2001).

policies. For the policy reasons announced in Docket No. 23220, the adoption of NPRR 269 must be repealed as being arbitrary, capricious and discriminatory.

K. NPRR 269 conflicts with national standards for reactive power adopted by FERC and enforced by NERC.

As detailed above, NPRR 269, like PRR 830, is inconsistent with national standards for reactive power adopted by the FERC. The Texas Legislature has indicated that it values consistency with federal standards. PURA §39.151(c) specifically requires that, in exercising its authority to oversee and review ERCOT's actions, the Commission "shall apply the provisions of this section and Sections 39.1511, 39.1512, and 39.1515 so as to avoid conflict with a ruling of a federal regulatory body." Additionally, PURA §35.006(a)(2) directs that Commission rules related to wholesale transmission service, rates and access "may not be contrary to federal law, including any applicable decision, rule, or policy statement of a federal regulatory agency having jurisdiction." Requiring the imposition of a rectangular reactive power requirement *as a minimum* for wind generation units without first conducting a reliability standard directly conflicts with FERC's decision to impose a +/- 0.95 triangular power factor *as a maximum* reactive power requirement but only after a case-by-case study demonstrates that it is necessary for reliability reasons. Because NPRR 269 conflicts with the FERC-adopted standards related to reactive power from wind generation units, it violates the requirements of PURA §39.151(c) and must be repealed.

Moreover, market participants were not put on notice either by the language in either the Protocols or in the Operating Guides in effect, that ERCOT would use a different standard for reactive power for reliability reasons. The Operating Guides in effect when existing wind generation was interconnected clearly stated which standards at FERC and ERCOT diverged for reliability reasons, and reactive power was not listed. ERCOT is now having to change the Generation Interconnection Procedure and the Operating Procedures following its change to the Protocols to make these documents consistent with the very different reactive power standard included in NPRR 269.

Trade usage for the wind power industry in the United States is shaped by FERC standards, since such standards apply to all areas outside ERCOT. Consistent nation-wide standards enable generators and their investors to assess risks associated with generation

development and thereby encourage development of generation in areas where it is needed.⁵⁴ The standards established by FERC become industry standards due, in part, to the greater size of the outside-ERCOT market. Unless regional standards specify differently, those standards would constitute trade usage. As noted previously, although the ERCOT Operating Guides purport to identify all areas where the local ERCOT standards are different from FERC-approved NERC standards, there is no reference to a different reactive power standard for wind generation units. A reasonable conclusion to be reached is that the nation-wide FERC standards also apply in ERCOT. This conclusion is supported by, and not contradicted by, the express language used in the ERCOT Protocols prior to the adoption of PRR 830 and now NPRR 269. Because NPRR 269, like PRR 830, attempts to revise these standards and require unnecessary retrofitting of existing generation without the demonstration of a reliability need, it conflicts with the goal of consistent nation-wide standards for reactive power and must be repealed.

L. NPRR 269 is inconsistent with Texas public policy goals.

NPRR 269, like PRR 830 contravenes important public policy goals established by the Texas Legislature. PURA §31.001(c) establishes the goal of creating “a more competitive marketplace” and a marketplace “that allows for increased participation by ... certain nonutilities.” PURA §39.904 establishes a legislative policy encouraging the development of renewable energy resources in Texas. Wind generation will play an important part in the ability of the state to meet and exceed these goals. Certainly the Commission has been very active and responsive in working to meet these public policy goals and Joint Appellants appreciate and laud the Commission for its efforts. However, the adoption of NPRR 269 threatens to thwart the ability of the Texas market to meet these legislative goals, despite the Commission’s efforts.

NPRR 269 requires that all existing generation come into compliance with the new reactive power requirements by December 31, 2010. If not in compliance by that date, the generation units will have to disconnect from ERCOT or face enforcement penalties. A recent ERCOT study found that more than 70% (38 out of 54)⁵⁵ existing wind generation units to which the reactive power requirements apply⁵⁶ do not meet the standard. If these units are forced to

⁵⁴ For other examples showing the Legislative policy favoring nation-wide standards, see PURA §§ 11.009, 14.151(c), 17.158, 39.151(c) & (d).

⁵⁵ Transcript of November 17, 2009 ERCOT Board Meeting, at 136.

⁵⁶ An additional 16 wind generators were exempt from the requirements.

disconnect from the ERCOT system, the amount of renewable generation in Texas will significantly decline rather than increase as the Legislature intends. Further, the removal of many wind units may change the demand calculations that the Commission relied upon in approving the construction of about \$5.0 billion in CREZ transmission, resulting in a potentially stranded CREZ investment.

Most importantly, adoption of NPRR 269 will significantly impact investment in new generation in Texas *by all types* of generation units, not just renewable generation units. Previously, investors could look to the ERCOT Protocols and nation-wide standards and make their investment decisions based upon the existing requirements. Prior to PRR 830, and now NPRR 269, any changes to ERCOT standards were made on a prospective basis with existing generation units “grandfathered” with the standards that applied when they interconnected to the ERCOT system. This provided certainty to investors that their investment-backed expectations would not be undermined by changing regulatory requirements. Investors will be unlikely to make a major investment in Texas generation units and enter into long-term contracts for producing power when they know that the economics of their investment decision can be changed by regulatory decisions made years later. Instead, they can invest their money in projects in other states where the investment climate is more stable and certain. PRR 830, and by extension NPRR 269, have eliminated the certainty that used to exist and has substituted increased uncertainty and risk, which will ultimately be reflected in less investment, less incentive to introduce new technology that doesn’t fit the conventional generation mode, increased costs of operation, or greater expected returns before investment will occur. Each of these results is detrimental to the continued development of needed generation resources and ultimately detrimental to Texas electric customers. To avoid these consequences, NPRR 269 must be repealed.

X. MOTION FOR SUSPENSION OF NPRR 269

Pursuant to P.U.C. PROC. R. 22.251(d)(2) and (i), Joint Appellants request that the requirements of NPRR 269 be suspended until the Commission issues a final order in this proceeding. Although the retrofit obligations of NPRR 269 will not be effective until after the December 31, 2010 deadline in the NPRR, Joint Appellants would have had to begin to implement the needed changes to their existing generation many months ago in order to meet

that deadline. Instead, Joint Appellants have relied upon the suspension of PRR 830 authorized by Order No. 6 in Docket No. 37817 and have dedicated their resources to settlement efforts in Docket No. 37817. A suspension of NPRR 269 during this proceeding would be consistent with Order No. 6 and would enable all parties to continue to focus on settlement efforts. In the event a settlement is not possible, suspension of NPRR 269 consistent with Order No. 6 would enable the Commission to fully develop the record and reach a decision in this proceeding while avoiding the significant harm that will result from the implementation of NPRR 269.

There is good cause for suspension of NPRR 269 because of the significant impact its implementation will have on both Joint Appellants' existing operations in Texas and on the public interest. Unless NPRR 269 is suspended, Joint Appellants and other wind generators will be required to incur significant costs in retrofitting existing, operational wind generation units to meet the new, unnecessary reactive power requirements imposed by NPRR 269. The equipment and installation costs to Joint Appellants to make such retrofit changes to existing units is in the range of tens of millions of dollars, which does not include the "cost" of lost revenue during an indeterminate time period in which the wind projects must be shutdown to be retrofit, and Joint Appellants anticipate that many, if not most, of the other 37 allegedly non-compliant wind generators operating in Texas would incur similar costs. These direct costs do not include the additional cost of revenue that will be lost during the time that the wind generation units are shut down in order to retrofit changes. Before requiring wind generators to spend aggregated amounts that could exceed \$100 million, the Commission should assure that such investment is (1) needed and (2) will actually address any identified reliability concerns. Otherwise such investment is simply needless "gold-plating" of facilities.

In addition to the generator costs, consumers in Texas will face higher charges for electric service in Texas as a result of NPRR 269. The increased costs to customers will occur for two reasons. First, during the time wind generators are performing the retrofit changes, their units will be off-line and ERCOT will have to rely on only conventional generation to meet system needs; low-cost wind generation will not be available to lower the market clearing price in ERCOT. Secondly, rather than making the retrofits, some generators may find it is more rational to simply scale back or discontinue operations in Texas. This would not only reduce the availability of inexpensive generation resources to Texas consumers, but would also impact the local economies of the Texas communities where the assets are located.

As discussed previously, ERCOT has not produced a single study demonstrating that reactive power in the rectangle configuration is needed from location-constrained wind generation resources located in areas far from ERCOT's load centers. Despite requests by Horizon, NextEra and other wind generators, ERCOT has thus far refused to conduct any study of the issue. Further, ERCOT has not identified a single instance in which a wind generator's inability to provide reactive power in a rectangle configuration has led to a reliability incident in ERCOT. The lack of any such demonstrated events indicates the lack of a reliability problem because ERCOT has been operating for many years with wind developers generally only providing reactive power in the triangle configuration. Joint Appellants agree that reliability is an issue of utmost importance, but it cannot be used as a "red flag" that is waved anytime ERCOT disagrees with a market participant. Instead, there must be some demonstration of a reliability impact before ERCOT can impose unnecessary costs on a group of market participants. Without some indication of a need, which is lacking in this case, the requirement is simply an improper intrusion on the competitiveness of the market rather than the solution to a reliability problem.

Suspension is also necessary because the proposed implementation date of December 31, 2010 is neither feasible, nor reasonable, and is less than 30 days away. Moreover, the NPRR 269 implementation date conflicts with the determination in Docket No. 37817 that the implementation date of these requirements should be suspended on a day-for-day basis until after the Commission makes a determination relating to these issues. As with other aspects of NPRR 269, this date was arbitrarily selected by ERCOT without any study or analysis of the actions that would be required by wind generators to comply with the retrofit requirements. Subsequent to the adoption of PRR 830, Joint Appellants have contacted suppliers of the equipment that would need to be installed to meet the rectangle requirement. Joint Appellants have discovered that there is a growing demand for the equipment and a shortage of supply. The result is not just an increase in costs of compliance but, more importantly, notification from some suppliers that they simply will not have a sufficient supply of the necessary equipment to assure that Joint Appellants and other wind generators can meet this arbitrary deadline. Because of this shortage situation, compliance with the December 31, 2010 deadline in NPRR 269 is not technically feasible as required by PURA §39.904(1).

Further, ERCOT, the party against whom Joint Appellants seek relief, has authorized Joint Appellants to represent that ERCOT has no objection to a requested suspension of NPRR 269 consistent with Order No. 6 in Docket No. 37817 relating to the suspension of PRR 830. Joint Appellants believe that ERCOT's agreement, along with the reasons stated above, establish good cause for suspension of NPRR 269 pursuant to P.U.C. PROC. R. 22.251(i).

For the reasons set forth above, Joint Appellants respectfully request that the Commission suspend the application of NPRR 269, consistent with Order No. 6 in Docket No. 37817. If the Commission ultimately upholds NPRR 269, Joint Appellants further request that the Commission extend the compliance deadline consistent with Order No. 6 in Docket No. 37817 to allow time for implementation of the reactive power requirements.

XI. EVIDENTIARY HEARING

In the event this matter is not settled, Joint Appellants hereby request that the Commission schedule this matter for an evidentiary hearing to resolve factual disputes between the parties. Pursuant to P.U.C. PROC. R. 22.251(l), the Commission is required to resolve these factual determinations on a *de novo* basis, without any deference to the action taken by the ERCOT Board. Because this proceeding involves important policy issues for the Commission and is not an enforcement matter, the Commissioners have discretion to hear this matter themselves rather than referring the case to the State Office of Administrative Hearings. Joint Appellants are **NOT** requesting an evidentiary hearing at this time but are merely requesting that the Commission hear the case *if* a hearing becomes necessary.

XII. FACTUAL ISSUES TO BE ADDRESSED

In each of their original appeals of PRR 830, Joint Appellants presented a list of factual issues to be decided in the case concerning PRR 830. Because NPRR 269 merely incorporates PRR 830 into the Nodal Protocols, Joint Appellants assert that the lists of factual issues presented in Joint Appellants' Original Appeals should also be considered in this appeal. Joint Appellants hereby incorporate such lists of factual issues by reference as if they were stated in full in this pleading. Without waiving any previously raised issues, the factual issues include, but are not limited to :

1. Did ERCOT permit wind generation resources to interconnect to the ERCOT grid knowing that they provided the triangle reactive power configuration?

2. What information and documentation does ERCOT have discussing the interpretation of the rectangle requirement prior to 2008?
3. Were any ERCOT personnel on ERCOT Staff at the time advising that the triangle configuration was the requirement?
4. Did ERCOT perform a study to identify reliability issues, if any, with wind generation providing reactive power in the triangle configuration?
5. Did ERCOT Staff perform a study or develop data showing that requiring additional reactive power capability from existing wind generators would improve system reliability?
6. Is the “rectangle” considered the industry norm for wind generators outside of ERCOT’s Protocol Interpretation and adoption of NPRR 269?
7. Do ERCOT’s, TSPs’ and wind generators’ conduct since 2004 support ERCOT’s Protocol Interpretation and position that NPRR 269 clarified the Protocols?
8. What harm would existing generators face from implementation of NPRR 269?
9. What is the cost and feasibility retrofitting existing wind generators to meet the NPRR 269 requirements?
10. Is the rectangle requirement the most efficient way to address any reliability issue with the triangle, if any, identified as part of a reactive power study?

XIII. RECORD FOR APPEAL

In their original appeal of PRR 830, Joint Appellants provided a voluminous record for the appeal concerning PRR 830. Because NPRR 269 merely incorporates PRR 830 into the Nodal Protocols, Joint Appellants assert that the record presented in Joint Appellants’ Original Appeal should also be considered in this appeal. Joint Appellants hereby incorporate such record by reference as if it was stated in full in this pleading. Joint Appellants request that these documents be included in the record for this appeal and that, rather than filing additional paper copies of these documents, citation to the electronic version of the documents in Docket No. 37817 will be considered to comply with the requirement to provide certified or sworn copies of such documents.

Additional documents related to the adoption of NPRR 269 are publically available on the ERCOT web site under the tab “Key Documents” at the following location:

<http://www.ercot.com/mktrules/issues/npr/251-275/269/index>

Joint Appellants request that these documents be included in the record for this appeal and that, rather than filing paper copies of these documents, citation to the electronic version of the documents will be considered to comply with the requirement to provide certified or sworn copies of such documents. In addition, if this appeal is not settled, Joint Appellants will supplement the record by filing a copy of the transcript of the portion of the ERCOT Board Meeting of November 16, 2010 during which NPRR 269 was discussed. Joint Appellants have been authorized by ERCOT to represent that ERCOT agrees to these requests.

XIV. MOTION FOR CONSOLIDATION WITH DOCKET NO. 37817

Because the issues related to the adoption of NPRR 269 are substantially the same as those related to the adoption of PRR 830, Joint Appellants anticipate that this appeal and the appeals consolidated in Docket No. 37817 largely will involve common questions of law and fact and that consolidation would serve the interest of efficiency by allowing the Commission to address all issues related to both PRR 830 and NPRR 269 in a single proceeding rather than in multiple proceedings. Any issues that may be related only to one of the appeals could be addressed in separate, detailed findings and conclusions as part of the overall decision. Accordingly, Joint Appellants request that this proceeding be consolidated with the pending appeals of PRR 830 in Docket No. 37817. Joint Appellants have been authorized by ERCOT to represent that ERCOT agrees to this motion to consolidate this joint appeal with Docket No. 37817.

XV. REQUEST FOR GOOD CAUSE WAIVER OF PAGE LIMITATIONS FOR FILING PURSUANT TO P.U.C. PROC. R. 22.72(F)

Joint Appellants respectfully request a waiver of the fifty page limitation for filing as set forth in P.U.C. Proc. R. 22.72(f). P.U.C. Proc. R. 22.251(d)(1)(H) requires that a sworn record be filed consisting of the evidence complained of which may also contain other items pertinent to the issues or points presented for review along with affidavits or other evidence on which Joint Appellants rely. The record of these issues is quite extensive. The transcript from the ERCOT Board meetings alone exceed the fifty page limitation contemplated in P.U.C. Proc. R. 22.72(f) and coupled with the appeal itself as set forth herein and the other documents that meet the standard required by P.U.C. Proc. R. 22.251(d)(1)(H), well exceed the page limitation. In order

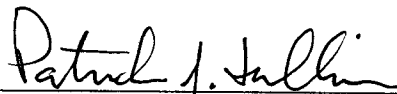
to meet the standard set forth in P.U.C. Proc. R. 22.251(d)(1)(H), Joint Appellants request a good cause waiver of P.U.C. Proc. R. 22.72(f).

XVI. RELIEF REQUESTED

Joint Appellants respectfully request that the Commission suspend the application of NPRR 269 during this proceeding; consolidate this appeal with Docket No. 37817; if necessary, conduct an evidentiary hearing to consider this appeal; and, following the hearing, enter an order repealing NPRR 269.

WHEREFORE, PREMISES CONSIDERED, Joint Appellants respectfully request that the Commission issue an order granting the relief sought in this Appeal, and that Joint Appellants be awarded all other and further relief to which they are entitled.

Respectfully Submitted,




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Patrick J. Sullivan
State Bar No. 19488600
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SILVER STAR I**

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(512) 651-0515 phone
(512) 651-0520 fax

**ATTORNEYS FOR BUFFALO GAP WIND
FARM, L.L.C., BUFFALO GAP WIND FARM
2, L.L.C., AND BUFFALO GAP WIND FARM
3, L.L.C.**

Certificate of Service

I hereby certify that on the 15th day of December, 2010, a true and correct copy of the above and foregoing was delivered by first-class mail or fax to the entities identified in this pleading.

Patrick J. Sullivan
Patrick J. Sullivan

AFFIDAVITS

PUC DOCKET NO. _____

JOINT APPELLANTS' APPEAL AND §
COMPLAINT CONCERNING THE §
ERCOT BOARD'S ADOPTION OF §
NPRR 269 AND REQUEST FOR §
RELATED RELIEF §

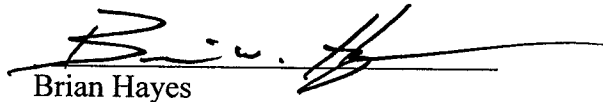
BEFORE THE
PUBLIC UTILITY COMMISSION
OF TEXAS

AFFIDAVIT OF BRIAN HAYES

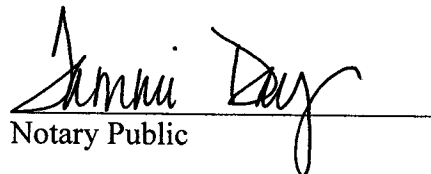
1. My name is Brian Hayes. I am the Chief Asset Operations Officer for Horizon Wind Energy LLC, 808 Travis Street, Suite 700, Houston, Texas 77002. I am testifying in this proceeding on behalf of Horizon Wind Energy, LLC, Post Oak Wind LLC and Mesquite Wind LLC (collectively "Horizon").

2. This affidavit is attached to the above-styled appeal and is made a part thereof for all purposes.

3. I hereby swear or affirm that the information contained in the above-styled appeal as related to Horizon is true and correct to the best of my knowledge and belief.


Brian Hayes

Subscribed and sworn before me this 11th day of December, 2010.


Notary Public



PUC DOCKET NO. _____

JOINT APPELLANTS' APPEAL § BEFORE THE
AND COMPLAINT CONCERNING §
THE ERCOT BOARD'S ADOPTION § PUBLIC UTILITY COMMISSION
OF NPRR 269 AND REQUEST FOR §
RELATED RELIEF § OF TEXAS

AFFIDAVIT OF ELLEN MAHER

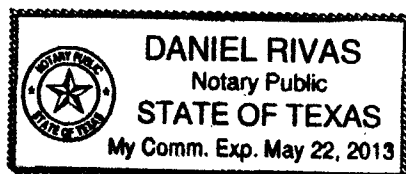
1. My name is Ellen Maher. I am the Vice President for Sweetwater Wind 1 LLC, Sweetwater Wind 2 LLC, Sweetwater Wind 3 LLC, Sweetwater Wind 4 LLC and Sweetwater Wind 5 LLC (collectively "Sweetwater Wind") whose mailing address is 5307 East Mockingbird Lane, Suite 1000, Dallas, TX 75206. I am testifying in this proceeding on behalf of Sweetwater Wind.

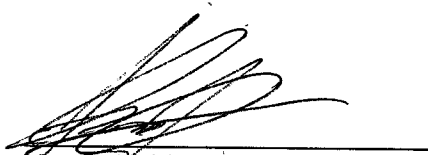
2. This affidavit is attached to the above-styled appeal and is made a part thereof for all purposes.

3. I hereby swear or affirm that the information contained in the above-styled appeal as related to Sweetwater Wind is true and correct to the best of my knowledge and belief.


(Name) Ellen Maher

Subscribed and sworn before me this 6th day of December, 2010.




Notary Public

PUC DOCKET NO. _____

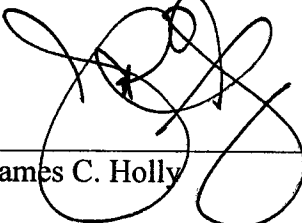
JOINT APPELLANTS' APPEAL AND § BEFORE THE
COMPLAINT CONCERNING THE §
ERCOT BOARD'S ADOPTION OF § PUBLIC UTILITY COMMISSION
NPRR 269 AND REQUEST FOR §
RELATED RELIEF § OF TEXAS

AFFIDAVIT OF JAMES C. HOLLY

1. My name is James C. Holly. I am Director of Wind Assets at BP Wind Energy North America Inc. and an authorized representative of Silver Star I Power Partners, LLC ("Silver Star"), 700 Louisiana, 33rd Floor, Houston, Texas 77002. I am testifying in this proceeding on behalf of Silver Star.

2. This affidavit is attached to the above-styled appeal and is made a part thereof for all purposes.

3. I hereby swear or affirm that the information contained in the above-styled appeal as related to Silver Star is true and correct to the best of my knowledge and belief.

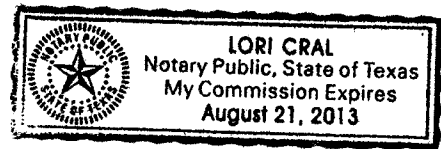


James C. Holly

Subscribed and sworn before me this 10th day of December, 2010.



Notary Public



PUC DOCKET NO. _____

JOINT APPELLANTS' APPEAL AND §
COMPLAINT CONCERNING THE §
ERCOT BOARD'S ADOPTION OF §
NPRR 269 AND REQUEST FOR §
RELATED RELIEF §


BEFORE THE
PUBLIC UTILITY COMMISSION
OF TEXAS

AFFIDAVIT OF MATTHEW BURT

1. My name is Matthew Burt. I am the Vice President, Operations for Renewable Energy Systems Americas Inc. whose address is 11101 W. 120th Ave, Broomfield, Colorado 80021. I am testifying in this proceeding on behalf of RES America Developments Inc., Whirlwind Energy LLC and Hackberry Wind LLC (collectively "RES").

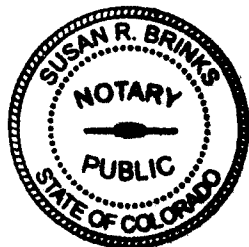
2. This affidavit is attached to the above-styled appeal and is made a part thereof for all purposes.

3. I hereby swear or affirm that the information contained in the above-styled appeal as related to RES is true and correct to the best of my knowledge and belief.

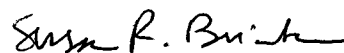


(Name)

Subscribed and sworn before me this 13th day of December, 2010.



My Commission Expires Jan. 28, 2013



Notary Public

PUC DOCKET NO. _____

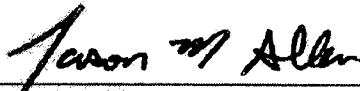
JOINT APPELLANTS' APPEAL § BEFORE THE
AND COMPLAINT CONCERNING §
THE ERCOT BOARD'S ADOPTION § PUBLIC UTILITY COMMISSION
OF NPRR 269 AND REQUEST FOR §
RELATED RELIEF § OF TEXAS

AFFIDAVIT OF JASON M. ALLEN

1. My name is Jason M. Allen. My business address is 440 S. Tryon Street, Mail Drop ST31C, Charlotte, North Carolina 28285. I am a Vice President of Duke Energy Generation Services, Inc., which is a wholly-owned subsidiary of Duke Energy Corporation. Duke Energy Corporation ("Duke") is a joint appellant in the above-referenced proceeding. I am testifying in this proceeding on behalf of Duke.

2. This affidavit is attached to the above-styled appeal and is made a part thereof for all purposes.

3. I hereby swear or affirm that the information contained in the above-styled appeal as related to Duke is true and correct to the best of my knowledge and belief.



Jason M. Allen

Subscribed and sworn before me this 14 day of December, 2010.

State of North Carolina
County of Mecklenburg

I, Virginia M. Adams
a Notary Public of said County and State, do hereby certify
that JASON M. ALLEN
personally appeared before me this _____ acknowledged the due
execution of the foregoing instrument.
Witness my hand and official seal, this the 14 day of Dec., 2010
My Commission Expires: October 2, 2011



Notary Public

PUC DOCKET NO. _____

JOINT APPELLANTS' APPEAL AND §
COMPLAINT CONCERNING THE §
ERCOT BOARD'S ADOPTION OF §
NPRR 269 AND REQUEST FOR §
RELATED RELIEF §

BEFORE THE
PUBLIC UTILITY COMMISSION
OF TEXAS

AFFIDAVIT OF THOMAS R. SHIELDS

1. My name is Thomas R. Shields. I am responsible for Transmission Origination for the Texas wind generation projects of Iberdrola Renewables, Inc., 20329 State Highway 249, Suite 400, Houston, Texas, 77070. I am testifying in this proceeding on behalf of Iberdrola Renewables, Inc., Barton Chapel Wind, LLC, Peñascal Wind Power, LLC and Peñascal Wind Power II, LLC (collectively "Iberdrola Renewables").

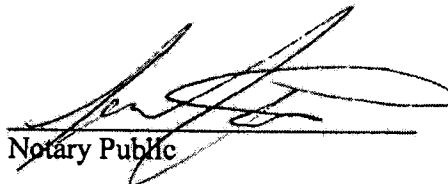
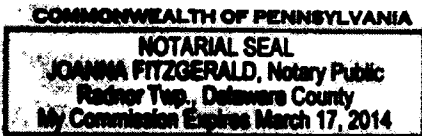
2. This affidavit is attached to the above-styled appeal and is made a part thereof for all purposes.

3. In my capacity in the Transmission Origination organization of Iberdrola Renewables, I am familiar with the matters set forth in the above-styled appeal. I hereby swear or affirm that the information contained in the above-styled appeal as related to Iberdrola Renewables is true and correct to the best of my knowledge and belief.



Thomas R. Shields

Subscribed and sworn before me this 14th day of December, 2010. State: Pennsylvania
County: Delaware


Notary Public

PUC DOCKET NO. _____

JOINT APPELLANTS' APPEAL AND §
COMPLAINT CONCERNING THE §
ERCOT BOARD'S ADOPTION OF §
NPRR 269 AND REQUEST FOR §
RELATED RELIEF §


BEFORE THE
PUBLIC UTILITY COMMISSION
OF TEXAS

AFFIDAVIT OF Peter Wybierala


1. My name is Peter Wybierala. I am the Executive Director of Transmission for NextEra Energy Resources, LLC ("NextEra") located at 700 Universe Blvd, Juno Beach, FL. I am testifying in this proceeding on behalf of NextEra.

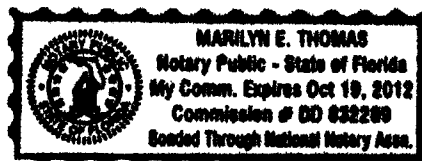
2. This affidavit is attached to the above-styled appeal and is made a part thereof for all purposes.

3. I hereby swear or affirm that the information contained in the above-styled appeal as related to NextEra is true and correct to the best of my knowledge and belief.


(Name)

Subscribed and sworn before me this 15th day of December, 2010.


Notary Public



PUC DOCKET NO. _____

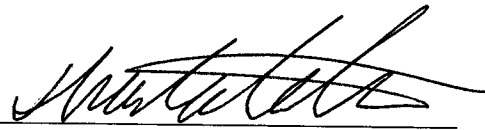
JOINT APPELLANTS' APPEAL AND	§	BEFORE THE
COMPLAINT CONCERNING THE	§	
ERCOT BOARD'S ADOPTION OF	§	PUBLIC UTILITY COMMISSION
NPRR 269 AND REQUEST FOR	§	
RELATED RELIEF	§	OF TEXAS

AFFIDAVIT OF MR. ROBERT SIMS

1. My name is Robert Sims. I am Director of Engineering for AES Wind Corporation, Inc. with offices at 4542 Ruffner Street, Suite 200, San Diego, California 92111. I am testifying in this proceeding on behalf of Buffalo Gap Wind Farm, LLC; Buffalo Gap Wind Farm 2, LLC; and Buffalo Gap Wind Farm 3, LLC (collectively Buffalo Gap”).

2. This affidavit is attached to the above-styled appeal and is made a part thereof for all purposes.

3. I hereby swear or affirm that the information contained in the above-styled appeal as related to Buffalo Gap is true and correct to the best of my knowledge and belief.



Robert Sims

Subscribed and sworn before me this 13 day of December, 2010.

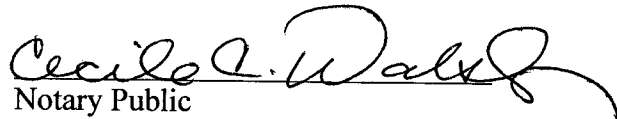
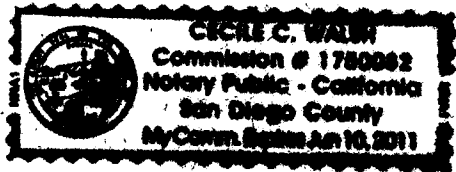

Notary Public

Exhibit A

Consolidated List of Issues

- 1 Did the pre-PRR 830 and pre-NPRR 269 Protocols require wind generation resources to make reactive power available at the same level regardless of wind speed and actual power output (the Rectangle) or in proportion to their actual power output (the Triangle)?
- 2 Did ERCOT use a lawful process to adopt PRR 830 and NPRR 269?
- 3 In adopting PRR 830 and NPRR 269, did ERCOT consider their impact on existing and prospective wind generation resources, competition, reliability, and end users and compare those impacts to the impacts of options other than retrofitting?
- 4 Was ERCOT's approval of PRR 830 and NPRR 269 arbitrary, capricious, discriminatory and without a reasonable basis, because they were unsupported by substantial evidence of a need for changes to ERCOT's reactive power capability requirements and/or because they were adopted without sufficient factual support, including a study showing that the revisions were needed and an appropriate solution?
- 5 Is the PRR 830 and NPRR 269 language describing how wind generation resources can comply so vague as to be meaningless and unenforceable?
- 6 Are PRR 830 and NPRR 269 unreasonable and unsound as a matter of policy?
- 7 Do PRR 830 and NPRR 269 violate substantive PURA and related Commission requirements?
 - a Do PRR 830 and NPRR 269 violate PURA § 39.904(1) by imposing reactive power requirements on renewable power facilities that are not limited to reactive power control capabilities or any other feasible technology designed to reduce the facilities' effects on system reliability?
 - b Do PRR 830 and NPRR 269 violate PURA §§ 31.002(9), 39.001(c) and 39.151(a)(1) by discriminating against and being unduly prejudicial to wind generation resources?
 - c Do PRR 830 and NPRR 269 violate PURA §§ 39.151(a)(2) and (4) by violating ERCOT's duty to ensure the reliability and adequacy of the regional electrical network and to ensure accurate accounting among generators and wholesale buyers and sellers of electricity?
 - d Do PRR 830 and NPRR 269 violate PURA § 35.004(e) by applying prejudicial, preferential, discriminatory and anticompetitive terms to reactive power requirements for wind generation?
 - e Do PRR 830 and NPRR 269 violate PURA § 39.001(d) by not being practical and limited so as to impose the least impact on competition?

- f Do PRR 830 and NPRR 269 violate PURA §§ 39.151(c) and 35.006(a)(2) by conflicting with standards adopted by FERC concerning the reactive power requirements applicable to wind generation resources?
 - g Do PRR 830 and NPRR 269 violate P.U.C. SUBST. R. 25.501(a) by failing to reflect the physical realities of the ERCOT electric system?
- 8 Does the application of PRR 830 and NPRR 269 to existing wind generation resources violate protections under the U.S. or Texas constitutions involving:
- a Due process;
 - b Confiscation of private property without compensation through a regulatory taking;
 - c Delegation of legislative power to a private entity; or
 - d Standards of clarity and prohibitions against vagueness?
- 9 Did the ERCOT Board properly approve PRR 830 and NPRR 269 and do PRR 830 and NPRR 269 comply with applicable laws and regulations of the Commission?
- 10 Should PRR 830⁵⁷ and NPRR 269 be suspended while this case is pending at the Commission?

⁵⁷ This issue was included in the original list in Docket No. 37817 prior to the issuance of Order No. 6, which suspended portions of PRR 830. Joint Appellants are including the issue to be consistent with the list of issues presented in Docket No. 37817.