

## MEMORANDUM

To: Board of Directors

From: Kent Saathoff, Vice President of System Planning & Grid Operations

Date: November 10, 2009

RE: November 17, 2009 Board Agenda Item 12b – ERCOT ISO's Position Statement regarding TAC Approval of PRR830 and NextEra Energy Resource's Appeal

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### Greetings:

Protocol Revision Request (PRR) 830, *Reactive Power Capability Requirement*, has been approved overwhelmingly at the Reliability Operations Subcommittee (ROS), the Protocol Revision Subcommittee (PRS), and the Technical Advisory Committee (TAC) and should now be approved by the ERCOT Board of Directors (ERCOT Board). This PRR will preserve important reliability requirements, maintain parity among Generation Resources, reduce uplift of costs to Load, and at the same time it will grant major concessions to Wind-powered Generation Resources (WGRs), both in the form of increased flexibility regarding alternative means of compliance to the existing Protocols and in the form of an entire year to bring substandard equipment into compliance. Pursuant to Section 8.3.3 of the ERCOT Board Policies and Procedures, Electric Reliability Council of Texas, Inc. (ERCOT ISO) submits this Position Statement encouraging the ERCOT Board to approve PRR830 as recommended by TAC and to reject NextEra Energy Resource's appeal as without merit.

ERCOT ISO proposed PRR830 after providing an interpretation of the existing Protocols (which was subsequently withdrawn) and determining that a majority of the WGRs were unable to meet the Reactive Power requirements under Section 6.5.7.1(2) of the ERCOT Protocols. Wind-powered Generation Entities have questioned the interpretation and responded that they were in compliance with the existing Protocols when ERCOT ISO requested a mitigation plan from them that would enable them to meet the Protocol requirement. ERCOT ISO drafted and proposed PRR830 to provide a framework and a pathway to compliance for existing WGRs. PRR830 is consistent with Section 6.5.7.1(6) of the Protocols which allows participants to propose alternative designs for meeting the 0.95 lead/lag rectangle requirement. These alternative designs can include static and/or dynamic reactive devices. The PRR also allows the stakeholder groups which drafted the existing Protocol requirements to consider the issue and decide whether ERCOT ISO's view is consistent with the understanding of the majority of stakeholders. As previously noted, the overwhelming majority of all three stakeholder groups that reviewed ERCOT ISO's proposal (ROS, PRS, and TAC) agree with the language proposed by ERCOT.

Wind-powered Generation Entities have argued that because PRR830 clarifies the existing Protocol requirements, the existing requirements were ambiguous and therefore should not be applied to certain WGRs who did not understand the requirements. The stakeholder groups that reviewed PRR830 heard and rejected such arguments. The existing Protocol requirements were developed through the stakeholder process, with multiple opportunities for parties to propose clarifications, and have been in place for several years without allegations being made that the requirements were ambiguous. Generation Entities have understood and complied with the requirements. For those WGRs that do not currently comply, there are workable and equitable ways to comply without a complete retrofit of the WGRs. Specifically, WGRs can install reactive resources at the Point of Interconnection to meet the requirement or pay a contribution-in-aid-of construction to Transmission Service Providers (TSPs) to offset the incremental cost paid by TSPs (who have the variable Reactive Power requirement) attributable to the generator's non-compliance, so that Consumers paying transmission rates are held harmless. The ERCOT Protocols also has a provision for generators that cannot meet the exact requirements to propose alternatives for ERCOT ISO to review and consider. In short, the majority of the ROS, PRS, and TAC agree that PRR830, as proposed by ERCOT ISO, is a well-reasoned, flexible, and fair approach consistent with the reliability requirements understood and implemented by the majority of industry participants.

ERCOT ISO believes that PRR830 addresses several key reliability and policy issues that the ERCOT Board should take into consideration.

***Reliability of the ERCOT Transmission Grid.*** First and foremost, PRR830 emphasizes the importance of Reactive Power support in maintaining the reliability of the ERCOT Transmission Grid. ERCOT ISO believes that without the required Reactive Power support with the appropriate characteristics, the ERCOT Transmission Grid could face difficulties in maintaining required voltage levels and potentially voltage collapse. PRR830 ensures the reliability of the ERCOT Transmission Grid by allowing existing WGRs to meet the 0.95 lead/lag rectangle requirement through a combination of the WGR's Unit Reactive Limit (URL) and/or automatically switchable static and/or dynamic VAR capable devices. These existing WGRs have until December 31, 2010 to add necessary equipment in order to meet the Reactive Power capability requirement that was established in 2004. Thus, PRR830 offers a path to compliance for existing WGRs that are presently not meeting the longstanding 0.95 lead/lag rectangle requirement at the Point of Interconnection based solely on their URL.

Second, PRR830 emphasizes the importance of dynamic Reactive Power support going forward. Any new WGRs (with signed SGIAs after December 1, 2009) and all other Generation Resources must meet the 0.95 lead/lag rectangle requirement through a combination of the Generation Resource's URL (which is dynamic capability) and/or dynamic VAR capable devices. The ERCOT Transmission Grid operates in a dynamic environment, meaning that it is constantly changing to meet the demands and changing topology of the system. Requiring dynamic devices for voltage support ensures that the stability of the ERCOT Transmission Grid

is maintained during Real Time events. PRR830 accomplishes this objective by requiring full dynamic capability for all Generation Resources in the ERCOT Region, whether conventional or renewable.

***Parity Among Generation Resources.*** NextEra's appeal of PRR830 requires that the ERCOT Board consider whether existing WGRs should be given special treatment by exempting them from the Reactive Power rectangle requirement. With the exception of certain older generators, all Generation Resources have been required to provide equal Reactive Power support through either the inherent characteristics of their generation or through supplemental equipment. This requirement has existed in the ERCOT Protocols since 2004 and in other key documents, such as the Generation Interconnection Procedures, since 1999. The current language of the Protocols requires that all Generation Resources are required *to have and maintain* a URL with a power factor capability of 0.95 lead/lag ***both determined at the generating unit's maximum net power.*** This capability must be dynamic and is determined at the Generation Resource's max output to the transmission system, and it must be maintained at all output levels.

From an ERCOT Planning perspective, ERCOT ISO assumes that all Generation Resources comply with this rectangle requirement when conducting long-term system planning studies. This assumption was used in the initial Competitive Renewable Energy Zones (CREZ) studies and is being used for the full CREZ Reactive Power studies (that are currently underway) which includes the integration of 18,000 MWs of wind onto the ERCOT Transmission Grid. Should the WGRs succeed in avoiding their Reactive Power requirements, the reliability assumptions underlying ERCOT ISO's planning studies will not be valid. Furthermore, ERCOT ISO believes that having a common, minimum set of standards for all Generation Resources levels the playing field and enables all Generation Resources to compete on an equal basis. PRR830 accomplishes this objective by keeping in place the same standard for all Generation Resources in the ERCOT Region.

***Cost Responsibility.*** NextEra's appeal of PRR830 requires that the ERCOT Board consider the cost responsibility of who ultimately pays for Reactive Power support in the ERCOT Region. Again, ERCOT ISO believes that the current Protocol language requires all Generation Resources to provide Reactive Power support based upon the rectangle requirement. There are no exceptions to this requirement except for the exemptions noted in other paragraphs of Section 6.5.7.1 (pre September 1, 1999 Generation Resources and renewable Generation Resources in operation before February 17, 2004). Thus, Generation Resources pay for this required level of Reactive Power support in the ERCOT Region.

On the other hand, acceptance of NextEra's appeal of PRR830 would place the cost of full Reactive Power support on conventional Generation Resources and Consumers. From an ERCOT Operations perspective, it is suboptimal not to have the same Reactive Power support from all units, and ERCOT has experienced events that may not have occurred had all WGRs been capable of providing full Reactive Power support. Nevertheless, ERCOT ISO can maintain

reliability with operational tools despite the additional complexity. However, a reduction in reactive reserves may make it more difficult to allow needed maintenance outages or take optimal operational actions when ERCOT's options are limited by voltage issues that could have been avoided with full Reactive Power capability. Moreover, there are cost issues. ERCOT ISO may have to bring on conventional Generation Resources who are able to provide full Reactive Power support, deny Resource or transmission outages, or open lines in order to maintain overall reliability of the ERCOT Transmission Grid. These actions will have cost impacts on other Market Participants and will be a direct result of not holding existing WGRs to the same Reactive Power requirements as conventional Generation Resources. Furthermore, if this requirement is not met, it will require ERCOT ISO to change its assumptions in the full CREZ Reactive Power studies to compensate for existing WGRs not providing full Reactive Power (the rectangle requirement). As such, the CREZ Reactive Power study results may show voltage issues which would require that TSPs provide that Reactive Power support with additional equipment on their systems. These types of upgrades will be included in the Transmission Cost of Service (TCOS), which is paid by Consumers. The needs of the system are constantly changing and a decision to allow the existing WGRs an exemption of the requirement may affect who pays in the future for Reactive Support.

For these reasons stated above, ERCOT ISO respectfully requests that the ERCOT Board reject NextEra's appeal and approve PRR830 as recommended by TAC.

I look forward to discussing this issue with you. Please let me know if you have any questions in the meantime.