



Date: March 16, 2010
To: Board of Directors
From: Brad Jones, Technical Advisory Committee (TAC) Chair
Subject: Wind Cost Allocation Proposal

Issue for the ERCOT Board of Directors

ERCOT Board of Directors (ERCOT Board) Meeting Date: March 23, 2010

Agenda Item No.: 13d

Issue:

Consideration of Wind Cost Allocation Proposal.

Background/History:

January 20, 2009 – The TAC Chair presented the Ancillary Services Cost Allocation Recommendation to the ERCOT Board. Per a previous ERCOT Board request, TAC had assigned the Wholesale Market Subcommittee (WMS) to explore assigning incremental Ancillary Service costs to wind generators. A WMS task force, the Cost Allocation Task Force (CATF), studied the function of Ancillary Services, the definition of incremental Ancillary Services, the Ancillary Services procurement methodology and keeping up with the evolving policy and market consequences. The conclusion of the CATF was that Ancillary Services are not properly directly assignable to individual entities since they are purchased for the system as a whole. Some Board members queried whether it was really not possible to quantify wind impacts on Ancillary Service costs. The TAC Chair replied that metrics could be tried, but they would be arbitrary and that the alternative, “but-for the wind” case is difficult to build. The TAC Vice-Chair promised the Board’s concerns would be heard at TAC and that efforts would continue. Another Board member suggested that the focus for the next two years should be on getting the Nodal Program completed and that there should be a determination whether these issues rise to the point of taking focus away from Nodal.

April 22, 2009 – During the TAC update to the ERCOT Board, when asked about Ancillary Service cost allocation related to wind, the TAC Chair confirmed the issue had been referred to the Renewable Technologies Working Group (RTWG). A Board member suggested that because such cost allocation is not set by Commission rule but rather controlled by ERCOT, that he wanted action on that issue.

September 1, 2009 – Calpine filed [PRR828](#), Remove QSE SCE Performance Exemption for QSEs with only Uncontrollable Renewable Resources On-line, which would have eliminated the Schedule Control Error (SCE) performance metric exemption for Wind-powered Generation Resource (WGR)-only Qualified Scheduling Entities (QSEs).

September 17, 2009 – Immediately following the rejection of PRR828, the Protocol Revisions



Subcommittee (PRS) voted to recommend to TAC that it establish a task force to consider the issue of assigning Ancillary Service costs to WGRs.

October 1, 2009 – At the October TAC meeting, the TAC Chair directed WMS to place the cost allocation issue on the next WMS agenda and that the study of Ancillary Service requirements, costs and appropriate allocation thereof be taken up.

November 18, 2009 – WMS approved the Wind Cost Allocation Task Force (WCATF) charter to address the allocation of the cost of Ancillary Services to wind generation resources. WCATF goals included:

- Developing one or more methodologies with supporting rationales for allocating the cost of Ancillary Services to Intermittent Renewable Resources, specifically, Wind Generation Resources.
- Considering and potentially developing additional methodologies for the allocation of Ancillary Services to other Intermittent Renewable Resources (e.g. solar resources).
- Developing and presenting to WMS a whitepaper that summarizes the discussion and development of proposed methodologies.

The WCATF noted that its goals did not include debating the appropriateness of utilizing one (1) or more of the methodologies being considered nor did they include a full analysis for assigning costs of Ancillary Services to all Market Participants.

February 17, 2010 – The WCATF proposed two allocation methodologies to WMS noting that it was asked to develop potential methodologies for “how” to allocate Ancillary Services; that it did not discuss whether Ancillary Services “should” be allocated; and that WCATF was not endorsing or recommending approval of either of its proposals. WMS reviewed the following two (2) proposals from the WCATF:

- 1) Wind Plus Load Ratio Share: Wind generators would receive a hedgeable Ancillary Service obligation for responsive reserves, non-spinning reserves, regulation up and regulation down. Wind generators can reduce the obligation by qualifying for reliability credits. Proposed reliability credits could be obtained through primary frequency response, voltage support, inertia or an inertia-like response and metered contribution to the ERCOT peak.
- 2) Incremental Allocation: Sought to apply the principles of cost causation to the allocation of Ancillary Services costs to wind generators by identifying the incremental amount of Ancillary Services that are required by ERCOT that are directly related to wind generation. ERCOT’s 2010 Ancillary Service methodology specifically identifies incremental amounts of Ancillary Services related to various amounts of WGRs.

WMS also heard a third proposal which was:

- 3) Decline to endorse the WCATF options (1 and 2 above) for assignment of Ancillary Services costs to wind generators and disband the WCATF; recommend to TAC that the work of better integrating wind and other renewable technologies continue through the



RTWG and other standing TAC subcommittees and working groups; recommend that TAC report to the ERCOT Board that further discussion of assignment of Ancillary Services costs to wind generators is not appropriate at this time, primarily due to the pending transition from zonal to nodal market systems; and re-emphasize WMS' original conclusion, consistent with the Public Utility Commission of Texas (PUCT) order adopting the ERCOT Protocols that Ancillary Services are procured for the reliability benefits enjoyed by all Loads on the system who appropriately bear the costs associated with such benefits.

A WMS motion to recommend WMS endorsement of the Wind Plus Load Ratio Share proposal and to develop appropriate Nodal Protocol Revision Request (NPRR) language passed via roll call vote with 61.1% in favor, 38.9% opposed and five (5) abstentions. Opposing votes were recorded in the Cooperative (1), Municipal (2), Investor Owned Utility (IOU) (1), Independent Generator (2) and Independent Power Marketer (IPM) (1) Market Segments. Abstentions were cast by the Generator (1), Consumer (2) and IPM (2) Market Segments. All Market Segments were represented.

March 4, 2010 – The TAC received the following presentations related to the wind cost allocation issue:

- 1) Reliant presented supporting information in favor of the WMS recommendation for the Wind Plus Load Ratio Share option and opined that WGRs' volatile fuel source leads to uncertainty that ERCOT must account for in Ancillary Services at some cost; that the alternative is to uplift the costs to Loads; and that the proposal creates incentives for the future.
- 2) Calpine questioned how much more "fleet VDI service" will a large fleet be expected to provide, and Loads pay for, as more Intermittent Renewable Resources are integrated and Regulation Service requirements become more critical due to the intermittency.
- 3) NextEra provided arguments in opposition to the WMS recommendation countering that wind generation has had limited impact on Ancillary Services procurement as the monthly procured volumes of capacity services have remained relatively stable even with increased installed wind capacity; that cost per MW for capacity services has decreased as wind capacity has increased; and that total Ancillary Services costs have decreased as wind capacity has increased. NextEra opined that a change in public policy has not been indicated; that there is clear legislative and PUCT support for increasing renewables on the system given legislative mandates and the Competitive Renewable Energy Zone build; and that the PUCT and the ERCOT Board have provided explicit direction that nodal is the most important task. Further, NextEra recommended that TAC decline either of the WCATF options for assignment of Ancillary Services costs to wind generators at this time; that TAC recommend to the ERCOT Board that further discussion of possible assignment of Ancillary Services costs to Market Participants based on cost causation principles be tabled until such time as sufficient volume and quality of data from nodal market operations is available to inform the discussion; and that in the interim TAC direct its reporting groups to continue the work of addressing the planning and operational challenges of integrating wind and other renewable



technologies as appropriate within the constraints imposed by nodal market transition.

- 4) Horizon Wind Energy challenged the WCATF proposals arguing that they were about allocating costs and not reliability; that ERCOT has never done cost allocation and governing rules such as the Public Utility Regulatory Act do not provide such authority to ERCOT; and that the issue is more properly suited for rate cases at the PUCT and not via the stakeholder body where antitrust violation accusations could be made.

After a vigorous discussion, TAC voted the following motion: TAC and WMS considered options to the cost allocation of Ancillary Services to WGRs and TAC requests that the ERCOT Board direct TAC regarding such approaches. The motion passed via roll call vote with nineteen (19) in favor, seven (7) opposing votes from the Cooperative (1), Municipal (1), IOU (2), Independent Generator (2) and Consumer (1) Market Segments and two (2) abstentions from the IOU (1) and Independent Generator (1) Market Segments. All Market Segments were represented.

Statement of Position of the Public Utility Commission Staff

Commission Staff expressed to TAC that they believed it would be more appropriate to have this debate at the Commission rather than in the ERCOT stakeholder groups. Commission Staff felt that, since this issue is a cost allocation issue rather than reliability or operations, there may be competitive issues and conflicts of interest involved in stakeholder processes that would not make it the most appropriate forum to decide this matter. Should the stakeholders decide to proceed to develop an NPRR based on the WMS vote in favor of one of the Ancillary Service cost allocation methodologies, the Commission Staff felt that it would be necessary to inform the Commissioners and get directions from them on how to proceed.

Statement of Position Representing Supporters of Wind Cost Allocation Proposal

Supporters of allocating Ancillary Service Obligations to wind generators point out that the origin of this issue is rooted in the need to incent Qualified Scheduling Entities (QSEs) to stick to their energy schedules and Ancillary Service Obligations so that system frequency, in particular the region's CPS-1 score, would continue to pass the North American Electric Reliability Corporation (NERC) requirements. In fact, wind cost allocation is identified as a market design issue in the Texas Renewable Integration Plan quarterly reports.

In April 2005, the PUCT Staff, recognizing a need to improve system CPS-1 scores, authored [PRR586](#), Schedule Control Error (SCE) Performance and Regulation Cost Re-allocation. The stated purpose of that PRR was *"to provide a financial incentive for QSEs to closely follow SCE, and to reduce the need for large Regulation Service acquisition and deployment by ERCOT caused by poor SCE performance."* Although PRR586 was not approved, it provided the stimulus for stakeholders to undertake a comprehensive analysis of SCE and how that metric could be changed to provide a meaningful tool for improving the overall ERCOT resource control performance and optimize the procurement and use of Regulation Service to the benefit of Loads who pay for Ancillary Services.

Stakeholders ran into barriers to progress that involved how to balance the need to improve



system frequency control with the need to construct meaningful metrics for both conventional generation and wind generation. At one point, “the wind issue” was taken off the table temporarily to focus on how to improve the performance metrics for thermal generators. The intent of the group was to address wind’s performance obligations at a later date so that they could make progress immediately on thermal performance. [PRR661](#), SCE Performance Enforcement Criteria, as approved provided payments to good performing generators and levied penalties to poorly performing generators. [PRR662](#), Modify Ancillary Service Deployment Performance Conditions, was approved by the ERCOT Board in July of 2006 and carried a passage that exempted QSEs from SCE enforcement for periods when they had only uncontrollable renewable resources online.

Prior to the implementation of PRRs 661, and 662, QSEs with wind generation were required to manage their fleet to maintain their SCE within ERCOT required performance requirements. In order to do so, QSEs would internally balance their fleet, typically with flexible gas generation, to meet the requirements. This obligation was an operational and financial burden on QSEs holding wind generation, but it did create the proper cost-causation alignment sought by many in the market.

The effect of PRR662 was to allow existing QSEs to strip out their wind generation into separate QSEs and for new QSEs to represent only wind generation such that these QSEs were no longer required to meet SCE performance requirements, thus allowing them to be ambivalent to the operational and Ancillary Service impacts to the market. As a result of this market reaction, the financial cost and operational challenge of managing uncontrollable renewable resources fell to ERCOT and the market at large. A substitute SCE performance metric for wind-only QSEs has never been developed. The Board has requested progress updates on performance metrics for wind in several meetings since late 2008. It is important to recall that in July of 2006, when PRR 662 was implemented, the installed wind generation capacity was 2,322 MW. Installed wind generation has increased since that time by 384% to a total of 8,916 MW.

In recognition of a need to have all Resources contributing to good control performance and with an eye toward the system’s reliability needs when the wind fleet in ERCOT will more than double to over 18,500 MW, PRR828, Remove QSE SCE Performance Exemption for QSEs with only Uncontrollable Renewable Resources On-line, introduced in September 2009, had the purpose of removing the temporary wind exemption from SCE criteria instituted in PRR662. Although PRR828 was not passed, the PRS voted to ask TAC to form a WMS task force to examine and make recommendations on “how” Ancillary Service Obligations could be directly assigned to wind generators. TAC agreed.

The Supporters of allocating Ancillary Service Obligations to wind generators would welcome direction from the ERCOT Board that it is appropriate for TAC to pursue allocation of Ancillary Services obligations to WGRs. The Supporters believe that doing so would encourage all resources to contribute to good control performance, provide a more even playing field that has all resources carrying their fair share of community reliability services, and reduce the



burden on Load of paying for services that, prior to the implementation of PRR662 would have been paid for by wind generators and the QSEs that represent them.

Statement of Position Representing Opposition to Wind Cost Allocation Proposal

Opponents of allocating Ancillary Services costs to wind generators point out that it is difficult at best to isolate any incremental cost associated with managing wind variability among all the variability managed by Ancillary Services. That variability includes Load swings, Load forecast errors, tripping of all types of generation, transmission system limitations, rapid weather changes, or errors in the weather forecast. This is particularly true, Opponents argue, at a time when Ancillary Services costs have fallen dramatically which suggests there are, in fact, no incremental costs to allocate and that the costs have little to do with why the Ancillary Services are procured and much to do with the cost of fuel for units providing Ancillary Services and the opportunity costs associated with reserving the capacity to provide Ancillary Services.

Opponents further argue that the current discussion of Ancillary Services cost allocation is ill-timed due to the nodal market design transition effort. Ancillary Services settlement is very complex and must be performed by automated systems. To implement such system changes in the zonal market would fail any reasonable cost-benefit analysis. To implement such system changes in the nodal systems prior to the Texas Nodal Market Implementation Date (TNMID) would likely force an extension of the project schedule and an increase in the project budget. Because such changes cannot be made until some time after the TNMID and because the nodal market design itself will address many of the contributing factors to the need for Ancillary Services to manage renewable resource variability, any change to the Ancillary Services cost allocation methodology in the nodal market should be based on data from the nodal market, not based upon analysis performed in the zonal market since the differences between the two are so dramatic.

Finally, Opponents argue that such a significant departure from policy established by the PUCT through the contested case proceedings in which the PUCT approved both the zonal and nodal market Protocols should only be initiated by the Commission itself, not by stakeholders through the ERCOT committee structure. The Opponents note that long before the first wind unit was installed in ERCOT, utilities procured Ancillary Services and no form of generation was ever assigned those costs. Since the introduction of wind on the system in the organized ERCOT market, Ancillary Services prices and procurement volumes have remained relatively flat when certain anomalies are removed (post-hurricane fuel price spikes in 2005, abnormally persistent North-South congestion in 2008) and there have been other non-wind-driven changes to Ancillary Services (such as the 500MW of additional Responsive Reserve Service procured daily in January-August 2008 to address observed overstatements of conventional generation net dependable capability) and yet no other Resource type has been singled out for cost allocation. This raises concerns about discriminatory treatment of one Resource type. The concerns regarding undue discrimination raise additional concern when one considers the discriminatory treatment is applied against the Resource type which is the clear leader in responding to public policy mandates of the governments of Texas and the United States to reduce dependence on polluting, non-renewable forms of energy.



Recent Commission Action

At the March 11, 2010 PUCT open meeting, Commissioners expressed the opinion that the PUCT should take the policy lead on this topic and instructed PUCT Staff to open a project to discuss the amount and type of Ancillary Services needed to support wind generation and whether wind generation should be responsible for some of those costs.

Key Factors Influencing Issue:

1. Addresses Market Design Issue No. 1 of the Texas Renewable Integration Plan
2. Previous Board member request for TAC to take action on allocation issue (April 22, 2009)
3. PRR662, Modify Ancillary Service Deployment Performance Conditions
4. Potential distraction from Nodal market preparations
5. Claims of undue discrimination and anti-trust by some parties
6. Recent Commission Action

Alternatives:

1. Direct TAC that it is appropriate to pursue allocation of Ancillary Services to WGRs.
2. Direct TAC that it is inappropriate to pursue further action regarding allocation of Ancillary Services to WGRs.
3. Recommend that TAC avoid any further action regarding allocation of Ancillary Services to WGRs pending PUCT action; or
4. Recommend that TAC continue discussions regarding allocation of Ancillary Services to WGRs but that TAC should not advance any PRR or NPRR to the Board until after PUCT action.

TAC Conclusion/Recommendation:

TAC and WMS considered options to the cost allocation of Ancillary Services to WGRs and TAC requests that the ERCOT Board direct TAC regarding such approaches.



ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.
BOARD OF DIRECTORS RESOLUTION

WHEREAS, the Electric Reliability Council of Texas, Inc. (ERCOT) Board of Directors (Board) deems it desirable and in ERCOT's best interest to approve the Wind Cost Allocation Proposal.

THEREFORE be it RESOLVED, that the ERCOT Board hereby approves the Wind Cost Allocation Proposal.

CORPORATE SECRETARY'S CERTIFICATE

I, Michael G. Grable, Corporate Secretary of ERCOT, do hereby certify that, at its March 23, 2010 meeting, the ERCOT Board of Directors passed a motion approving the above Resolution by _____.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of March, 2010.

Michael G. Grable
Corporate Secretary