

BPA Wind Integration Team Update

Customer Supplied Generation Imbalance (CSGI) Pilot

Transmission Services Customer Forum 29
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Overview of Customer Supplied Generation Imbalance (CSGI) Pilot



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- This Pilot will develop systems and processes to enable customers to self-supply their “within hour” balancing requirements from their own and/or contracted dispatchable resources for one or more wind plants.
 - Generators will be netted for the purposes of calculating generation imbalance, wind limits, and e-Tag curtailments.
 - Customers will have the option to determine which resource to limit, including thermal and contract resources, if a limit order is given.
 - The Generator owner/operator, not BPA, will deploy reserves needed for imbalance of its resources and load following.

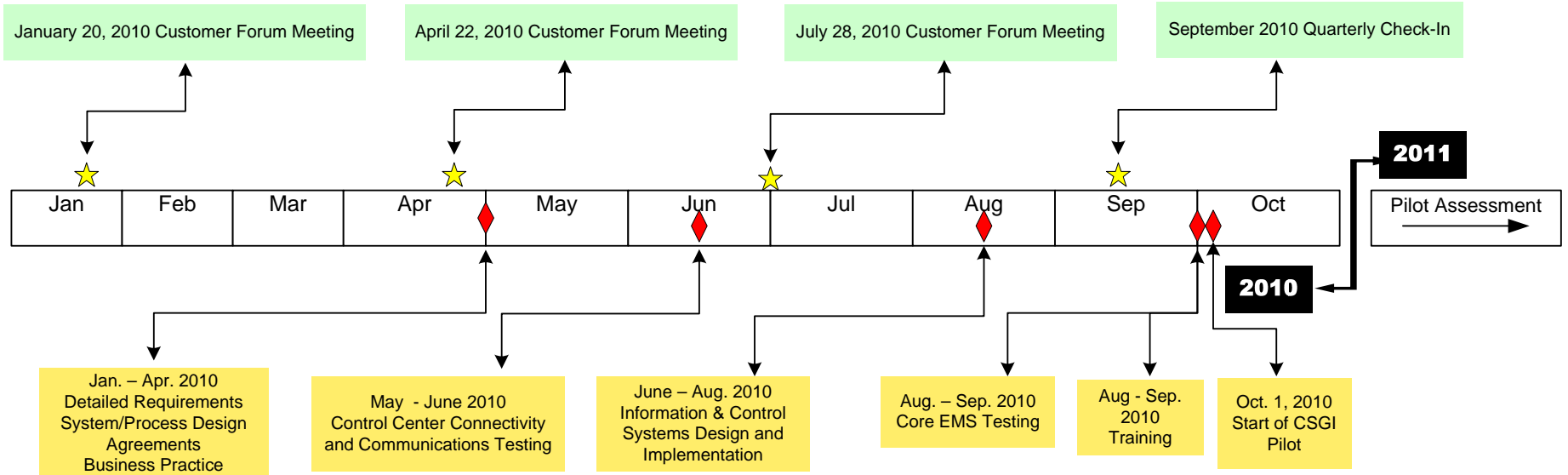


CSGI Pilot Timeline

- The Customer Supplied Generation Imbalance pilot will begin no later than October 1, 2010.
- Currently BPA is working with one participant on this initial pilot (Iberdrola).
- Iberdrola will be participating in the pilot until at least the end of the 2010/2011 rate case period which ends September 30, 2011.
- Iberdrola will supply their own generation imbalance on a persistent basis.
- BPA will continue to supply load following and regulation for Iberdrola.



CSGI Pilot Timeline



★ = Customer Engagement which may be defined as face to face meeting, conference call or designated comment period.

◆ = WIT milestone



Status Update on CSGI Pilot

- The final Business Practice was posted on June 17th along with a response to comments received.
- The Participant Agreement will be finalized and signed by both parties in July.
- Performance standards have been identified requiring wind generators to keep their SCE inside specific limits.
- BPA reserves the right to terminate the pilot on 60 days notice if BPA determines the participant has repeatedly failed to perform well.
- Curtailment automation for Dynamic e-Tags has been developed in iCRS (BPA's curtailment system).



Progress of the CSGI Pilot

- Iberdrola and BPA have tested the tagging and scheduling of the balancing resources as per the NERC required Balancing Authority procedural requirements.
- Currently testing the balancing resources that will be deployed by Iberdrola for the CSGI pilot, as well as the communication to request the movement of these resources.
- BPA is testing its Automatic Generation Control (AGC) system to track the movement of these balancing resources and the calculation of Generation Imbalance being provided by these resources.
- Iberdrola, Constellation Energy Control and Dispatch, and BPA are testing the After-the-Fact accounting for billing and settlement.



CSGI Pilot Performance Parameters

- There are three performance parameters that must be met:
 - **MW Outside Band:** Iberdrola (IBR) is required to maintain their average balancing error within upper and lower limit bands for three time frames, each one measured and tested independently:
 - One Minute
 - 30 Minute
 - 60 Minute
 - **Cross Zero:** *If, for a 10 minute period, the balancing error exceeds 50% of the reserve being supplied by BPA (regulation and following), IBR's error must cross zero within the next 60 minutes*
 - **BAA Reserve Deployment:** *If BPA is deploying more than 80% of its total balancing reserve, within 10 minutes IBR must lower their balancing error to be less than or equal to the amount of reserve being supplied by BPA to IBR (regulation and following).*



Analyzing Performance for CSGI

- During the pilot, each minutes average balancing error will be assessed to see if Iberdrola has met all three performance parameters.
- If one or more of the performance parameters are not met during a minute, the minute and non-compliant parameter will be recorded.
- A minute may be exempt from meeting the performance parameter requirements if:
 - BPA is deploying over 25% of its balancing reserve capacity; and
 - Iberdrola's balancing error reduces BPA's need to deploy reserve capacity



Analyzing Performance for CSGI (cont'd)

- Once the pilot begins, BPA and IBR will meet weekly for the first month, every two weeks for the next two months and once a month for the remainder of the pilot period:
 - To discuss how the pilot is going and if any changes need to be made;
 - To analyze compliance with the performance parameters:
 - Determine the percentage of time the performance parameters were met
 - Review the instances if/when performance parameters were not met, which parameter and by how much
 - Review exemptions, when the performance parameters were not met but actually helped BPA reduce the amount of reserves deployed
- Based on this analysis, determine if IBR is on track to meet the Monthly Performance Criteria (i.e. requirements met 99.5% of the time during each calendar month)

