



Procedures for limiting wind output to its scheduled value

Current:

Due to limitations in BPA's Automatic Generation Control system, our generation dispatcher cannot tell when our dec reserves have been depleted or are in danger of being depleted. However, the Hydro Duty Scheduler has the tools to see when over generation by wind generators has caused the output of the hydro system to be changed from the planned amount to the extent that BPA no longer can dec the system without impacting the lower constraints on the powerhouses, both on control and baseloaded. At this point, the Hydro Duty Scheduler calls the generation dispatcher and requests that the wind generators be limited to their scheduled value.

A Dispatcher Standing Order (DSO) has been written to detail the manual process currently in place. This DSO explains the above process and gives the generation dispatcher the process to follow when limiting wind output to its scheduled value. The wind generation with the largest error is called first, then in decreasing order of size of error the rest are notified.

This gives BPA the tools needed to insure that we perform our required duties as a Balancing Authority under the BAL standards.

Future:

BPA's AGC system will be enhanced with the needed algorithms to detect limitations on both the inc and dec side for plants on regulation. The system will also be modified to calculate the amount of regulation and load following that has been deployed by the powerhouses on control through an hour. When the amount deployed equals the amount of reserve set aside for regulation and load following for wind, the AGC system will send the signal to the wind generators to limit their output to their scheduled amount or inside a pre-defined band.