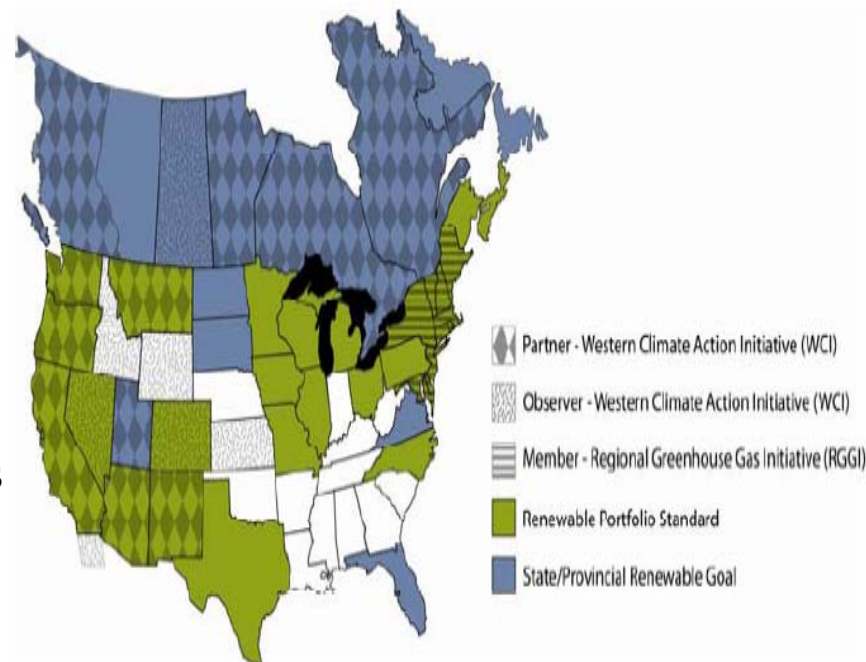


Overview of Phase II of NERC Integration of Variable Generation Task Force (IVGTF): IESO Involvements

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WPSC, November 19, 2009



- Special Task Force: [NERC Integration of Variable Generation Task Force (IVGTF)] created in December 2007
- NERC Report - Recommendations and Actions (released in April, 2009)
 - a white paper/report
 - recommendations for wind practices and requirements
- IESO remained actively involved
 - recognition of IESO practices and processes



- Power system planners and operators need to develop:
 - enhanced planning and operational practices and methods
 - study and coordination efforts and
 - “resources”
- Set of recommendations (operations and planning)
- NERC IVGTF Action Plan
 - NERC led action plans (eventually impacting industry)
 - Industry led actions



- Implementation of IVGTF report's recommendations and assignments via Phase II:
 - NERC sub-committees/sub-task forces & industry participation
 - studies, analysis and coordination efforts
 - outcome - reports with results & specific recommendations
- Variety of phase II sub-committees (operational & planning)
- Phase II completion dates – 1 to 3 years
- IESO participating in four selected sub-committees of NERC IVGTF Phase II
- Accommodate higher penetration of wind & maintain reliability



- Task/assignment:
 - Forecasting techniques must be incorporated into day-to-day operational planning and real-time operations routines/practices including unit commitment and dispatch.
- Deliverables:
 - Study and investigation of system operator's new tools and practices including any changes in existing reliability standards or processes
 - Identify gaps and solutions
- IESO participation (✓)



- Task/assignment:
 - Impact of securing ancillary services through larger balancing areas or participation in wider-area balancing management on bulk power system reliability must be investigated.
- Deliverables:
 - Review the impacts and benefits of wider-area balancing management and shorter scheduling intervals
 - Review existing and proposed NERC Standards to determine their sufficiency
- IESO participation (✓)



- Task/assignment:
 - Consistent and accurate methods are needed to calculate capacity values attributable to variable
- Deliverables:
 - Investigation of approaches for calculating resource energy and capacity associated with variable generation
- IESO participation (✓)



- Task/assignment:
 - Interconnection procedures and standards should be enhanced and applied in a consistent manner to all generation technologies
- Deliverables:
 - Review related NERC standards to ensure following are addressed:
 - Establish appropriate interconnection procedures and standards & communications
 - Identify gaps and initiate standards authorization requests(SARs), if required
- IESO participation (✓)



- Phase II: Implementation of NERC IVGTF report's recommendations and assignments
- Evaluation of NERC Reliability Standards, processes, practices & addressing gaps, where required
- IESO participating in four selected sub-committees of NERC IVGTF Phase II
- Opportunities exist to study or enhance IESO/Ontario standards and processes, where required
- IESO continuing to accelerate its efforts – reliable and effective integration of renewables in Ontario

- IESO WPSC web link:
http://www.ieso.ca/imoweb/consult/consult_windpower-sc.asp
- IESO SE-57 web link:
http://www.ieso.ca/imoweb/consult/consult_se57.asp
- NERC IVGTF Special Report link:
http://www.nerc.com/files/IVGTF_Report_041609.pdf

