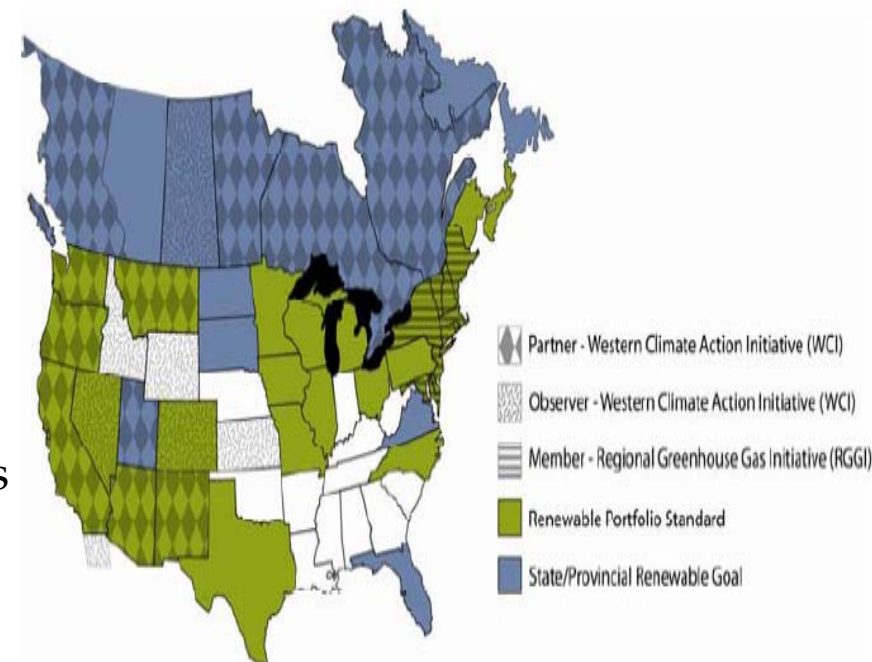


# Overview of Phase II of NERC Integration of Variable Generation Task Force (IVGTF): IESO Involvements

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- 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](http://www.ieso.ca/imoweb/consult/consult_windpower-sc.asp)
- IESO SE-57 web link:  
[http://www.ieso.ca/imoweb/consult/consult\\_se57.asp](http://www.ieso.ca/imoweb/consult/consult_se57.asp)
- NERC IVGTF Special Report link:  
[http://www.nerc.com/files/IVGTF\\_Report\\_041609.pdf](http://www.nerc.com/files/IVGTF_Report_041609.pdf)

