

## Assembling Base Cases for US/Canada Eastern Interconnection

The power grid (referred to as EI for Eastern Interconnection) in the eastern United States and Canada is interconnected, consisting of six main regional reliability councils, as shown in the figure. As a result, the power grid is required to carry out major studies using power system base cases covering the entire interconnection. Such studies include system planning, stability analysis, new facility integrations, reliability compliancy, system performance investigation, etc.



The task of assembling the annual EI base cases is coordinated by the Eastern Interconnection Reliability Assessment Group (ERAG) under the North American Electric Reliability Corporation (NERC). Powertech has been the contractor to ERAG to work on this task

- Since 2000 for developing dynamic cases
- Since 2010 for developing powerflow cases

Each year, Powertech works with NERC, ERAG, and all EI regional councils under the ERAG contract to develop

- 15 powerflow cases covering the next 1, 2, 5, and 10 years
- 8 dynamics cases matching the selected powerflow cases

These cases include all transmission, and most of the subtransmission, facilities in EI, resulting in about 70,000 buses and 8,000 generators, plus a variety of other equipment models, such as wind turbine generators, SVC/STATCOM, HVDC, relays, etc. All cases are thoroughly debugged and tested against the NERC criteria. They are provided to all utilities in EI, ready for use in their studies.