Decision on Interconnection Requirements Reform for Renewable Resources

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Management requests approval to refine renewable resource interconnection requirements.

- Proposed requirements promote renewable development by maintaining future grid reliability.
- Proposal focuses on fundamental characteristics generators traditionally contribute to help preserve reliability
  - Ability to control output
    - Generation power management
  - Stay on-line during a disturbance
    - Voltage and frequency ride-through
  - Provide reactive power and voltage support
    - Power factor requirements
    - Voltage regulation

The ISO aligned its stakeholder process with operational and financing issues.

- Renewable capacity in “serial” and “transition” cluster amounts to nearly 20,000 MW
  - Potential last chance to address these pending interconnection projects
  - National and regional process uncertain in timing and scope

- ISO expedited initiative to meet accelerated interconnection schedule for projects seeking American Reinvestment Recovery Act funding

New standards are targeted and limited in scope.

	Existing			New		
Resources	***Power Factor***	***LVRT***	***Active Power Control***	***Power Factor***	***LVRT***	***Active Power Control***
Wind	.95 lag .95 lead (POI)	Zero volts at POI for maximum of 9-cycles	Yes	No Change	No Change	•5MW •5% - 20% of rated capacity per minute
Solar Thermal	.90 lag .95 lead (Gen.)	Remain on-line	Yes	No Change	No Change	No Change
Solar PV	.90 lag .95 lead (Gen.)	None	Yes	.95 lag .95 lead (POI)	Zero volts at POI for maximum of 9-cycles	•5MW •5% - 20% of rated capacity per minute
Conventional	90 lag .95 lead (Gen.)	Remain On-line	Yes	No Change	No Change	No Change

Proposed requirements account for commercial considerations.

- Mitigate possibility of project delay or impacting otherwise viable projects
  - Relied on existing standards to the extent practical
  - Confirmed availability of technical capability
  - Allowed flexible compliance whenever possible
  - Crafted reasonable exemptions

ISO resolved many, but not all, issues through the stakeholder process.

- Apply power factor requirement
  - FERC rules require capability only when need is proven by transmission provider
  - Inherent in modern renewable resource capabilities
  - Practicality, reliability, and equity
- Agreed to eliminate high voltage requirement ride-through
- Conformed generation power management to resource capabilities

FERC filing will not disrupt execution of interconnection agreements.

- ISO intends to file with FERC in early June for a decision in early August
  - Meets American Reinvestment Recovery Act project schedules
  - Request FERC to direct ISO to conform any tendered agreements to language FERC adopts
- Issues related to use of capabilities, including changes to market rules will be addressed in a subsequent stakeholder process

Management requests limited changes to the proposal described in the May 10, 2010 Board memorandum.

- Modify the low voltage ride-through requirement to apply only to asynchronous generators
- Synchronous machines already demonstrate adequate performance during low voltage disturbance conditions