CHARTER
INTERMITTENT RESOURCES TASK FORCE

MISSION
The Intermittent Resources Task Force (IRTF) has been created to address market, operational, and reliability issues specific to intermittent resources as are assigned to it by the Market Implementation Committee (MIC). Intermittent resources are characterized by 1) a dependence on natural factors beyond the control of the resource operator for their energy production and 2) having little or no fuel or energy storage capability. Intermittent resources include, but are not limited to, wind and solar facilities.

RESPONSIBILITIES
The specific responsibilities of the IRTF are to:

1. Evaluate and recommend solutions to the following issues specific to intermittent resources:
   a. Operations & Reliability:
      1. Assess operational and reliability impacts in the event of high market penetration
      2. Review recommendations from the recently completed PJM Renewable Integration Study and present to the MIC a plan for how they ought to be addressed. Schedule: Proposed approach presented to MIC by August 2014.

   b. Energy Markets:
      1. Integration of wind production forecasting into Day Ahead and Real-Time scheduling and commitment - Recommend methodology for allocating wind production forecasting costs, and potential changes to how operating reserve charges are applied to intermittent resources. Schedule: Recommendation to MIC (April 2013).
      2. Relative to item 1, recommend changes to the PJM Agreements as needed to implement market rule changes or provide clarity to existing rules.

   c. Capacity Markets:
      1. Interconnection:
         1. Interconnection Requirements - Examine what types of technology, requirements, rule or business changes might be considered as interconnection requirements and operational modifications to either facilitate benefits or limit adverse impacts of intermittent resources.
         2. Monitor progress of the NERC Integration of Variable Generation Task Force (IVGTF). Review the task force’s draft recommendations on interconnection standards and procedures (December 2012), and consider for implementation within PJM (April 2013).

2. Relative to item 1, recommend changes to the PJM Agreements as needed to implement market rule changes or provide clarity to existing rules.

Comment [A1]: Recommendation was presented to MIC on 5/8/2013 to not make any changes to the existing methodologies for allocating wind production forecasting costs and calculating operating reserve charges for intermittent resources.

Comment [A2]: MRC on 2/27/2014 charged the Planning Committee with developing technical standards for Enhanced Inverters. The PC Enhanced Inverter subgroup will have its kickoff meeting on 3/31.
3. Relative to item 1, determine if market rule changes recommended to the MIC require changes to the PJM Manuals and/or PJM Open Access Transmission Tariff, Operating Agreement, or Reliability Assurance Agreement.

4. Monitor the status of other potential issues related to intermittent resources, and raise these to the MIC at the appropriate time:
   a. Pairing intermittent resources with more controllable resources, and how these are to be integrated into the market through commitment and scheduling in the day-ahead and real-time energy markets.
   b. Impact on intermittent resources of other PJM initiatives, task forces, and committees such as Demand Response Steering Committee.
   c. Load forecasting issues with respect to behind the meter intermittent resources such as solar thermal and solar photovoltaic.
   d. PJM Regional Transmission Expansion Planning processes and timelines that present potential barriers to the development of renewable energy resources required by some PJM states.
   e. Assessing and, to the extent reasonable, developing proposals addressing any operational and reliability impacts, positive or negative, in the event of high market penetration. Issues reviewed in conjunction with this include, but are not limited to: Load following and ramping; surplus off-peak generation; operating reserve requirements; restoration operation; and forecasting and unit commitment.

ADMINISTRATIVE

1. This task force reports to the Market Implementation Committee. However, some of the issues to be addressed impact planning and operations and therefore will need to be vetted in other forums.
2. All PJM stakeholders may appoint representatives to the task force.
3. PJM will designate a task force chair person.
4. The chair and secretary will be responsible for preparing and issuing all reports, scheduling periodic meetings and conference calls as necessary and recording and preparing the minutes of each meeting.
5. Voting will be conducted on the basis of one vote per Member Company represented at meetings (either in person or via conference call). Opinions from non-PJM members on voting items will be recorded in the notes as requested.
6. Each member should have the authority to commit resources in order to support the requirements of the Intermittent Resources Task Force (IRTG).