Wind Unit Dispatchability Check List

In order to ensure resources do not force emergency procedures, they must be dispatchable in the range between the greater of the resources physical minimum operating level or Capacity Interconnection Rights (CIR) and the Maximum Facility Output (MFO), i.e., Fixed Gen flag must not be selected. The three requirements for a unit to be dispatchable are:

I. Communications:
   - The unit must send active MW, Wind Speed and Wind Direction via SCADA/ICCP; values sent to PJM cannot be static or flat-lined and must be within reasonable limits.
   - The unit must electronically receive control signals, including Economic Basepoint, Curtailment Flag, and the Generator On Reason (GENRUNR).
   - All eDart generator outage tickets must be up to date.

II. Controls:
   - The unit must be capable of honoring electronic control signals as received, i.e. have the physical controls in place to throttle their turbines / generation. Control signals include Economic Basepoint, Curtailment Flag, and the Generator On Reason (GENRUNR).
III. Markets

1. All units should follow their Economic Basepoint.
   a) A unit will be dispatched so that its economic basepoint equals its economic max unless the unit is being curtailed. However, the economic basepoint is ramp rate limited to what the unit can ramp in the next look-ahead interval, at the ramp rate provided by the unit. The look ahead interval is adjustable by system operations based on system conditions and is currently configured at 15 minutes.
      1. Example: Ramp Rate = 1 MW per minute x 15 minutes = +15 MW dispatch. If a unit is currently at 100 MWs, the new economic basepoint will be 115 MWs until the unit moves closer to the base point and a new solution is generated.
   b) If the basepoint doesn’t make sense,
      1. Check EcoMin and EcoMax (see 2. below)
      2. Check Unit Availability status (economic, must run, not available)
      3. Check for manual overrides (fixed gen flag, unit output)
      4. Check data quality (wind forecast; other telemetry cannot be flat-lined)

2. All units should update their Economic Minimum and Economic Maximum.
   a) At least once an hour; more often as the forecast changes.
   b) Eco Min should always be less than or equal to unit output and CIR (Eco Min ≤ CIR and ≤ Output).
   c) Eco Max should always be greater than or equal to unit output (Eco Max ≥ Output).
   d) If Eco Min equals Eco Max, or if the Fixed Gen flag is set to yes, your dispatched basepoint will reflect back (or mirror) the unit’s current output.
   e) If a unit is operating above it’s Eco Max, the dispatch system will send a basepoint to move the unit to Eco Max. The curtailment flag is set if the non-ramp-rate-limited basepoint is below Eco Max while the unit continues to operate above it’s Eco Max.

3. The telemetered Generation Run Reason code (GENRUNR), indicates PJM’s ‘logged-on’ status for the unit:
   a) These values of GENRUNR mean your unit is dispatchable:
      1. 2 or 17 indicate your unit is operating as Economic.
      2. 22 indicates your unit is Company Dispatchable.
   b) These values of GENRUNR indicate your unit is not dispatchable:
      1. 16 indicates your unit is Released. Contact PJM Dispatch to have this corrected.
      2. Other on reasons may cause an incorrect dispatch, i.e. basepoint mirrors current output (see section 2.4 above). Contact PJM Dispatch to have this corrected.
Related documents on PJM.com:

Wind Specific Requirements for PJM Wind Resources:
http://pjm.com/~media/committees-groups/task-forces/irtf/20120820/20120820-item-03a-existing-requirements-for-wind-farm-dispatch.ashx

PJM eMkt users guide:
http://www.pjm.com/sitecore%20modules/web/~media/etools/emkt/ts-userguide.ashx