NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

GADS Wind Application Update

February 1, 2020

The following validations and clarifications have been added to the GADS Wind application:

Additional GADS Wind Validation Checks	
Validation/Clarification	**Description**
Turbine System (MW)	The System Capacity - MW rating of a single turbine in the sub-group. The correct Value should be the MW capacity of a single turbine.
Total Number of Turbines	The actual number of physical turbines that exist in the sub-group. The number of turbines must be greater than zero.
Gross Maximum Potential Production (GMPP)	Gross maximum wind generation that has been generated at continuous full-power operation during performance reporting month. GMPP = (Hours in Month) X (Number of Turbines) X (Max Turbine System Capacity)
Comparison of Gross Maximum Potential Production and Gross Actual Generation (GAG)	Gross Actual Generation (GAG) must be less than or equal to Gross Max Potential Production (GMPP)
Net Maximum Capacity (NMC)	This is equal to the installed capacity less any electrical losses such as transformation losses, line losses, and other losses due to transmission between the turbine and the revenue meter. Net Maximum Capacity (NMC) may not equal zero when Total Installed Capacity (TIC), Gross Actual Generation (GAG) or Net Actual Generation (NAG) are greater than zero.
Contact Turbine Hours (CTH)	The number of turbine-hours the sub-group is synchronized to the system. It is the turbine-hours that the main contactor is closed and generation is provided to the grid. If reported Contact Turbine Hours (CTH) are equal to zero, then Gross Actual Generation (GAG) and Net Actual Generation (NAG) must be equal to zero.
Gross Actual Generation (GAG) compared to Net Actual Generation (NAG)	GAG is the sum of all individual turbine meters before removing station service or auxiliary loads. GAG should be measured as close to the turbine's generator as possible so that generation is measured before any auxiliary use by the turbine. NAG is the portion of generation delivered by the sub-group to the revenue meter. It is possible to have a negative NAG value if the group's station service or auxiliary loads are greater than total generation.

Additional GADS Wind Validation Checks	
Validation/Clarification	**Description**
Gross Actual Generation should not equal Net Actual Generation (due to line losses).	The percentage difference between Gross Actual Generation (GAG) and Net Actual Generation (NAG) should not become greater than 15%.
Contact Turbine Hours Calculations	The Contact Turbine Hours (CTH) multiplied by Total Installed Capacity must be greater than or equal to the Gross Actual Generation.
High Cut-Out Wind Speed	The highest wind speed at which the turbine is capable of generating power before cutting out. This can be determined from the turbine operating parameters or the turbine power curve. A wind turbine is designed to produce power over a range of wind speeds. The High Cut Out Wind speed must range from 16.0–35 m/s.
Low Cut-Out Wind Speed	The lowest wind speed that the turbine can continue to generate power before cutting out. This can be determined from the turbine operating parameters or the turbine power curve A wind turbine is designed to produce power over a range of wind speeds. The Low Cut Out Wind speed must range from 2.0–15.9 m/s.
Cut-In Wind Speed	The lowest wind speed that the turbine will start to generate power, in meters per second. This can be determined from the turbine operating parameters or the turbine power curve. The Cut-in wind speeds must range from 0 -15 m/s.
Maximum Operating Temperature	The manufacture minimum operating temperature in degrees Celsius. Maximum Operating Temperature must be within the bounds of 25 to 65° Celsius.
Minimal Operating Temperature	Enter the manufacture maximum operating temperature in degrees Celsius. Minimal Operating Temperature must be within the bounds of -40 to 0° Celsius.

An Addendum has been added to the GADS Wind Data Reporting Instructions.