



Wind Farm Priority Response Order

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Frequency Response

This document is intended to outline the priority order with which a wind farm control system should obey for the full range of operating conditions. The following is a list of parameters identified in the tree structure in Figure 1:

- 1) Whether the wind farm is under a Dispatch Instruction;
- 2) Frequency conditions:
 - Low Frequency: applies if under Curve 2 only,
 - Normal: Under normal operating conditions
 - High Frequency: Wind Farm under MW regulation down by Curve 1 or Curve 2
- 3) Wind Conditions: Increasing or Decreasing;
- 4) Restrictions: These are the limitations which the wind farm is required to observe which moving in response to parameters 1, 2 and 3.



Priority Response Order

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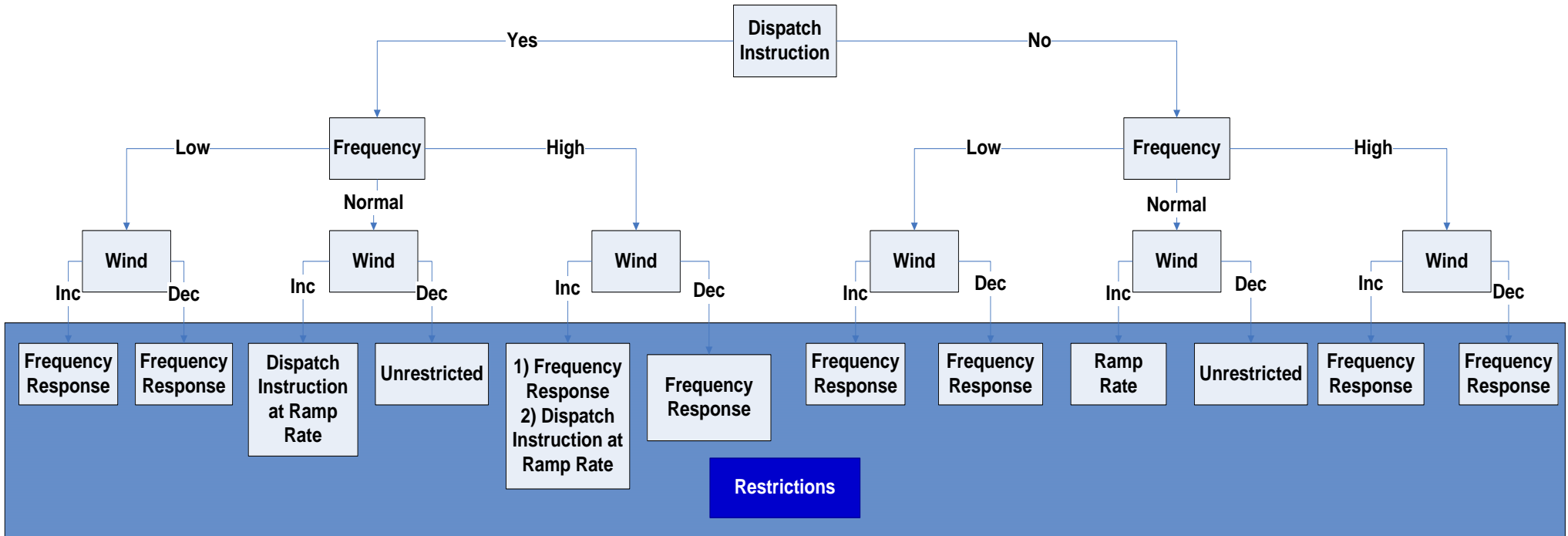
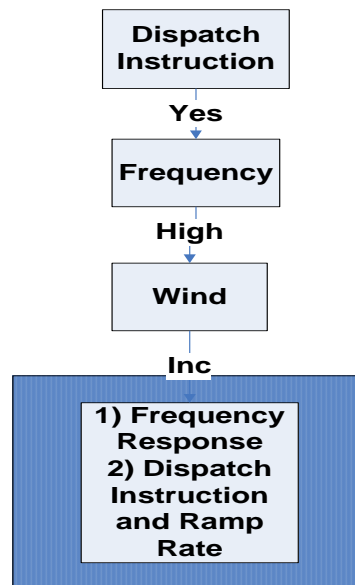


Figure 1: Wind Farm Operational Priority Tree

Example:

For clarity, the following example outlines the priority order which should be followed by the wind farm controller under a high frequency event and in Curve 1. Assuming the wind speed is increasing and the unit has been issued with a dispatch instruction in excess of Availability. The following tree structure applies:



- The primary restriction with which the wind farm must follow is regulation of the wind farm output (as a % of Available Power) according to Curve 1.
- Since the unit has been dispatched to a value in excess of the availability, this is immaterial in this example.
- Since the unit is responding to a high frequency event, it may ramp at a rate in excess of the defined ramp rate. The unit is, however, required to respond at a rate of 1% of rated capacity per second. These terms are outlined in WFPS1.5.2.2 of the Grid Code.