Passage of a cold front? ($v_{t-3h} > 0$ AND $v_{t+3h} < 0$ AND $|Δv_{t-3h,t+3h}| > 2 \text{ m/s}$)

Within 12 h following a front? (Y)

> 1 mm cumulative precipitation within a two-hour window centered on the ramp? (Y)

Large change of TI ($|ΔTI| > 10\%$) (Y)

High winds during ramp? ($w_{s10 \text{ min}} > 24 \text{ m/s}$) (Y)

Wind speeds along the steep section of the power curve? ($w_{s10 \text{ min}} > 5 \text{ m/s} \text{ AND } w_{s10 \text{ min}} < 10 \text{ m/s} \text{ AND } |Δw_{s_{\text{max,min}(10 \text{ min})}}| < 3 \text{ m/s}$) (N)

Other

- Wind farm controller, wake, yaw misalignment, other meteorological processes

Large Scale Changes (Cold Fronts)

Post Frontal Activity

Precipitation (non-frontal)

Large TI Change

Shutdown Cases

Non-linearity of the power curve

Y

N

Y

N

Y

N