

Dispatchable Energy – a source of energy available for use on demand.

Examples:	Energy Storage	Hydroelectric
	Coal	Natural Gas
	Biomass	Nuclear

Non-dispatchable Energy – a source of energy available under certain conditions.
A source of electricity not generally available for use on demand.

Examples:	Wind	Solar
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Firming – (Back Up) constructing or acquiring through a power purchase agreement sufficient dispatchable electric generation to mitigate by half the reliability penalty imposed on the electric system by non-dispatchable generation.

Reliability penalty – the difference between a non-dispatchable energy facility's average capacity factor during five peak electric demand hours in a year and the dispatchable energy reliability factor.

Reliability factor of gas/coal : 75% Dispatchable Energy

Reliability factor of a 100 MW wind facility: 30% Non-dispatchable Energy

Formula

Dispatchable Energy – Non dispatchable Energy = Reliability Penalty

Reliability Penalty = Firming Requirement

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75% Coal - 30% Wind = 45% (Reliability Penalty)

45% (Reliability Penalty) = **22.5% Firming Requirement**

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Resilience – ability to withstand and reduce the magnitude or duration of a disruptive electric supply or rapidly recovering from such an event.

Reliability Standard

All electricity generated within the state must be dispatchable energy or demonstrate backup capacity through the use of firming.

1. An entity found to be noncompliant is:
 - a. Ineligible for siting.
 - b. May not receive grants, loans, or any financial assistance from any political subdivision of the state or the state of North Dakota.
2. Report and coordinate with the appropriate regional transmission operators to ensure local resilience of generation resources within the state or region.
3. Advocate policies at the regional transmission operator boards from the state to ensure market rules and protocols are implemented by the regional transmission operator to implement this section on reliability standards.
4. Encourage research institutes, the transmission authority, and the state's research universities to partner, with industry to implement carbon capture and storage technology.
5. Generation facilities in excess of an aggregate of twenty-five megawatts must report to the Transmission authority a range of forecasts covering the next five years.
6. The plans received in #5 must be updated and received by the transmission authority every two years before September 1, 2022.