

Asset Performance & Dispatch Standards

Northgate Energy · Renewable Operations · Document NGE-OPS-014 · Revision 9 · Owner: Director, Fleet Operations

1. Purpose

This standard defines how Northgate Energy responds to condition indicators across its wind fleet: what availability we commit to, how we classify an alarm, how quickly a crew must be dispatched, and who is told when.

It is the operator-side counterpart to manufacturer documentation. Where a manufacturer manual states a **limit**, this standard states the **response**. Read together they answer the two questions an operations analyst actually has: *is this reading out of bounds*, and *what am I obliged to do about it*.

Where a manufacturer specifies a stricter limit than this standard assumes, the manufacturer limit governs the equipment and this standard governs the response time.

2. Availability commitments

Measure	Target	Measurement window
Fleet energy-based availability	97.0%	Rolling 12 months
Per-site availability	96.0%	Rolling 12 months
Per-asset availability floor	93.0%	Rolling 12 months
Unplanned outage rate	Below 4 events per asset per year	Calendar year
Mean time to dispatch (S2)	Under 72 hours	Rolling 90 days

Availability excludes grid-directed curtailment and force majeure. It does **not** exclude derates that result from a deferred maintenance decision — a turbine held at reduced output because we chose not to dispatch counts against availability in full.

3. Alarm severity tiers

Every condition indicator is classified into one of four operator tiers. The tier is determined by the response required, which is not always the same as the manufacturer's equipment-risk severity.

Telemetry systems report the operator tier. The `severity` field returned by the asset telemetry platform carries the S-tier below, not the manufacturer's Advisory / Warning / Critical classification. The two vocabularies are easily confused: a manufacturer *Advisory* code can carry an operator tier of **S2** when the measured value and its trend meet the criteria in Section 4.

Tier	Meaning	Acknowledge within	Dispatch within	Owner
S1	Immediate safety or catastrophic-loss risk	15 minutes	8 hours	Site Manager
S2	Component operating beyond its action limit; damage accumulating	4 hours	72 hours	Reliability Engineer
S3	Condition trending toward an action limit; no damage yet	1 business day	Next scheduled visit	Reliability Engineer
S4	Informational; log and trend only	5 business days	None	Operations Analyst

4. Crew dispatch criteria

A crew is dispatched when **any** of the following is true. These criteria are the operative test — an alarm code alone does not compel a dispatch, and the absence of an alarm does not prevent one.

S1 — dispatch within 8 hours

- Any manufacturer **trip limit** exceeded on any monitored component.
- Any Critical-severity manufacturer alarm latched.
- Emergency stop circuit open, or any condition preventing a controlled stop.
- Visible structural damage, oil release, or smoke reported by any source.

S2 — dispatch within 72 hours

- A manufacturer **action limit** exceeded on any vibration or temperature channel.
- A monotonic rise in any vibration channel of more than **0.75 mm/s across any 60-day window**, irrespective of whether the absolute action limit has been reached.
- Gearbox oil temperature above the manufacturer advisory threshold while the turbine is operating below 60% of rated output.** This combination indicates a developing drivetrain or cooling fault and is treated as S2 even when the temperature remains below the alarm threshold.
- Oil particulate count above the ISO limit on two consecutive laboratory samples.
- Any Warning-severity alarm that has recurred on more than three days in a rolling 14-day period.

S3 — address at next scheduled visit

- An action limit approached but not reached, with a stable trend.
- Any Advisory-severity alarm that has persisted for more than 14 days without a corresponding rise in the underlying measurement.
- Filter differential pressure high with no accompanying temperature or vibration change.

S4 — log only

- Single-sample excursions that do not repeat.
- Anemometer disagreement without a corresponding power deviation.
- Any Advisory alarm cleared within 24 hours by normal operation.

The most common misclassification is treating a rising trend as S3 because the absolute number is still under the limit. A channel climbing steadily toward an action limit is an S2 the moment the 60-day rise criterion is met. Waiting for the threshold to be crossed forfeits the lead time that made the monitoring worth installing.

5. Derate and curtailment policy

Operator-initiated derate. Where an S2 condition exists and a crew cannot reach the asset inside the 72-hour window, the Reliability Engineer may derate the turbine to hold the affected measurement below its action limit until the visit. A derate decision must be logged with the expected duration and the measurement it is intended to control.

Grid-directed curtailment. Curtailment instructed by the system operator is recorded separately and does not count against availability. A curtailed turbine is **healthy** — reduced or zero output under curtailment must never be reported as an outage, and any analysis of fleet performance must separate the two.

Return to service. A derated asset returns to full output only after the underlying condition is corrected and verified by a post-repair measurement at rated load, not immediately after the repair is completed.

6. Escalation matrix

Trigger	Notified	Timing
Any S1 raised	Site Manager, Director of Fleet Operations	Immediately
S2 unresolved past its dispatch window	Reliability Engineer, Site Manager	At window expiry
S2 unresolved past 14 days	Director of Fleet Operations	Day 14
Gearbox action limit exceeded on any asset	Reliability Engineer, Asset Strategy Lead	Within 1 business day
Any asset below the availability floor	Director of Fleet Operations, Commercial	Monthly review
Warranty-relevant exceedance	Asset Strategy Lead, Legal	Within 5 business days

Gearbox action-limit exceedances carry a standing notification to Asset Strategy because they are warranty-relevant on most platforms in the fleet. The notification is required even when the operational response is only S2.

7. Reporting cadence

Report	Frequency	Audience
Alarm summary by site	Daily	Operations Analysts
Open S1 and S2 register	Weekly	Reliability Engineering
Availability against target	Monthly	Fleet Operations leadership
Condition-trend review by asset	Quarterly	Asset Strategy
Warranty exposure summary	Quarterly	Asset Strategy, Legal

8. Raising work

Work orders are raised by the Reliability Engineer or the Operations Analyst who owns the finding — **never automatically from an alarm, and never by an assistant or automated system on its own initiative**. Report the condition and the tier it meets; the decision to open work, and its priority, belongs to a named person.

9. Definitions

Action limit — the manufacturer-specified value above which a component accumulates damage. Distinct from the trip limit, which commands a stop.

Sustained — present on every daily sample across the stated period. A measurement that drops below the limit on any day resets the count.

Monotonic rise — a trend where each weekly average exceeds the previous, allowing one non-conforming week in any eight.

Rated output — the turbine nameplate rating. For the Aeris 3.2 platform this is 3,200 kW, so the 60% threshold referenced in Section 4 is 1,920 kW.

Dispatch — a crew physically travelling to the asset. Remote diagnostics, parameter changes and resets are not dispatches and do not satisfy a dispatch window.

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