TECHNICAL NOTE 04 — COVERAGE MATRIX

Every rotating asset, mapped to its *failure modes.*

The channels and methods combine differently per asset class. This is what Novek monitors and the failure modes it surfaces early — from the central plant to the air side and the electrical room.

ASSET CLASS	CHANNELS	FAILURE MODES DETECTED	TYPICAL LEAD
Chillers & compressors	Temp, vibration, current	Compressor wear, refrigerant loss, condenser fouling, COP decline, short-cycling	**2–8 wks**
Air handling units	Temp, vibration, current	Coil fouling, bearing wear, belt degradation, HR-wheel failure, filter blockage	**2–6 wks**
Pumps & pressurised	Vibration, current	Cavitation, bearing wear, seal failure, flow imbalance	**1–6 wks**
Cooling towers	Temp, vibration	Fill degradation, fan-motor imbalance, approach drift, basin fouling	**2–6 wks**
Motors & conveyors	Vibration, current	Bearing degradation, misalignment, overload, belt wear, gearbox stress	**2–8 wks**
Electrical distribution	3-phase current, temp	Phase imbalance, overload, harmonic distortion, hotspot detection	**days–wks**

ON LEAD TIMES

Figures are **representative across deployments, not guarantees**. Actual early warning depends on the failure mode, duty cycle and how far degradation has already progressed at install. Every figure is reported against the asset's own measured baseline.

For a site with 20–30 mechanical assets, preventing a single emergency a year covers the deployment — **most sites see 2–4 preventable incidents annually.**

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