PREDICTIVE MAINTENANCE · FIELD CARD 01

The detection evidence record

A P–F interval is a claim about one failure mode, one functional boundary, one measurement method, one operating context and one decision process. Six fields hold the claim; four questions test it. A number carried in from another site fills none of them.

RECORD

Six fields, filled before an interval is discussed

01 **Function and failure mode.** Required function, performance boundary, failure mechanism, consequence context. Written per mode, so an asset-level interval cannot hide unlike modes.

02 **Measurement contract.** Technique, sensor or sample location, operating state, acquisition settings, data-quality checks — what “detectable” means in practice here.

03 **Detection criterion.** Baseline, criterion, persistence or confirmation rule, and whether an analyst or a system decides.

04 **Warning evidence.** Relevant field or test observations, population and conditions, spread, censoring, missing data, and the limits on transfer.

05 **Response path.** Alert review, diagnosis, decision authority, parts, access, isolation, work window, execution — how much of the warning is consumed after detection.

06 **Governance.** Consequence class, applicable law and regulation, OEM or controlled-procedure requirements, owner, approvers, review triggers.

ASK

Four questions kept separate, so missing information stays visible

– **What warning evidence exists?**
Population and conditions, exposure basis, observed spread, censored or missing observations, transfer limits, and the reasons the evidence may no longer apply. A mean, one anecdote or a borrowed asset-class number is not a defensible lower bound.

– **When can a valid measurement actually occur?**
Operating-state opportunity, access, missed or invalid readings, analysis, confirmation, escalation — and failure of the monitoring system itself.

– **What does the response path demand?**
Diagnosis, decision authority, parts, access, permits and isolation, work-window alignment, repair and return-to-service controls, reviewed under credible adverse conditions rather than the best case.

– **What uncertainty and consequence controls apply?**
Mandated and OEM tasks, protective functions, safe-state and shutdown rules, independent safeguards, change control, decision authority, and the site-approved basis for any added conservatism.

THE BOUNDARY THIS CARD CARRIES

If the warning evidence, measurement performance, response path or approval basis is insufficient, the result is **NOT DEMONSTRATED** — and a plausible-looking timeline is not permission to change an interval. This card sets no interval, threshold or fraction, and authorises no lubrication, inspection, proof-test or protective-function change.