Position Paper – Streamlining Engine Reliability Reporting Under EASA CAT.POL.305 & CAT.POL.420

Executive Summary
Under EASA CAT.POL.305 and CAT.POL.420, helicopter operators are required to collect and transmit engine reliability data to their National Aviation Authority (NAA) or directly to EASA. While the intention of maintaining robust oversight of Continued Airworthiness is sound, the current system results in duplicated data flows, inconsistent reporting quality, and administrative inefficiencies across the rotorcraft sector.

Given that engine reliability data originate primarily from engine OEM diagnostic systems, and that OEMs already analyse these datasets for fleet management, safety monitoring, and product improvement, the European Helicopter Association (EHA) sees value in exploring a direct OEM-to-Authority reporting channel. This could significantly reduce operator burden, improve data quality, and enable more proactive safety management at a European level.

This paper outlines the potential benefits, challenges, and a proposed process for transitioning to an OEM-centric reporting model, while ensuring that operators retain oversight and can meet their regulatory responsibilities without unnecessary administrative duplication.

1. Introduction

EASA rules on Performance Class 1 operations and the associated engine reliability demonstration requirements compel operators to submit engine in-service data to appropriate authorities. In practice, this often results in a circular flow of identical data between operators, authorities, and OEMs, with multiple entities maintaining parallel datasets derived from the same engine monitoring systems (e.g., FADEC logs, HUMS, or health trend data).

This position paper evaluates whether a more centralised and harmonised approach, where OEMs submit standardised reliability reports directly to EASA/NAAs on behalf of operators, could provide a simpler and more reliable mechanism that benefits all stakeholders.

2. Background: Engine Reliability Requirements in CAT.POL.305/420

2.1 Purpose of the Regulation

CAT.POL.305 and CAT.POL.420 establish performance requirements to ensure that critical engine failure probabilities remain within acceptable limits. This relies on the availability of accurate, up-to-date, and well-structured engine reliability evidence.

2.2 Current Reporting Practice

Today, operators must:

- Extract reliability-related data from OEM engine monitoring tools.
- Interpret and re-format these metrics per NAA/EASA requirements.
- Submit reports (often quarterly or annually).
- Maintain records demonstrating compliance.

Meanwhile, OEMs are simultaneously collecting the same raw data across the global fleet and performing reliability and trend analysis internally.

This results in fragmented responsibility, data duplication, and varying reporting standards across operators and Member States.

3. Potential Advantages of Direct OEM-to-Authority Reporting

3.1 Reduced Administrative Burden for Operators

- Eliminates repetitive manual submissions.
- Decreases internal workload for CAMO/maintenance teams.
- Minimises risk of reporting delays or errors.

3.2 Improved Data Quality and Consistency

- OEMs have direct access to high-fidelity engine datasets.
- Harmonised formats reduce interpretation discrepancies across operators.
- Enables standardised analytical methodologies.

3.3 Enhanced Safety Oversight

- Faster detection of emerging trends or reliability issues.
- More complete overview of entire engine types across Europe.
- Facilitates coordinated safety actions and recommendations.

3.4 Better Use of Digital Tools and Automation

- Integration with existing OEM health-monitoring ecosystems.
- Potential for automated pipelines to EASA/NAAs.
- Reduced human intervention lowers systemic error risk.

4. Potential Challenges and Considerations

4.1 Regulatory Accountability

Operators remain legally accountable for demonstrating compliance.

A revised mechanism must preserve:

- Operator visibility of what is reported.
- Ability for operators to provide supplementary operational context where needed.

4.2 Data Ownership, Privacy and Contractual Constraints

- Clear rules must govern data access rights between operators, OEMs, and authorities.
- Operators must retain the right to control release of their specific operational data.

4.3 Variability in OEM Capabilities

Not all engine manufacturers currently have identical digital infrastructures.

A transition period may be required to:

- Standardise reporting templates.
- Align data interfaces.
- Ensure smaller OEMs are not disadvantaged.

4.4 NAA Readiness and Harmonisation

- Some NAAs may require updated processes to interface directly with OEM data.
- EASA coordination is essential to avoid inconsistent approaches across Member States.

5. Proposed Procedure for Transitioning to OEM-Led Reporting

5.1 Step 1 – Creation of a Standardised Reporting Specification

EASA, in consultation with NAAs, operators, and OEMs, should develop:

- A single XML/CSV/JSON schema for engine reliability submissions.
- Standard definitions for reliability metrics and thresholds.
- A harmonised reporting periodicity (e.g., quarterly).

5.2 Step 2 – Operator Delegation Framework

Operators would provide a formal delegation of reporting authority to their OEM(s), enabling:

- Direct OEM submission of required reliability datasets.
- Operators receiving a copy of each submitted report for their own records.
- Traceability of submissions for audit purposes.

5.3 Step 3 – Digital Interface Implementation

OEMs establish secure digital pipelines to EASA/NAAs:

- API-based reporting.
- Standard authentication and encryption.
- Automated validation checks.

5.4 Step 4 – Transition Period

A 12–24-month period during which:

- Operators may still report directly if required.
- OEM submissions run in parallel to demonstrate consistency.
- Stakeholder feedback is collected and used to refine the system.

5.5 Step 5 – Full Implementation

Once validated:

- OEMs become the primary reporting entities.
- Operators oversee compliance via automated confirmations and dashboards.
- Authorities gain improved, harmonised datasets for policy and oversight.

6. Impact on Safety, Compliance and Industry Efficiency

This approach offers strong potential to:

- Improve the accuracy of reliability datasets.
- Increase regulatory efficiency at both national and EU levels.
- Reduce administrative burden for operators, especially SMEs.
- Strengthen the safety case for Performance Class 1 operations.
- Support broader digitalisation efforts under EASA's data-driven regulatory strategies.

7. EHA Recommendations

EHA recommends that EASA and NAAs:

1. Launch a formal consultation on enabling OEM-led direct reporting.
2. Develop a harmonised reporting standard usable across all engine types.
3. Define data-sharing protocols that respect operator ownership rights.
4. Pilot a voluntary reporting corridor with one or more OEMs.
5. Implement a phased transition, ultimately making OEM reporting the default mechanism.

The EHA supports a collaborative approach between operators, OEMs, and regulators to strengthen safety while reducing duplication and administrative workload.

Conclusion

Allowing engine OEMs to submit reliability data directly to EASA and NAAs represents a pragmatic evolution of the existing reporting framework under CAT.POL.305 and CAT.POL.420. It aligns with modern digital practices, reduces burden on operators, and enhances oversight quality. With proper safeguards, this model can support a more efficient, data-driven regulatory environment for rotorcraft operations in Europe.