



# Rolls-Royce Trent 1000 Engine Issues

## IATA Guidance: JNUS

### Situation

The Rolls-Royce Trent 1000 engines, which power Boeing 787 Dreamliners, have experienced significant durability issues. Initial wear and tear problems were identified in 2018, with new issues emerging in 2024. The primary concern has been the premature wear and tear of turbine blades, leading to cracks and erosion. If not detected and corrected, this condition could result in engine blade failure and potential in-flight engine shutdown. Additionally, wear and tear has become evident in the Combining Spill Valve (CSV) assemblies of certain hydro-mechanical units (HMUs), which can reduce fuel flow output at high power settings, leading to thrust reduction. Consequently, Airworthiness Directives have been issued, e.g.:

- European Union Aviation Safety Agency AD No: [2023-0113](#)
- European Union Aviation Safety Agency AD No: [2024-0118](#)
- Federal Aviation Administration AD [10 June 2024](#)
- Federal Aviation Administration AD [20 November 2023](#)

### Impact

The situation is impacting many airlines globally. An early report suggested 500 engines were impacted, but since new problems have emerged, the scale of the impact is not clear. In July 2024, Rolls-Royce was reported to advise, "The supply chain strains hampering the aerospace industry could persist for another two years"<sup>1</sup>

Airlines plan their use of slots to the best of their ability, but unforeseeable inspections, maintenance and grounding of aircraft, prevent airlines from using slots. Slot cancellations cannot be avoided for reasons that are beyond airline control.

### Recommendation

IATA requests coordinators to approve JNUS eligibility and to consider affected slots as operated. This recommendation aims to help harmonize the application of Justified Non-Utilization of Slots (JNUS) globally. More specifically, JNUS eligibility should apply to airlines where:

- Slots may not be operated due to engine inspection, maintenance, or grounding for safety reasons, as referred to above.
- JNUS eligibility has been approved at the other end of the route.
- Network impacts result in unsustainable connecting flights.

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<sup>1</sup> [Rolls-Royce boss warns of prolonged supply chain strains](#)



- JNUS should be granted in advance of operations and until the affected aircraft is returned to service, or a reasonable alternative way to operating affected slots may be found.

Airlines should be prepared to provide documentation that confirms the above circumstances. Coordinators should be prepared to provide clear reasoning if unable to approve JNUS eligibility. IATA encourages coordinator-airline dialogue to identify if the events impacting individual airlines are unforeseeable, unavoidable and fall outside of the airline's control. Where agreement cannot be found, the airport Coordination Committee (or equivalent body) should be requested to provide guidance.

## Contact

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