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IATA Technical Fuel Working Group (TFWG)

Technical Guidance on the Use of Jet A Fuel at Predominantly Jet A-1 Supply Locations

1. Purpose

In response to recent and anticipated disruptions in the global aviation fuel supply chains, the IATA Technical Fuel Working Group (TFWG), in consultation with industry stakeholders, has reviewed the technical feasibility of using Jet A fuel at locations traditionally supplied with Jet A-1, where Jet A-1 availability is constrained.

This notice provides high-level technical guidance to support industry stakeholders considering this option. It does not mandate any action, replace regulatory requirements, override contractual, airworthiness, or local operational obligations.

2. Scope

This guidance is intended for:

a) Upstream aviation infrastructure operators (pipeline, terminals)
b) Aircraft operators
c) Fuel suppliers
d) Airport fuel storage and hydrant operators
e) Other stakeholders involved in the aviation fuel supply chain

The guidance applies to Jet A and Jet A-1 which are both approved and recognised aviation turbine fuel grades. ASTM D1655 defines both Jet A and Jet A-1, while DEF STAN 91-091 defines Jet A-1. It is important to recognize that Jet A and JET A-1 are different fuel grades.

3. Regulatory and Aircraft Certification Considerations

Jet A and Jet A-1 are aviation turbine fuel grades defined in internationally recognised specifications. The fuel specifications and grades permitted for use are established through aircraft type certification and documented in the Type Certificate Data Sheet and Aircraft Flight Manual, subject to manufacturer documentation and operator procedures. In most jurisdictions, regulators do not mandate the exclusive use of Jet A-1 grade; rather, they require the use of an approved fuel and appropriate communication of fuel grade to flight crews. Operators remain responsible for ensuring that flight crews are informed of the actual fuel grade in use, using established mechanisms (e.g. Flight documentation, and NOTAMs

where applicable). The notable differences between Jet A per ASTM D1655 and Jet A-1 per DEF STAN 91-091 are as follows

- **Freezing Point:** Jet A-1 requires a maximum freezing point of –47°C, while Jet A requires a freezing point of –40°C. The use of Jet A could impact cold weather operations such as polar routes.

- ASTM D1655 permits but does not require a **conductivity improving additive** such as static dissipator additive (SDA) or antioxidants whereas DEF STAN 91-091 requires SDA.

4. Operational Standards and Fuel Handling

Existing industry operational standards (including JIG standards) apply to aviation turbine fuel operations regardless of whether the fuel grade is Jet A or Jet A-1. The introduction of Jet A into supply chains that are traditionally for Jet A-1 require a structured management-of-change process, proportionate to the local infrastructure and operational arrangements.

Some airports may have operating standards that only permit Jet A-1 fuel grade. If the introduction of Jet A is proposed in addition to Jet A-1, local management must first seek approval from the relevant technical authorities within their joint venture (JV) if applicable. This will require the issuance and signing of a variation certificate confirming that the necessary operational, safety, and quality-control steps have been met.

Upstream, pipeline operators must also comply with strict grade-change procedures. They may be required to apply for a grade change under their established transport conditions, which formally list all fuel types authorised for shipment through the pipeline system. These controls apply equally to non-pipeline logistics including truck, rail, marine.

In commingled systems, fuel is typically certified to the most limiting specification; where applicable, this may result in the fuel being designated and handled as Jet A. Any changes should be kept as simple and transparent as possible, avoiding unnecessary complexity that could increase operational risk.

Minimum conductivity is a standard static electricity control measure during fuel handling. Operators handling fuel with low electrical conductivity should review their operations to ensure appropriate controls are in place. Care must be taken during SDA injection (if required) to prevent overdosage which can lead to conductivity levels outside of specification limits. Aviation fuel may be dosed by various methods including pipeline injection or mixing in bulk in a storage tank. The technical difficulties of properly mixing SDA in large storage tanks may require manual intervention and recirculation to achieve uniform conductivity, necessitating additional procedures and staff training.

5. Supply Chain and Infrastructure Considerations

The feasibility and implementation of Jet A use must be assessed on a location-specific basis, considering:

a) Fuel certification and recertification processes at refineries, import terminals, depots, intermediate storage locations, and any other custody point.
b) Characteristics of local infrastructure, including pipelines, storage tanks, hydrant systems, and fuel delivery equipment, particularly where commingling occurs.
c) Conductivity management practices, including the use or non-use of static dissipater additive, and any associated risks.
d) Local procedures, training requirements, and documentation for personnel involved in fuel handling and delivery.

Fuel specification changes require coordination among fuel suppliers, infrastructure operators, and airports. Fuel grade markings must be updated to align with the product being supplied. During transition, proper communication must be passed to all operators

6. Other Considerations

The acceptance of Jet A in place of Jet A-1 is subject to existing contracts between airlines and fuel suppliers. These contracts may need to be reviewed if they specify Jet A-1 only or require amendment to recognize Jet A as a different fuel grade.

While standard model fuel agreements typically recognize both Jet A and Jet A-1 as acceptable grades, individual contracts may include specific provisions that require review or amendment.

Contractual alignment is a bilateral matter between airlines and suppliers and should be addressed separately from industry-level technical guidance.

Insurance policies for fuel infrastructure currently in place would also need to be reviewed to determine whether amendments are required, as many policies explicitly specify coverage for Jet A-1 only. Any introduction of Jet A alongside Jet A-1 may therefore necessitate revisions to existing insurance terms and conditions.

7. Communications

Clear and timely communication is critical. Stakeholders should ensure that:

a) Airlines are informed in advance when practicable through NOTAMS.
b) Flight crews are clearly advised of the fuel grade being supplied and appropriate changes made to the fuel tickets.
c) Established airport and regulatory communication channels are used where appropriate to ensure consistent dissemination of information.

d) Laboratories to implement necessary management of change steps for adopting fuel certification as per ASTM D1655, latest edition.

8. Conclusion

The use of Jet A fuel at locations customarily supplied with Jet A-1 is technically feasible and already implemented in some regions where fuel quality controls, logistics arrangements and contract terms all support it. There is no general regulatory prohibition to such use; however, the key requirement is to maintain correct product certification, fuel grade control and clear operational communication throughout the supply chain.

This guidance is intended to provide confidence that the option may be evaluated and, where appropriate, implemented responsibly, while maintaining the industry's overarching commitment to safety and compliance.

9. References

1) EI/JIG Standard 1530 Quality assurance requirements for the manufacture, storage and distribution of aviation fuel to airports.
2) EI/JIG Standard 1530, Appendix H, Jet fuel conductivity
3) DEF-STAN91-091 UK Ministry of Defence standard specifying requirements for kerosene type aviation turbine fuel used in aircraft gas turbine engines.
4) ASTM D1655 Standard Specification for Aviation Turbine Fuels.
5) JIG 1 Aviation Fuel Quality Controls and Operating Standards for Into-Plane Fuelling Services.
6) JIG 2 Aviation Fuel Quality Controls and Operating Standards for Airport Depots and Hydrants.