

Enhancing cooperation between IAEA and ICAO to raise awareness and increase knowledge on the safe and secure transport of radioactive material

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Presented at: Fourteenth Meeting of the Facilitation Panel
(FALP/14)
20 - 24 April 2026



Denial of Shipment Working Group (DoS WG)

- In response to resolution GC(65)/RES/8, the group was established for the term **2023-2026**:
 - With full participation of interested Member States and relevant experts

Fifth meeting: 15-19 December 2025,
attended by 34 participants from:

- 14 Member States
- 4 International Organisations
- 4 Non-Governmental Organisations

Drafted **White Paper** on
**Facilitation of Safe and Secure
Transport of Radioactive Material**



Problem Statement

- Air transport is essential for the distribution of radiopharmaceuticals, as their short half-lives require delivery within hours for effective medical use, particularly in cancer diagnosis and treatment.
- Despite this critical need, shipments are frequently delayed or denied due to *regulatory constraints, carrier restrictions, limited awareness*, and logistical challenges.
- These disruptions directly impact healthcare systems, leading to postponed procedures and reduced patient access to time-sensitive treatments.

Root Causes

The analysis by the DoS WG identified several key causes:

- Radiopharmaceuticals are classified as Class 7 dangerous goods, leading to risk perceptions that are not aligned with their actual low risk and high medical value
- Airlines are not obligated to accept such shipments, resulting in inconsistent practices and operational uncertainty despite of *Amendment in Annex-9 on Facilitation to the Convention on International Civil Aviation*.
- There is no standardized operational framework for implementing existing guidance, leading to varying interpretations by airlines and handling companies

As a result, supply chains remain unreliable for time-critical medical applications.

Impact – MS Experience (Brazil)

Statement	Reference
Brazil imports 100% of Mo-99 used for SPECT	IPEN
Any transport disruption [of Mo-99] impacts 9,478 patients/day	IPEN
Nuclear medicine procedures in Brazil (all regions) requiring fast delivery (ex: PET/CT exams): 299,640 per year	SBMN / CNEN
Nuclear medicine procedures in regions 100% dependent on Air Transportation (North & Central West) : 31,938 per year	Villas Boas / CDTN / CMR / SBMN
Nuclear medicine procedures NOT PERFORMED in these regions due to Air Transportation delay/denial: 2,880 per year (9% of previous)	Villas Boas / CDTN / CMR / SBMN
Financial loss for Brazilian producers delivering to North & Central West: € 800,000.00	Villas Boas / CDTN / CMR / SBMN

Member States have reported:

- Delays in the delivery of radiopharmaceuticals
- Cancellation or postponement of diagnostic and therapeutic procedures
- Wastage of time-sensitive medical products
- Reduced access to essential healthcare services
- This highlights the global and systemic nature of the issue.

Proposed Solution

To address these challenges, radiopharmaceuticals should be recognized as essential, time-critical medical goods and prioritized in air transport systems.

This can be achieved by:

- Improving training and awareness among carriers (*including pilots*) and competent authorities (*civil aviation, airport, customs, etc.*), regarding their low risk and critical medical importance
- Introducing **dedicated handling codes** for clear identification and prioritization.
- Strengthening coordination between regulators, airlines, and industry stakeholders

These measures aim to improve reliability and predictability while maintaining existing safety standards.

Actions by the IAEA

The IAEA has taken several steps to address denial of shipment:

- Engaging with international organizations such as ICAO, UNECE, and IMO to raise awareness and strengthen cooperation
- Presenting a Working Paper at the ICAO Assembly (2025) to highlight the issue and propose actions
- Establishing a network of National Focal Points (NFPs) and conducting training workshops
 - NFP Training Workshop is planned in Islamabad in May 2026
- Developing joint initiatives with ICAO, including webinars and e-learning materials
- Enhancing outreach through international conferences and communication strategies
 - Safe and Secure Transport Conference 2026 – Co-president's call for action
- Supporting Member States with limited regulatory infrastructure

These efforts aim to address both technical and awareness-related challenges.

Proposed Actions to ICAO

- ICAO is invited to review this working paper and distribute it among its Member States.
- ICAO is invited to review the proposed solutions (*now compiled as White Paper and is being discussed in the 6th DoS WG Meeting from 20-22 April 2026*) and actions taken by the IAEA (since 2023).
- ICAO Member States are encouraged to share this working paper with their civil aviation authorities, for *awareness raising and enhanced coordination (joint webinars, symposium, conferences eLearning etc.)* with their national competent authorities for the transport of radioactive material.
- IAEA would like to clarify whether the use of separate Special Handling Codes (SHC) for radiopharmaceuticals would necessitate a different UN number, or if this is not a mandatory requirement.

Key Message

- A combination of regulatory, operational, and awareness-based solutions is required to effectively reduce denial and delay of shipments.
- While the issue may not be fully eliminated, sustained coordination and capacity building can significantly improve the situation.
- Improving the reliability of air transport for radiopharmaceuticals is essential to ensure timely access to life-saving medical care worldwide.



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Thank you!

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