

2024

DANGEROUS GOODS IN AIR TRANSPORTATION

## An Overview of the Basics

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**Presented By:**

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Office of Hazardous Materials Safety  
Security and Hazardous Materials Safety



Federal Aviation  
Administration



# Today's Discussion

- 01 Overview Office of Hazardous Materials Safety
- 02 Hazardous Materials Oversight: The Role and Work of The Inspectors
- 03 Questions





WHAT DO YOU KNOW ABOUT

# FAA's Office of Hazardous Materials Safety



# Federal Aviation Administration

## ORGANIZATIONAL OVERVIEW



FAA

Office of The Administrator



Air Traffic  
Organization



Airports



Aviation  
Safety



Commercial  
Space



Security And Hazardous  
Materials Safety

**5** Lines of Business

**43K+** Employees

**9** Staff Offices\*



WE ARE

# The Office of Hazardous Materials Safety



## MISSION

The mission of the Office of Hazardous Materials Safety is to increase safety in air transportation by managing risk.

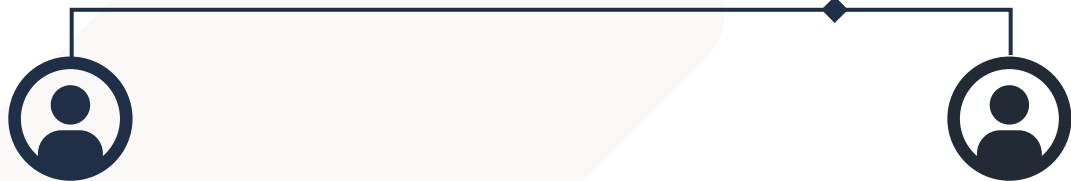
## VISION

Our vision is to reach the next step in aviation safety through innovative partnerships on safety management that proactively recognize and mitigate the risks influencing the safe and efficient movement of dangerous goods (DG) by air.



**Office of Hazardous Materials Safety**

Office of Hazardous Materials Safety  
*Deputy*



Oversight Operations  
*Deputy Director*

Internal Program Administration  
*Deputy Director*

- Special Air Operations Division
- Air Carrier Interface Systems Division
- Air Carrier Safety Assurance Division

- Program Administration Division
- Policy, Standards & Stakeholder Engagement Division

- Cargo Safety and International Affairs Division
- Safety Systems and Analytical Services Division
- Safety Management System Division

**Staff Assigned to 30+ Cities and Airports Across the Nation**



THE OFF  
HAZARD  
MATERIAL  
SAFETY

**A Short Video  
About Us**



# Some facts and figures from our office...

**We Oversee a Large and Complex System**

**4,000+**  
Other Regulated Entities

**700M+**  
Passengers

**\$5T+**  
Global E-commerce Sales

**31M+**  
Tons Of Air Cargo

**We are Actively Engaged in Oversight**

**170**  
Personnel in Our Workforce

**224**  
Special Permits Processed in FY24

**7,000+**  
Certificate Holders

**656**  
Air Carrier Dangerous Goods Manuals Approved

**We Focus on a Culture of Safety**

**21**  
Industry Events Attended in FY24

**363**  
Social Media Posts in FY24

**49**  
Lithium Battery Thermal Incidents and Responses

**3,700+**  
Covid-19 Vaccine Priority Flights





# We are responsible for...



## Resolving Safety Deficiencies

We establish policies, processes, and procedures to resolve safety deficiencies and noncompliance.



## Safety Management

We implement FAA safety management systems and safety risk management initiatives through activities and work in partnership with other groups across the FAA to ensure safety in the transportation of dangerous goods.



## Certification And Oversight

We have oversight responsibilities over dangerous goods transportation safety matters, including the processes used to ensure appropriate certification and oversight of certificate holders.

◇ See FAA Order 8900.1A, *Flight Standards Information Management System, Volume 2, Chapter 2, Section 6.* ◇





# **Speaking of Safety Management Systems...**



# Safety Management System



## 01 Safety Policy

- Management commitment and responsibility
- Safety accountability of managers
- Appointment of key safety personnel
- Coordination of the Emergency Response
- System Documentation

## 02 Safety Risk Management

- Hazard identification processes
- Risk assessment and mitigation processes
- Internal Safety investigations

## 03 Safety Assurance

- Safety performance monitoring and measurement
- The management of change
- Continuous improvement of the safety system

## 04 Safety Promotion

- Training and education
- Safety Communication
- Just Culture



# The SMS Evaluation

- ◆ Systematic approach to safety
- ◆ Enhances safety attitudes in the organization
- ◆ Integrated into existing business structures
- ◆ Positive safety culture at all levels
- ◆ Built on trust between employees and leadership





DANGEROUS GOODS IN AIR TRANSPORTATION PROGRAM OVERSIGHT

# **The role and work of the inspectors**



*Ensuring entities that transport dangerous goods by air are in regulatory compliance and are meeting appropriate safety standards is a primary responsibility of:*

## **Hazardous & Principal Hazardous Materials Safety Inspectors**

### **The Rundown:**

Also known as the HM ASI and PHI, respectively.  
Inspectors have federal special agent credentials.  
They do not have jump seat / en route privileges.  
There are inspectors located across the U.S.

#### General duties:

- ◆ Risk-based FAA certificated entity inspections (121, 129, 133/135, 145).
- ◆ Risk-based non-certificated entity inspections (e.g., ground handling contractors, freight forwarders, shippers, passengers). *Note: both shippers and passengers introduce dangerous goods into the transportation system.*
- ◆ Responding to all incidents involving dangerous goods by air



**Hazardous Materials Safety Inspectors** (HMASI) inspect, investigate, and conduct enforcement actions. Their duties focus on any entity\* that offers, accepts, or engages in **dangerous goods transportation via air**.

## Their work involves:



Investigating all non-compliance with the safe transportation of dangerous goods **per 49 CFR Parts 100-185**



Overseeing certificated air carriers and repair stations.



Collecting data and annotating observations when conducting safety oversight hazardous materials safety inspections.



Conducting incident investigations.



Stakeholder engagement and increasing passenger awareness.



The role of the **Principal Hazardous Materials Inspector** is also focused on the transportation of dangerous goods by air. They **center on** addressing risk, directly with **aircraft certificate holders** and provide:



**Centralized assessment planning** to ensure the effective use of limited resources and decrease duplicative efforts



**Data collection** that is scoped to specific system design and performance attributes.



**Unified analysis** for all supporting data on system operations.



**Consistency** in order to reach desired outcomes





# The Principal Hazardous Materials Inspector's **day-to-day duties** involve:

Certificate Holder System Evaluation	Certificate Holder Manual Reviews	Certificate Holder Training Reviews	Serving As Subject Matter Experts	Record Development
Identification of gaps, hazards and risks	Dangerous goods manual review, recommendations, and approvals	Dangerous good training course curriculum approval	Creating and updating policy procedures and training curriculum	Documenting closed actions
Ensure systems meet regulatory requirements	Review of manuals that interface with dangerous goods manuals		Participating in external program policy	Issuing correspondence: Compliance Action Letters Hazard Letters Safety Assurance Letters
Ensure systems incorporate the <b>4 SMS components</b> and <b>7 safety attributes</b>				Documenting actions through the Action Item Tracking Tool
Engage in continuous system reviews				





Office of Hazardous Materials Safety  
Atilla Akgün (acting) Executive Director



Office of Hazardous Materials Safety  
Deputy



Oversight Operations  
Deputy Director



Special Air Operations  
Division



Air Carrier Interface  
Systems Division



Air Carrier Safety  
Assurance Division

## First Last

PRINCIPAL HAZARDOUS MATERIALS SAFETY INSPECTOR

## You Can Reach Me at:

Email  
Phone

## Assigned Certificate Holders:

JetBlue Airlines (YENA)  
Spirit Airlines (GTIA)  
Sierra Pacific (SPAA)  
Seaborne Virgin Island, Inc (S9BA)  
Gulf & Caribbean Cargo (VGCA)  
Caribbean Sun Airline (2WAA)



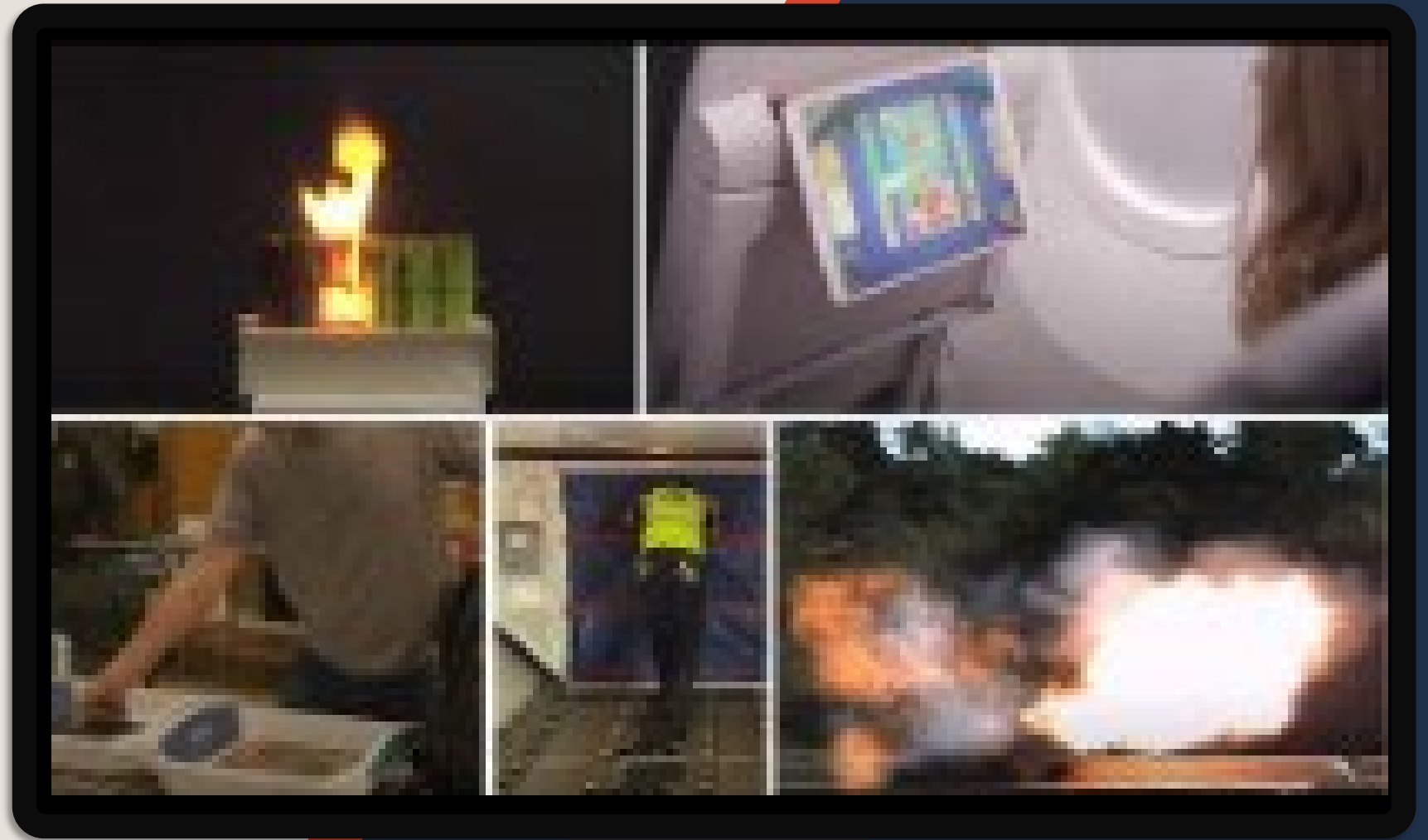


**The first step to mitigating risk is to identify the risk...**

# Let's Pause for a Short Video on One of the More Notable Risks: Lithium Batteries



For More on Lithium Battery Incidents Scan



# It's important to recognize that risks are present

ACROSS THE SUPPLY CHAIN



Logistics  
&  
Planning



Offering  
&  
Shipping



Warehouse  
&  
Fulfillment



Transport\*



Repair  
&  
Operations

*When you identify a hazard in the supply chain, engage the entities involved to determine and define an appropriate risk control strategy...*

\* Also See Advisory Circular 120-121 Safety Risk Management Involving Items in Aircraft Cargo Compartments



# Undeclared Dangerous Goods **are** **a significant concern.**

An "undeclared" dangerous good is any shipment where dangerous goods are not identified in other words, there is no visible indication that the package contains dangerous goods. Annually, around 1,500 undeclared shipments are identified and reported to DOT. The total number of undeclared shipments entering air commerce is unknown.

**The most frequently undeclared dangerous goods are common products:**



Aerosols



Lithium Batteries



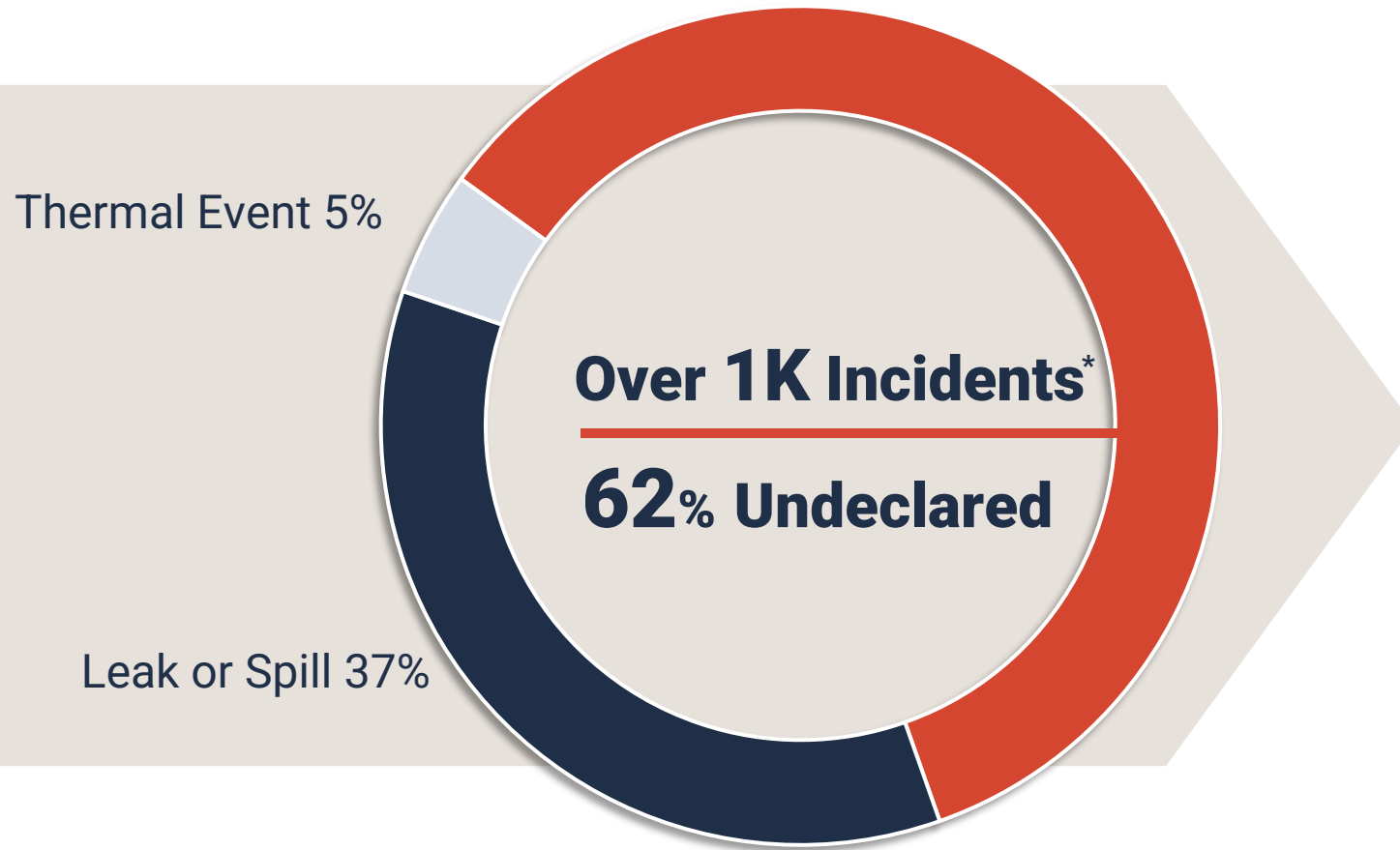
Dry Ice



Flammable Liquid



# A snapshot of other regulated entity undeclared incidents over the last year\*



## Top Five Dangerous Goods Involved

-  UN1950 Aerosols
-  UN3481 Lithium-Ion Batteries
-  UN1263 Paint & Paint-Related
-  UN1845 Carbon Dioxide
-  UN3080 Lithium-Metal Batteries

\*Incidents are from September 2023 – September 2024. These are other regulated entities (ORE) incident assessments. OREs are entities performing functions such as, but not limited to, handling or shipping of dangerous goods by air. Totals are greater than 100% because categories are not mutually exclusive, e.g., a thermal event may also have been undeclared.



**We have resources to help you  
and help reduce risk.**





# Our dedicated safety campaign pages have **useful resources.**



## OperateSafe

Will you carry dangerous goods?  
Know your responsibilities.



[https://www.faa.gov/hazmat/air\\_carriers](https://www.faa.gov/hazmat/air_carriers)

**For Air Carriers**



## SafeCargo

Learn the right way to prepare your  
dangerous goods for shipment



<https://www.faa.gov/hazmat/safecargo>

**For Shippers & E-Commerce**



## PackSafe

Should it go in checked or  
carry-on baggage? Find out!



<https://www.faa.gov/hazmat/packsafe>

**For Passengers**



# Here are links to other helpful pages...



Link to fire safety training videos developed by the FAA Technical Center



[www.fire.tc.faa.gov/Training/](http://www.fire.tc.faa.gov/Training/)

This page assists operators with identifying risks and hazards related to cargo



[www.fire.tc.faa.gov/CargoSafety](http://www.fire.tc.faa.gov/CargoSafety)

Link to a range of lithium battery resources



[www.faa.gov/hazmat/resources/lithium\\_batteries](http://www.faa.gov/hazmat/resources/lithium_batteries)





**Questions?**

