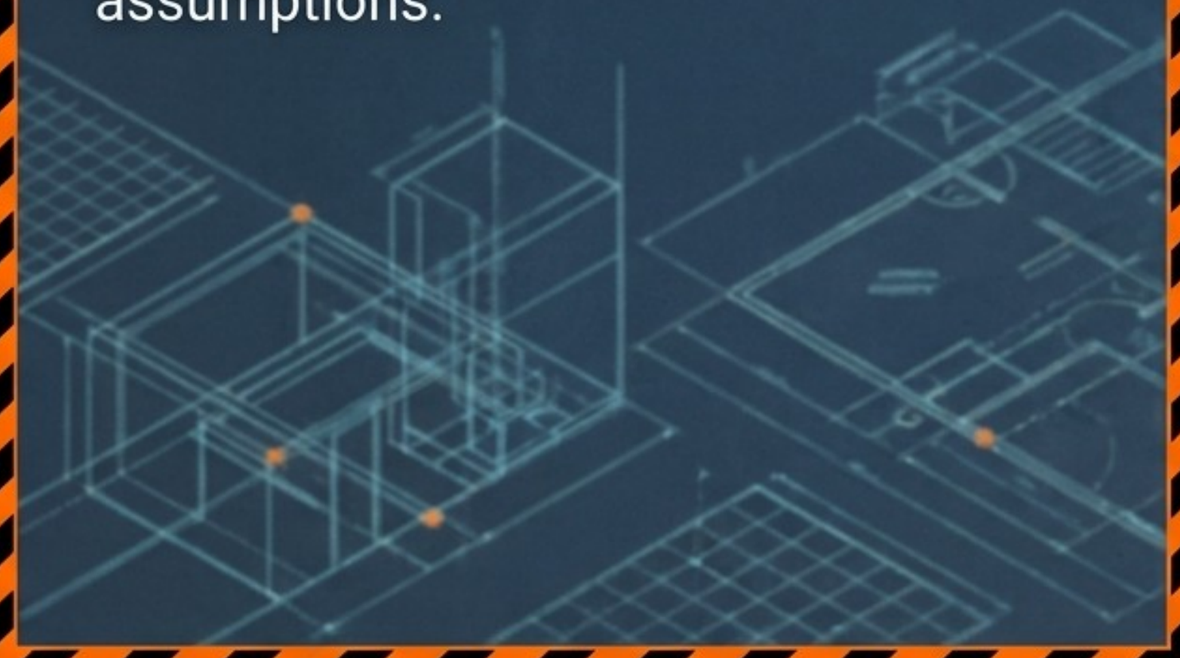
Aviation Accident Site Safety: Source Hierarchy & Critical Guidance

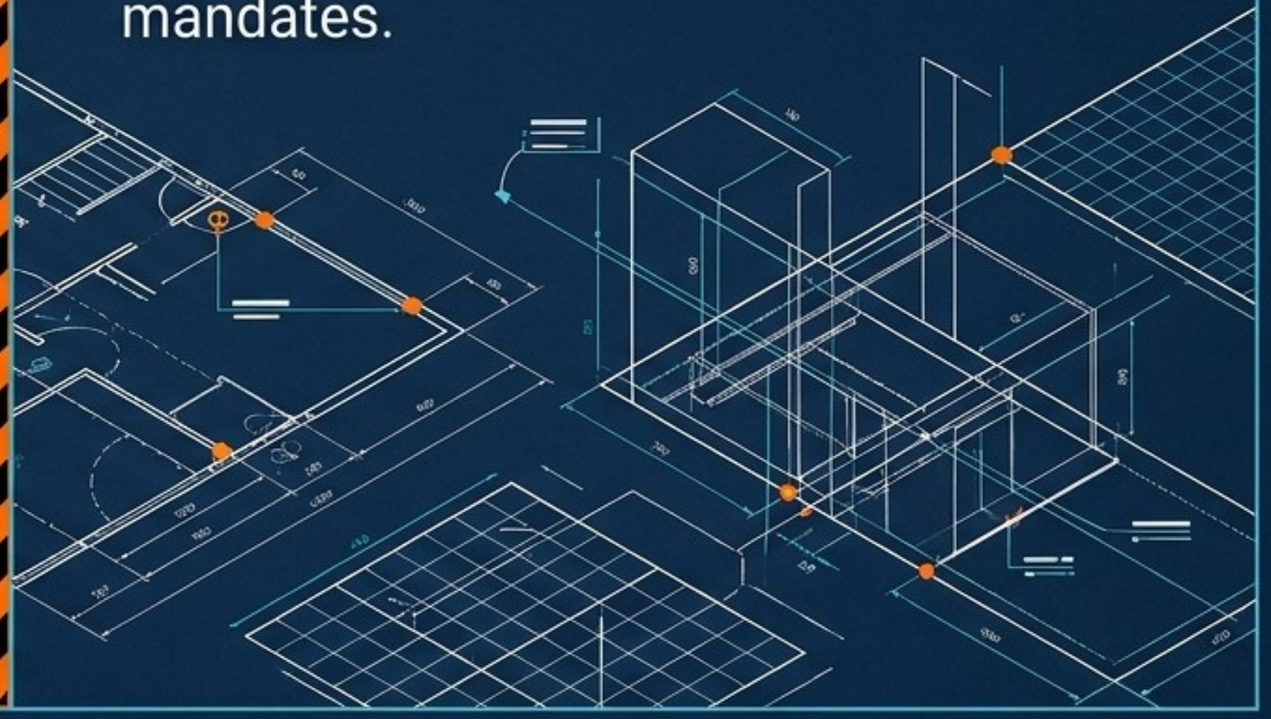
Generic Safety Folklore

Relying on institutional habit, outdated circulars, hearsay, or generic PPE assumptions.



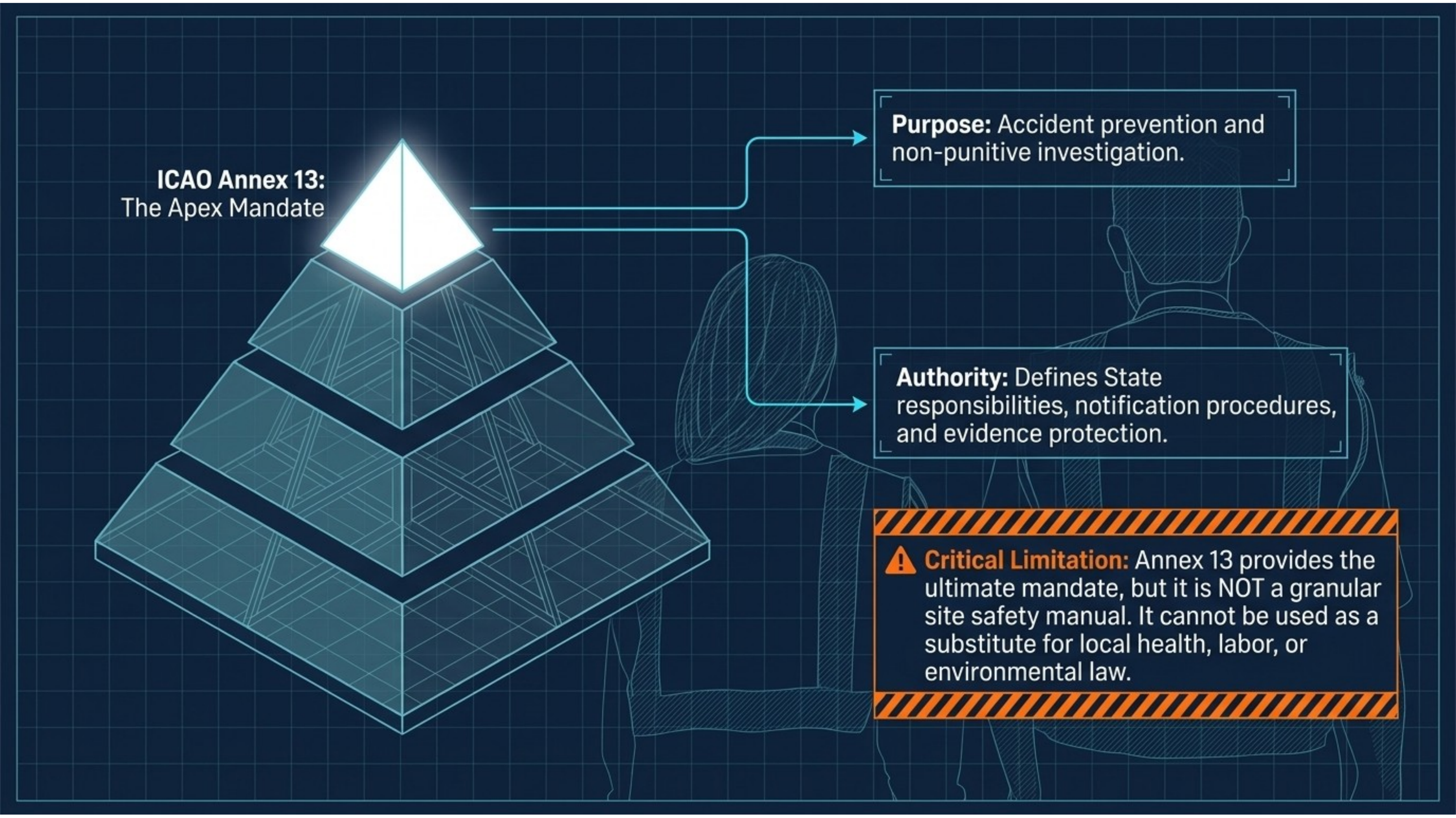
Source-Critical Defensibility

Operating on documented, legally robust, and forensically sound mandates.

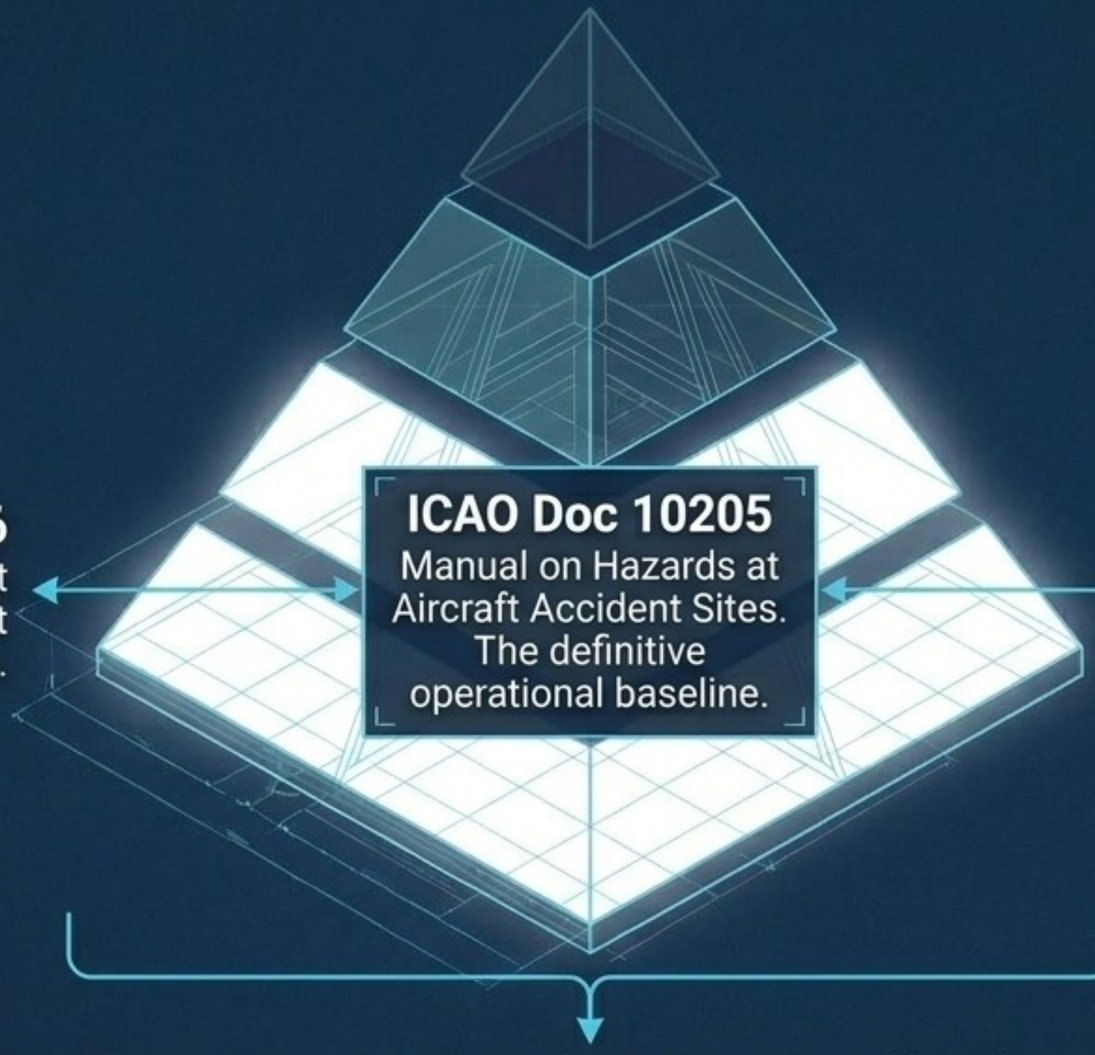


An accident site is not a normal workplace. Your safety plan must be as legally and forensically defensible as your final accident report.

Site safety isn't an administrative layer; it is part of the investigation architecture. That architecture is built on a strict hierarchy of verified sources, shielding the team from uncontrolled exposure and legal liability.


ICAO Annex 13:
The Apex Mandate
Purpose: Accident prevention and non-punitive investigation.
Authority: Defines State responsibilities, notification procedures, and evidence protection.
Critical Limitation: Annex 13 provides the ultimate mandate, but it is NOT a granular site safety manual. It cannot be used as a substitute for local health, labor, or environmental law.

ICAO Doc 9756
Manual of Aircraft Accident and Incident Investigation.

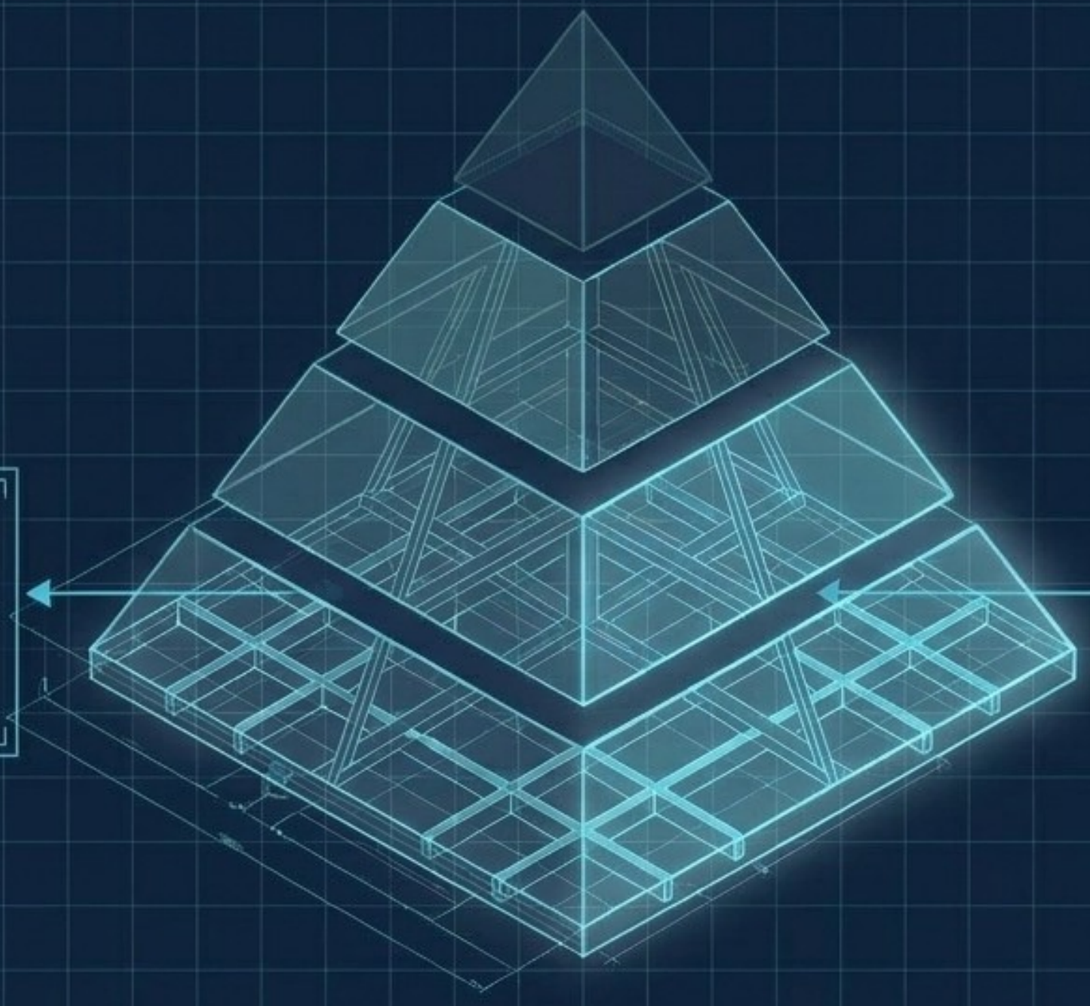


ICAO Doc 10205
Manual on Hazards at Aircraft Accident Sites. The definitive operational baseline.

ICAO Doc 10206
Manual on Aircraft Accident and Incident Investigation Training.

These documents translate the international legal mandate into **operational methodologies** for the **Site Safety Coordinator**.

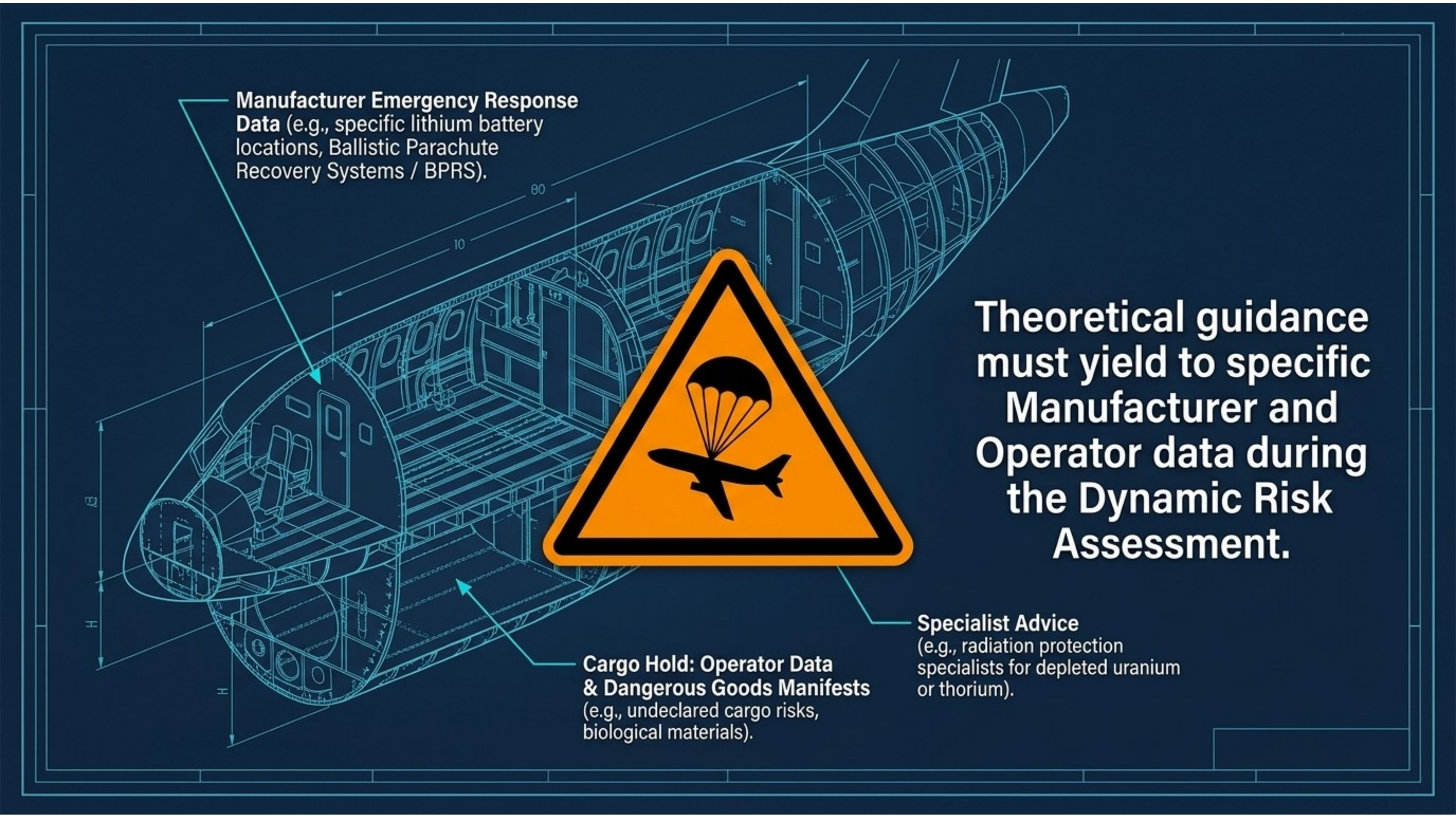
National AIA Procedures
- Internal SOPs
- Generic risk assessment protocols
- PPE issue logs

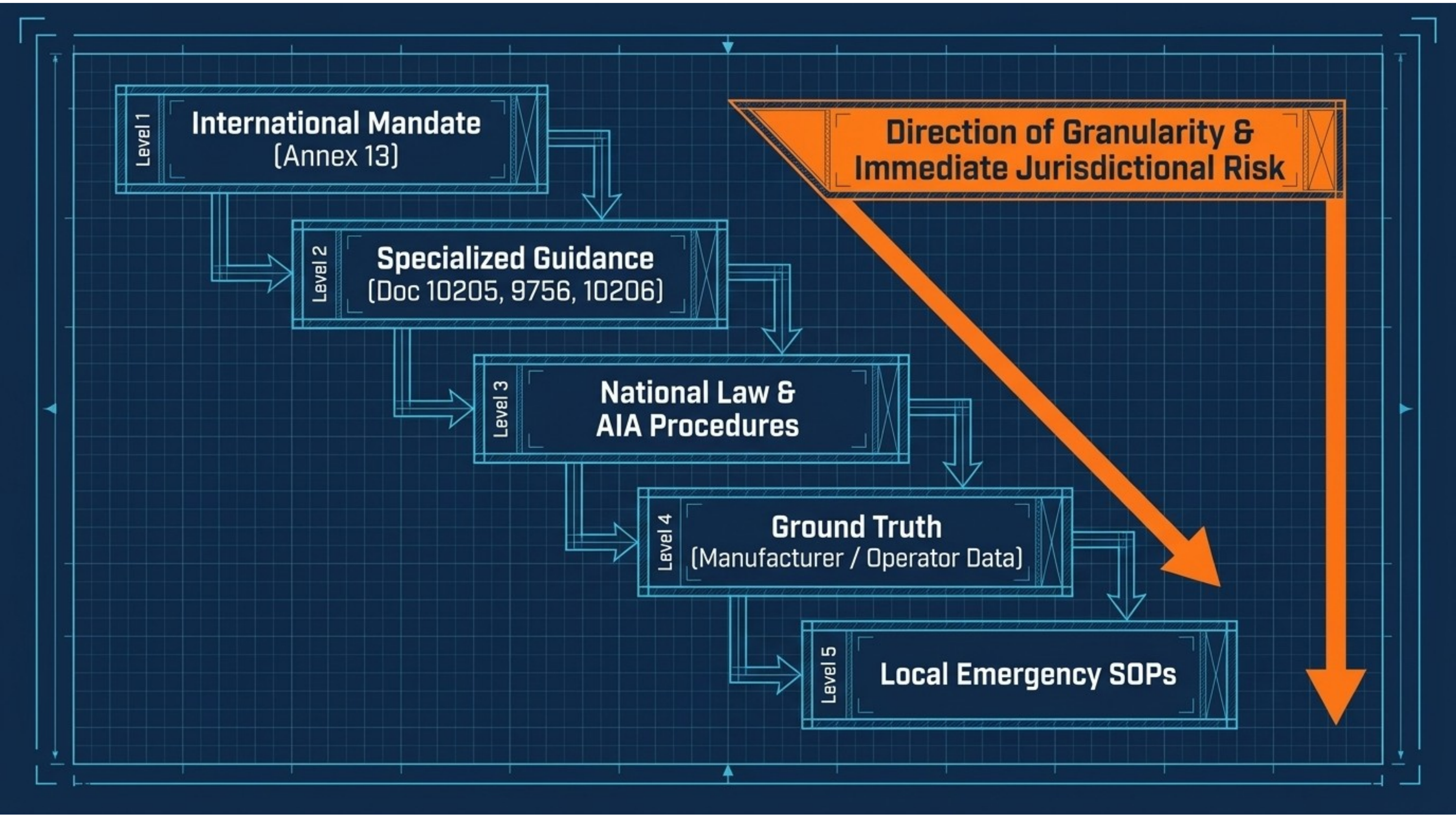


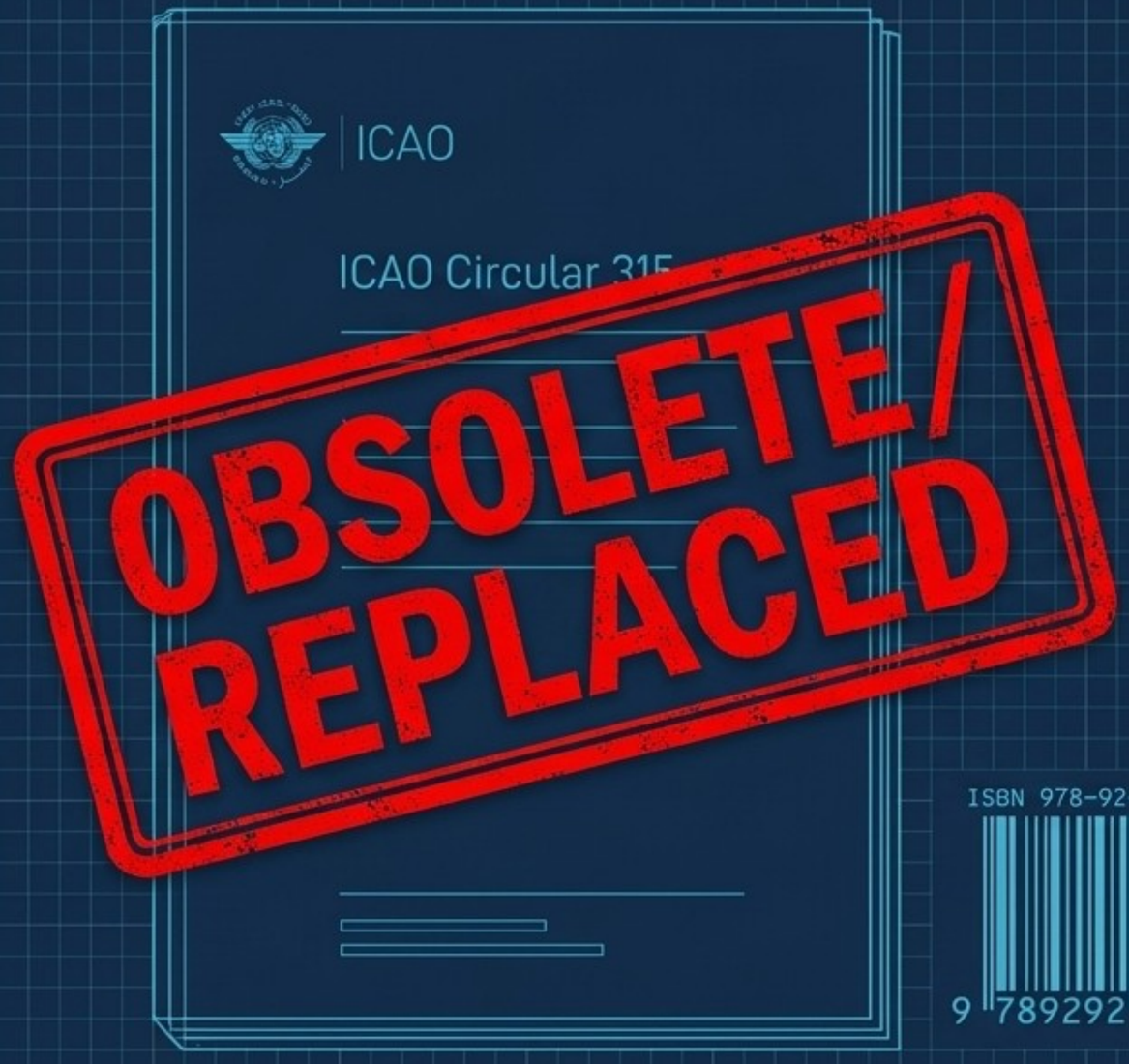
Local Legal Obligations
- National occupational health and safety legislation
- Criminal law
- Environmental regulations

SYNTHESIS

National AIA procedures must integrate with **local emergency service protocols**.
The investigation mandate never overrides **national occupational health and safety legislation**.


Manufacturer Emergency Response Data (e.g., specific lithium battery locations, Ballistic Parachute Recovery Systems / BPRS).
Theoretical guidance must yield to specific Manufacturer and Operator data during the Dynamic Risk Assessment.
Specialist Advice (e.g., radiation protection specialists for depleted uranium or thorium).
Cargo Hold: Operator Data & Dangerous Goods Manifests (e.g., undeclared cargo risks, biological materials).


Level 1
International Mandate
(Annex 13)
Level 2
Specialized Guidance
(Doc 10205, 9756, 10206)
Level 3
National Law &
AIA Procedures
Level 4
Ground Truth
(Manufacturer / Operator Data)
Level 5
Local Emergency SOPs
Direction of Granularity &
Immediate Jurisdictional Risk



The Error

Many national AIA manuals and legacy training materials still cite ICAO Circular 315.

The Correction

ICAO Doc 10205 (First Edition, 2024) explicitly replaces Circular 315.

Operating on 315 leaves investigators legally and operationally vulnerable.

ERA OF CIRCULAR 315

TRADITIONAL ALUMINUM AIRFRAMES

BASIC FUEL SPILL RISKS

STRAIGHTFORWARD ANALOG SYSTEMS

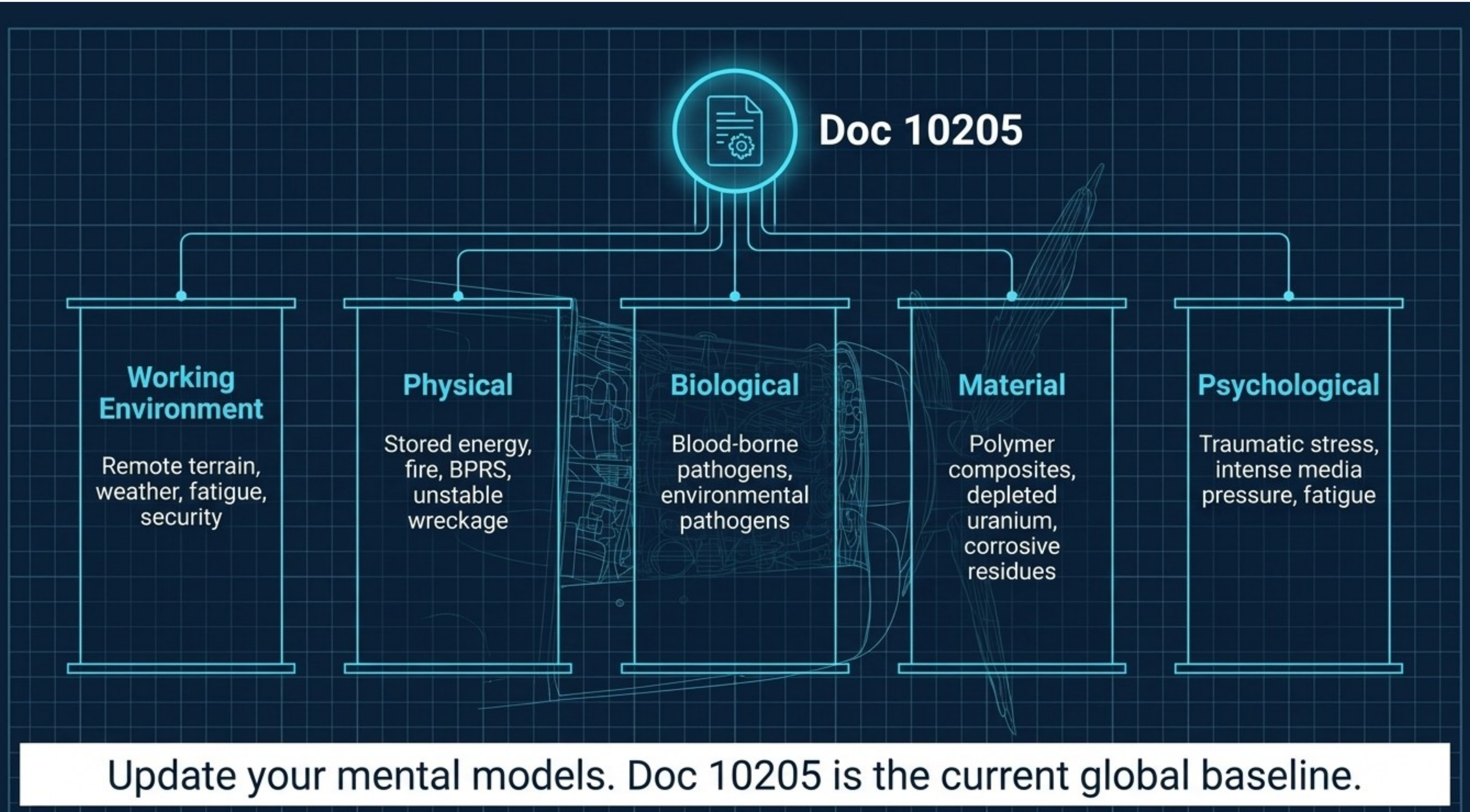
CURRENT RISK LANDSCAPE

COMPLEX POLYMER COMPOSITES
(CARBON FIBER RESPIRABLE DUSTS)

HIGH-ENERGY SYSTEMS
(UNDEPLOYED BPRS ROCKETS)

CHEMICAL & ELECTRICAL
(HIGH-ENERGY LITHIUM BATTERIES,
TOXIC COMBUSTION RESIDUES)

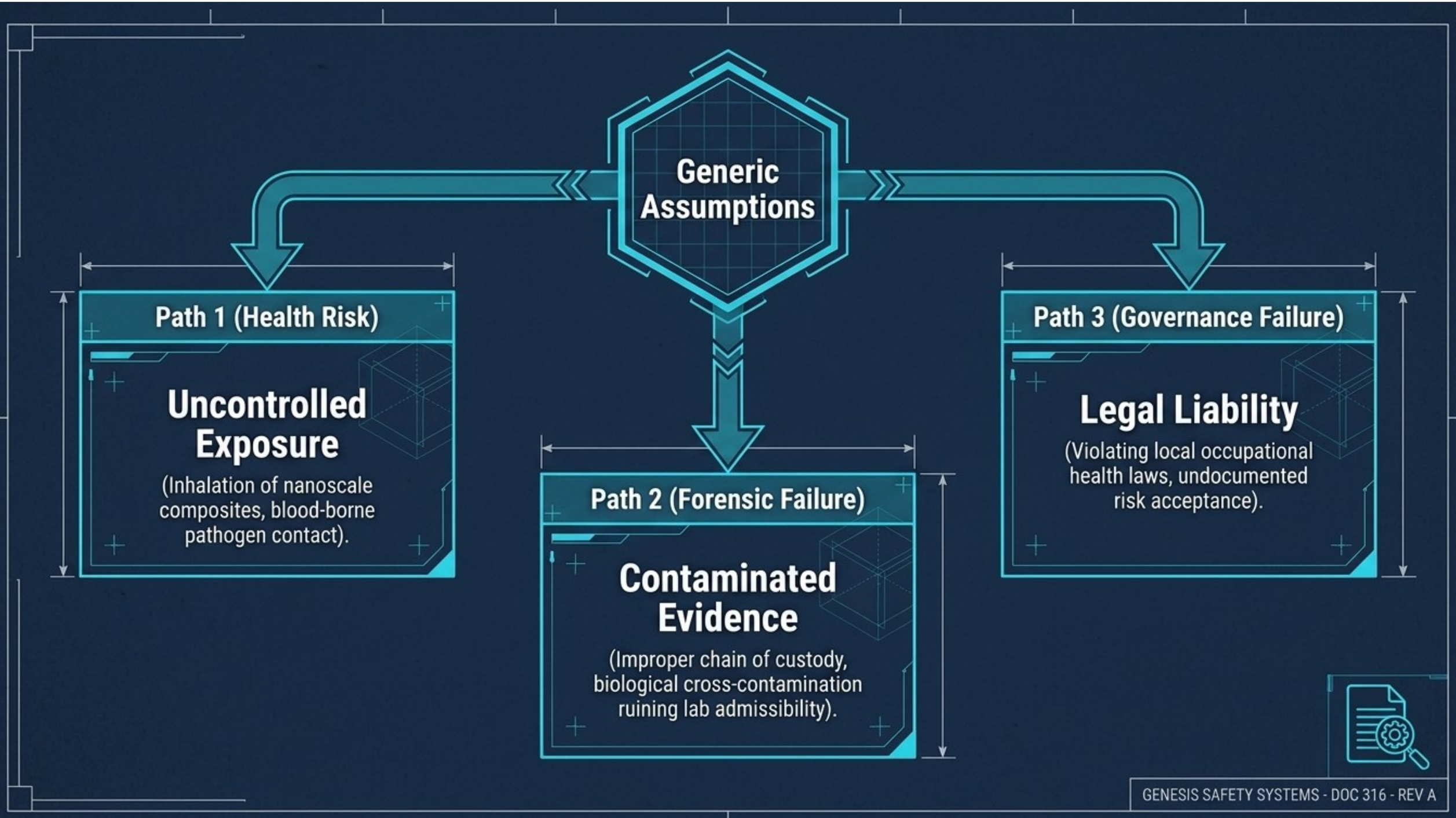
ACCIDENT SITE HAZARDS AND OCCUPATIONAL SAFETY MANAGEMENT REQUIREMENTS HAVE EXPANDED SIGNIFICANTLY. CIRCULAR 315 CANNOT PROTECT YOU FROM MODERN MATERIAL HAZARDS.

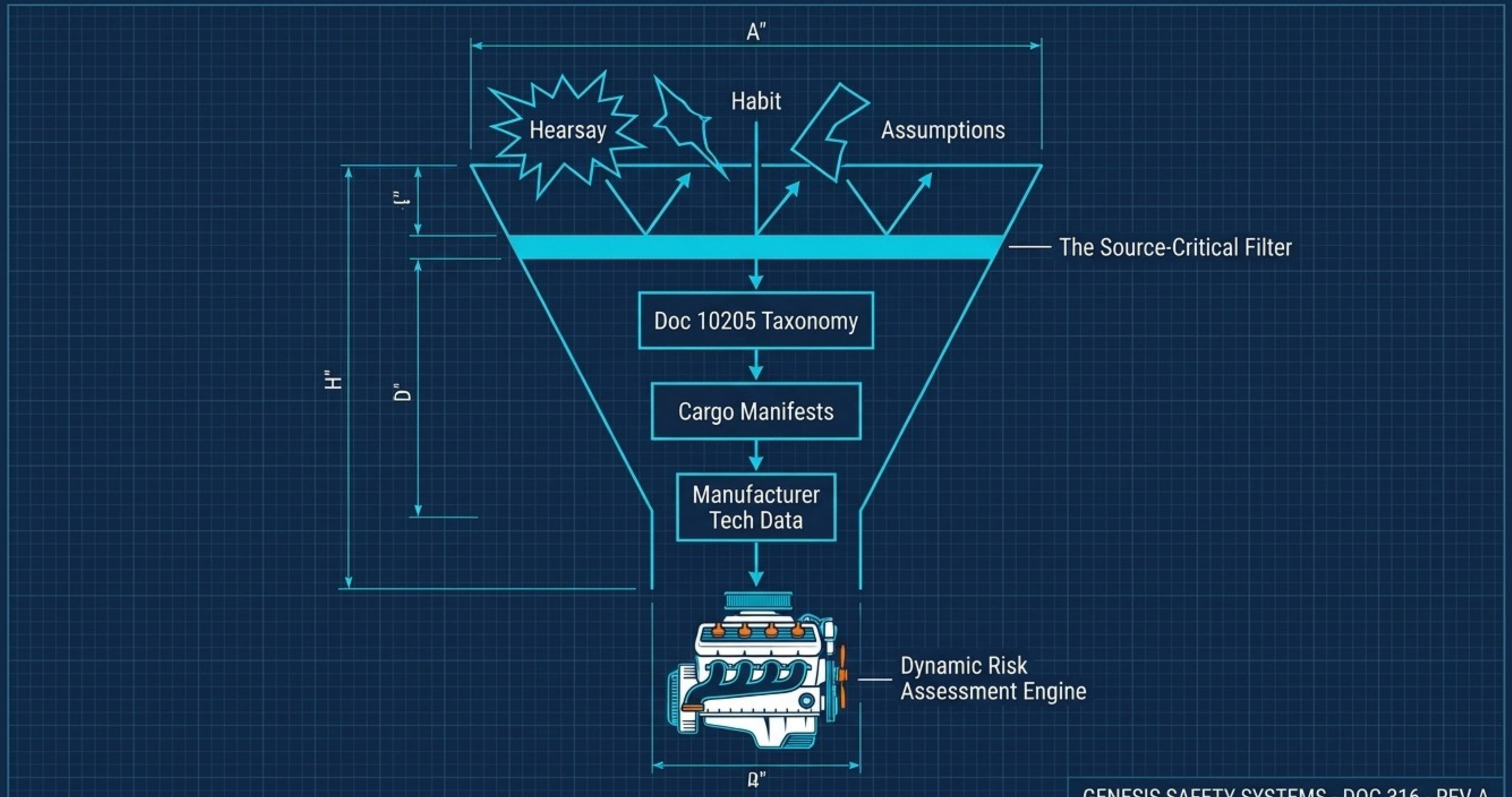


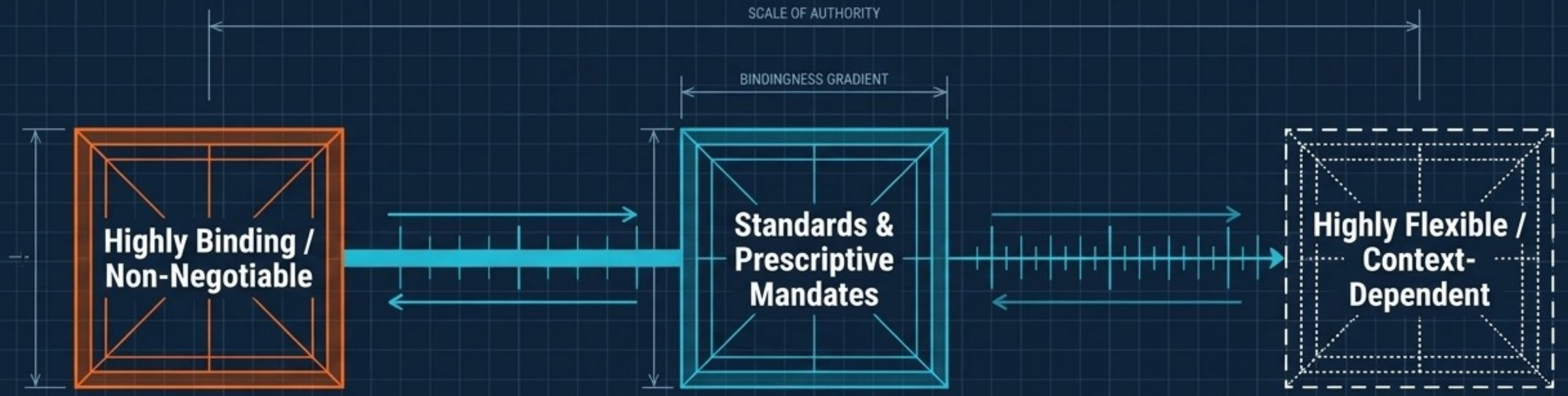
Update your mental models. Doc 10205 is the current global baseline.

DEFINING GENERIC SAFETY FOLKLORE

Safety folklore occurs when investigators substitute verified source data with institutional habit or generic assumptions. The absence of visible contamination is not proof of safety.


Generic Assumptions
Path 1 (Health Risk)
Uncontrolled Exposure
(Inhalation of nanoscale composites, blood-borne pathogen contact).
Path 2 (Forensic Failure)
Contaminated Evidence
(Improper chain of custody, biological cross-contamination ruining lab admissibility).
Path 3 (Governance Failure)
Legal Liability
(Violating local occupational health laws, undocumented risk acceptance).
GENESIS SAFETY SYSTEMS - DOC 316 - REV A


A"
Hearsay
Habit
Assumptions
J"
H"
D"
The Source-Critical Filter
Doc 10205 Taxonomy
Cargo Manifests
Manufacturer Tech Data
Dynamic Risk Assessment Engine
B"



Local Laws & National Legislation
(Criminal law, labor law, environmental regulations). Immediate jurisdictional teeth.

ICAO SARPs & AIA National Procedures
(Annex 13 obligations).

Internal SOPs & General Guidance
(General best practices, baseline protocols).

Standard (The “Must”)

Definition:

↳ Any specification recognized as necessary for the safety or regularity of international air navigation.

Obligation:

↳ States must conform. In the event of impossibility, notification to the ICAO Council is mandatory under Article 38.

Recommended Practice (The “Should”)

Definition:

↳ Any specification recognized as desirable in the interest of safety.

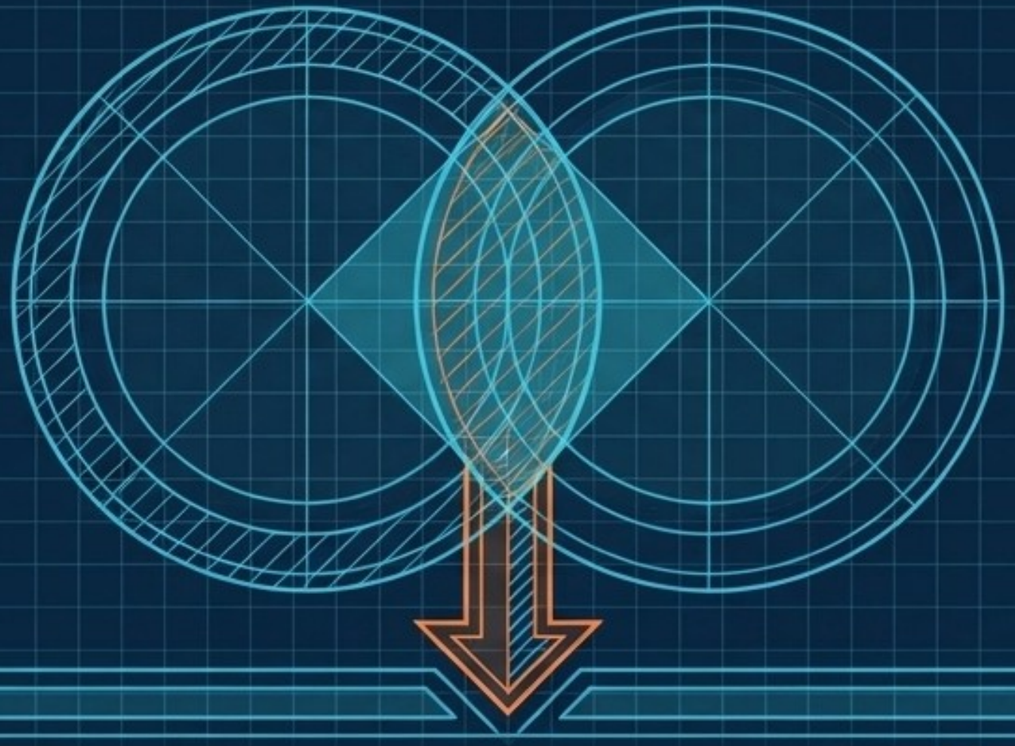
Obligation:

↳ States will endeavor to conform.

ICAO Guidance vs. Local Legal Obligations

ICAO Guidance (Doc 10205)

Provides the best-practice methodology for identifying hazards and conducting dynamic risk assessments.



Local Legal Obligations

Provides the strict limits on worker exposure, hazardous waste disposal, and site access.

ICAO guidance informs how you protect your team; **Local Law dictates the minimum legal threshold** for that protection. You **cannot use an ICAO manual as a legal shield** against violating national occupational health laws.

REGULATORY FRAMEWORK COMPARISON MATRIX

	Origin	Flexibility	Jurisdictional Power	Application on Site
ICAO Standards	Int. Mandate	Low	ICAO/State	Prescriptive Baseline
ICAO Recommended Practices	Int. Suggestion	Moderate	State	Adaptable Baseline
ICAO Guidance (Doc 10205)	Expert Consensus	High	None (Methodology)	Dynamic Risk Tool
Local Laws & Legislation	National Gov	None (Absolute)	Police/Courts	Legal Boundary ⚠
Internal SOPs	Agency Policy	High	Agency Leadership	Operational Routine

Scenario: ICAO guidance suggests one PPE approach, but local labor law mandates a stricter one. What is the operational rule?

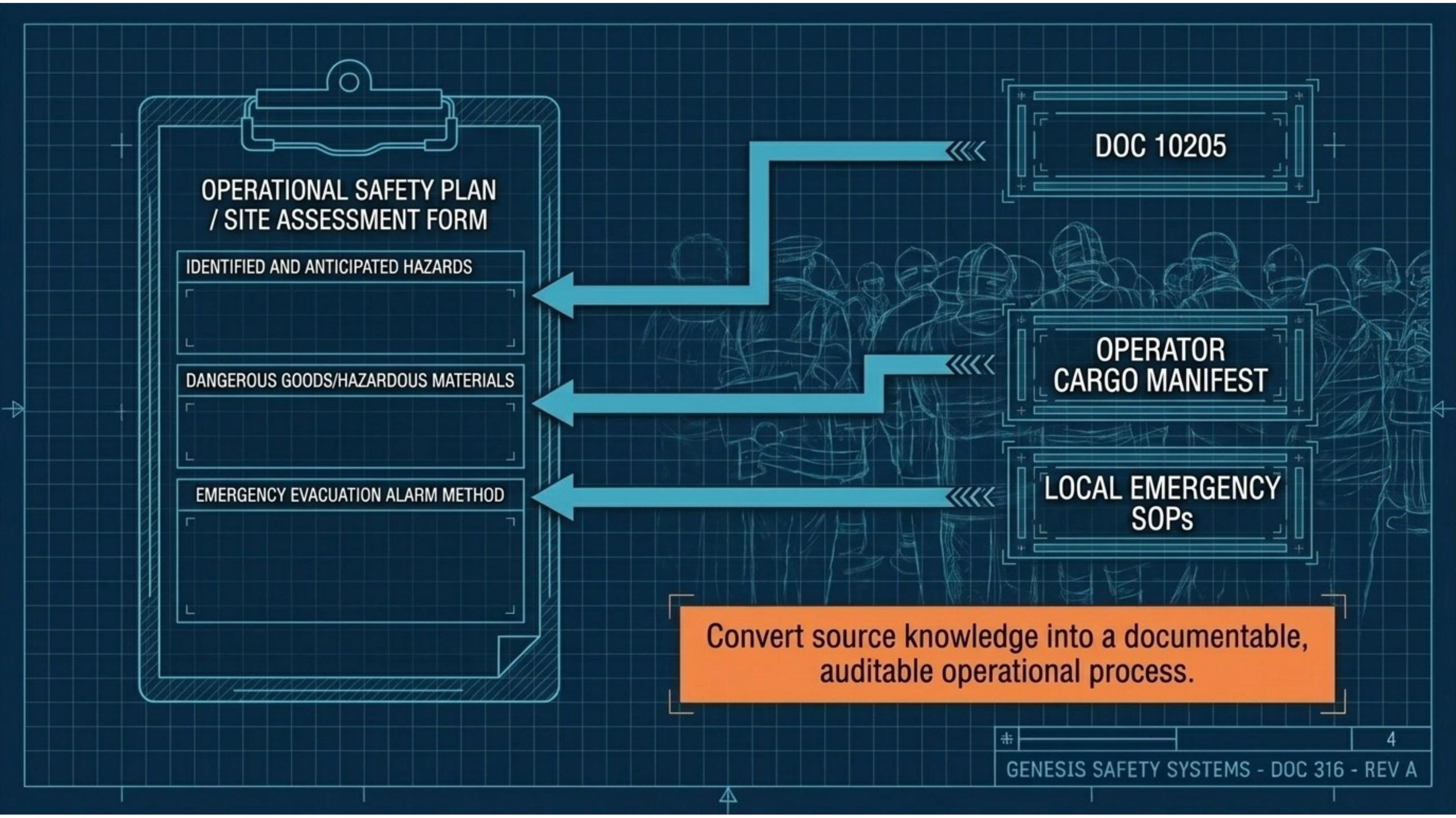
Does the local law exceed the ICAO recommendation?

Yes → Apply Local Law.

Does the local law fall short of the ICAO recommendation?

Yes → Apply ICAO Guidance (elevate to highest protection).

The Escalation Logic: Always default to the highest-protection, legally compliant outcome. No forensic evidence is worth uncontrolled exposure.


OPERATIONAL SAFETY PLAN
/ SITE ASSESSMENT FORM
IDENTIFIED AND ANTICIPATED HAZARDS
DANGEROUS GOODS/HAZARDOUS MATERIALS
EMERGENCY EVACUATION ALARM METHOD
DOC 10205
OPERATOR
CARGO MANIFEST
LOCAL EMERGENCY
SOPs
Convert source knowledge into a documentable,
auditable operational process.

Know the Hierarchy

(Trace every safety decision back to a defensible document, not an assumption).

Kill the Folklore

(Update your manuals. Eliminate Circular 315. Embrace Doc 10205).

Respect Local Law

(Annex 13 is your investigation mandate; it does not grant immunity from occupational health legislation).

The Source-Critical Mindset

Forensic, Occupational, and Operational Risk Management at Aircraft Accident Sites.

Questions & Discussion

Dr. Thomas Friesacher, MSc
office@aeroxpert.eu

Thank you for your attention.