



Competency-Based Training

Workshop on Lithium Batteries

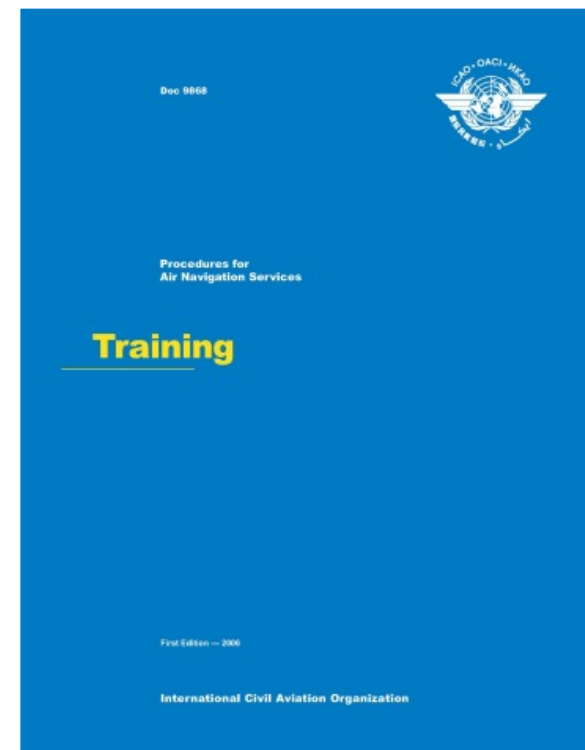
20-22 September 2016

Abu Dhabi, United Arab Emirates



ICAO and Competency-Based Training

- *Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868)*
 - Published in 2006
- Multi-crew pilot license
- Aircraft maintenance personnel
- Dangerous Goods Panel:
 - Competency Framework for dangerous goods personnel
 - Competency Framework for Dangerous Goods State inspectors





Competency-Based Training

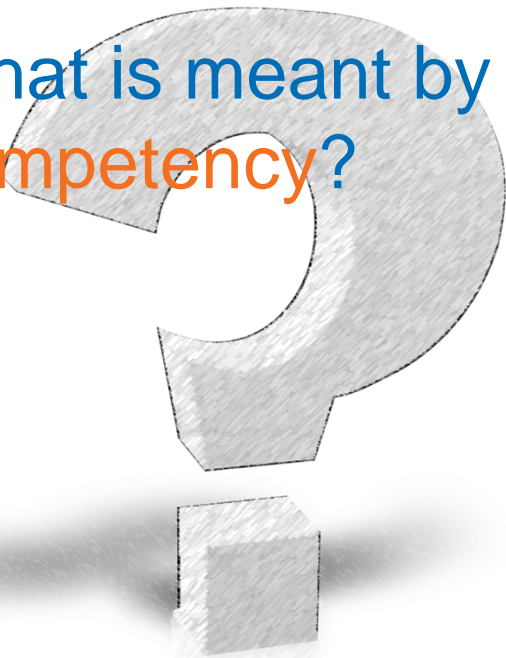
What is meant by
competency?





Competency-Based Training

What is meant by
competency?



Competency. A combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.

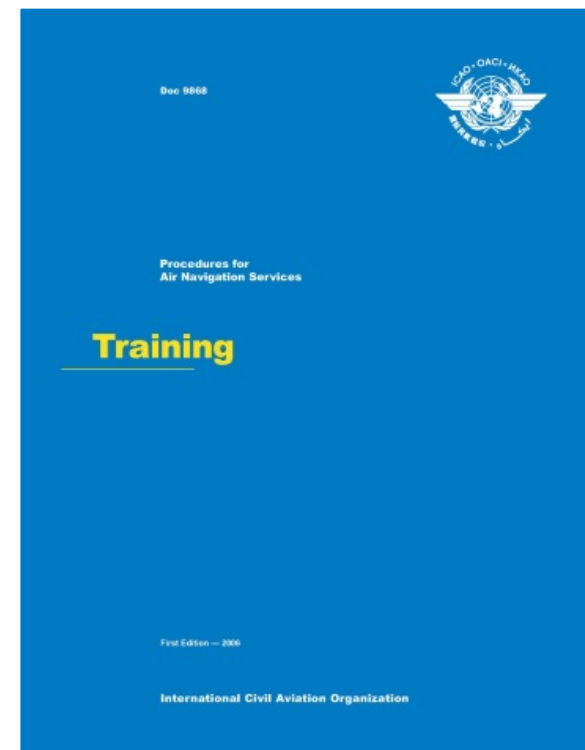
(Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868))





What is Competency Based Training and Assessment?

- Systemic approach
- Defined competencies
- Training based on competencies
- Performance standards
- Assessments
 - Competencies achieved?



(PANS-TRG, Chapter 2)



Competency Framework

- Competency units
 - Discrete function
 - Contains competency elements
- Competency elements
 - Action
 - Triggering event
 - Terminating event
 - Defined limits
 - Observable outcome
- Performance criteria
 - Required outcome of competency elements
 - Criteria to judge if performance achieved

3.	PERFORM TAKE-OFF	
...		
3.2	Perform take-off roll	
	3.2.1	Applies take-off thrust
	3.2.2	Checks engine parameters
	3.2.3	Checks airspeed indicators
	3.2.4	Stays on runway centre line
...		
3.7	Manage abnormal and emergency situations	
	3.7.1	Identifies the abnormal condition
	3.7.2	Interprets the abnormal condition
	3.7.3	Performs the procedure for the abnormal condition

(PANS-TRG, Chapters 1 and 3 (Appendix 2))

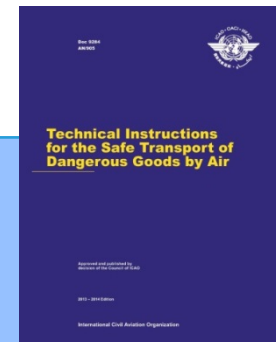


Dangerous Goods Training

- Competency frameworks
 - Personnel involved in transporting dangerous goods
 - State employees involved in administration and oversight of dangerous goods regulations

4.4 COMPETENCY-BASED TRAINING AND ASSESSMENT

Competency-based training and assessment should be used in accordance with the general provisions contained in Chapter 2 of the Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868).



(Technical Instructions, Part 1;4.4)

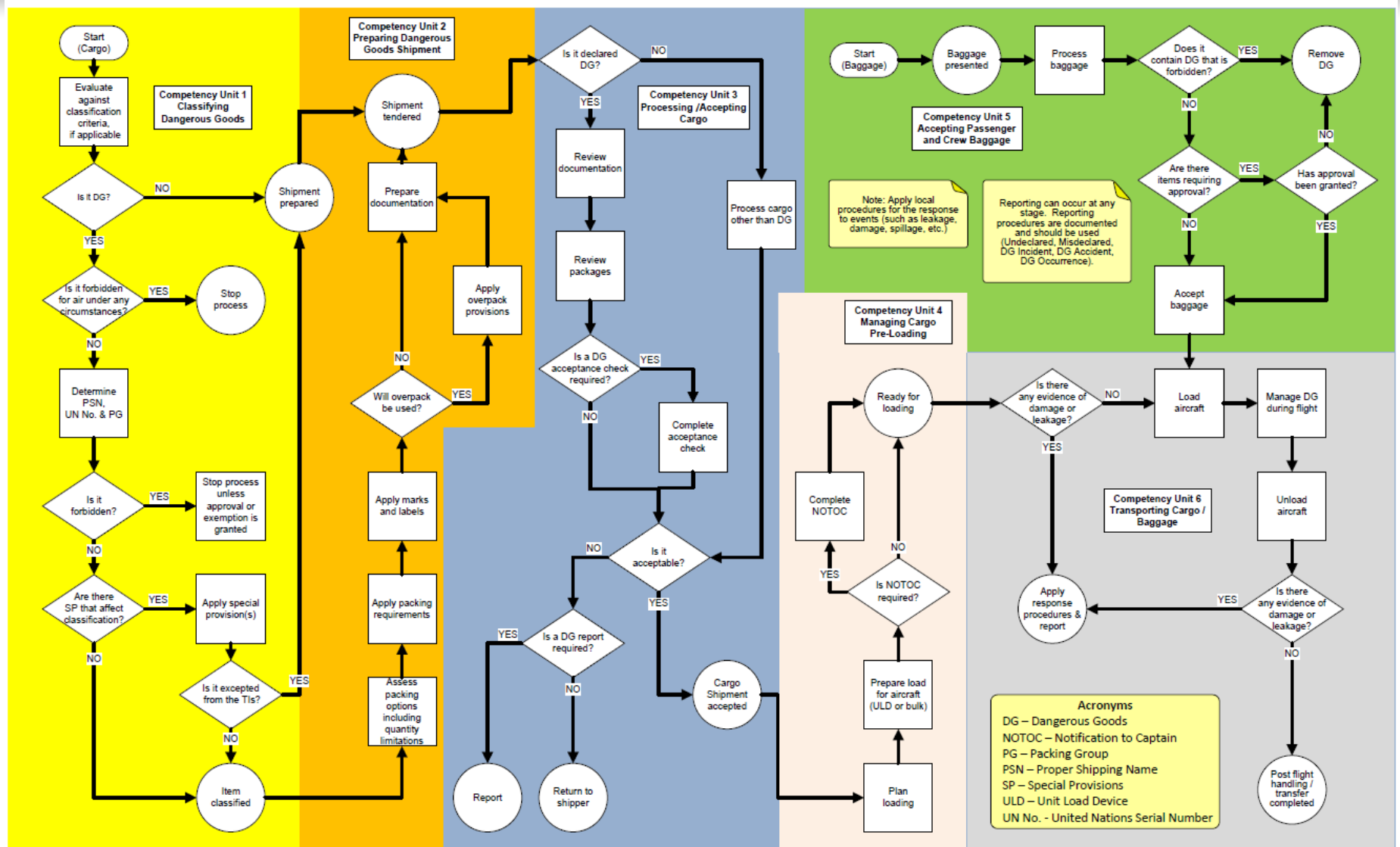


COMPETENCY FRAMEWORKS FOR PERSONNEL INVOLVED IN TRANSPORTING DANGEROUS GOODS



Competency Units

1. Classifying dangerous goods
2. Preparing dangerous goods shipment
3. Processing/accepting cargo
4. Managing cargo pre-loading
5. Accepting passenger and crew baggage
6. Transporting cargo/baggage





Competency Unit 1 — Classifying dangerous goods

Competency Elements

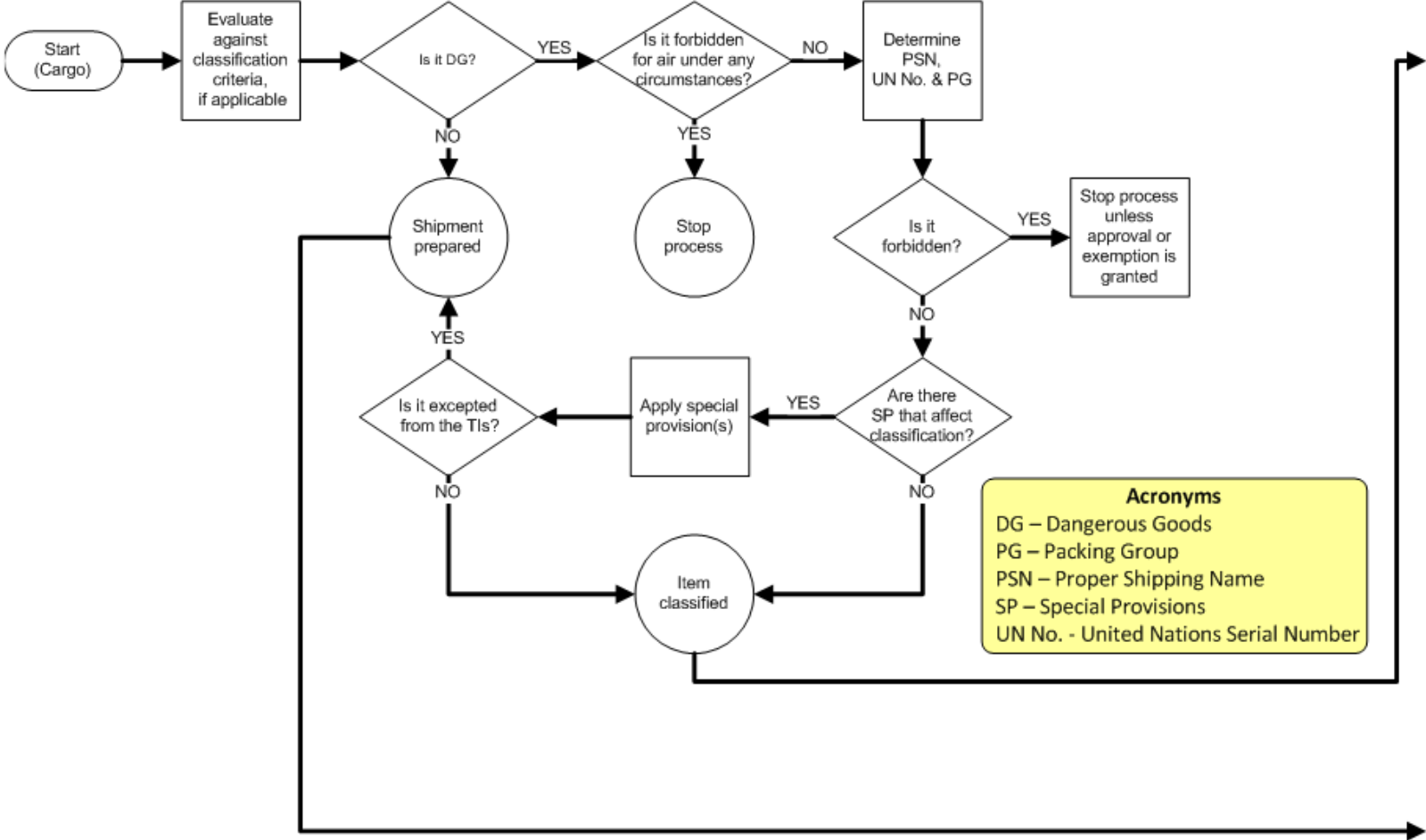
Evaluate substances or articles against classification criteria, as applicable

Determine dangerous goods description

Review special provisions



Competency Unit 1 Classifying Dangerous Goods



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Competency Unit 2 — Preparing dangerous goods shipment

Competency Elements

Assess packing options including quantity limitations

Apply packing requirements

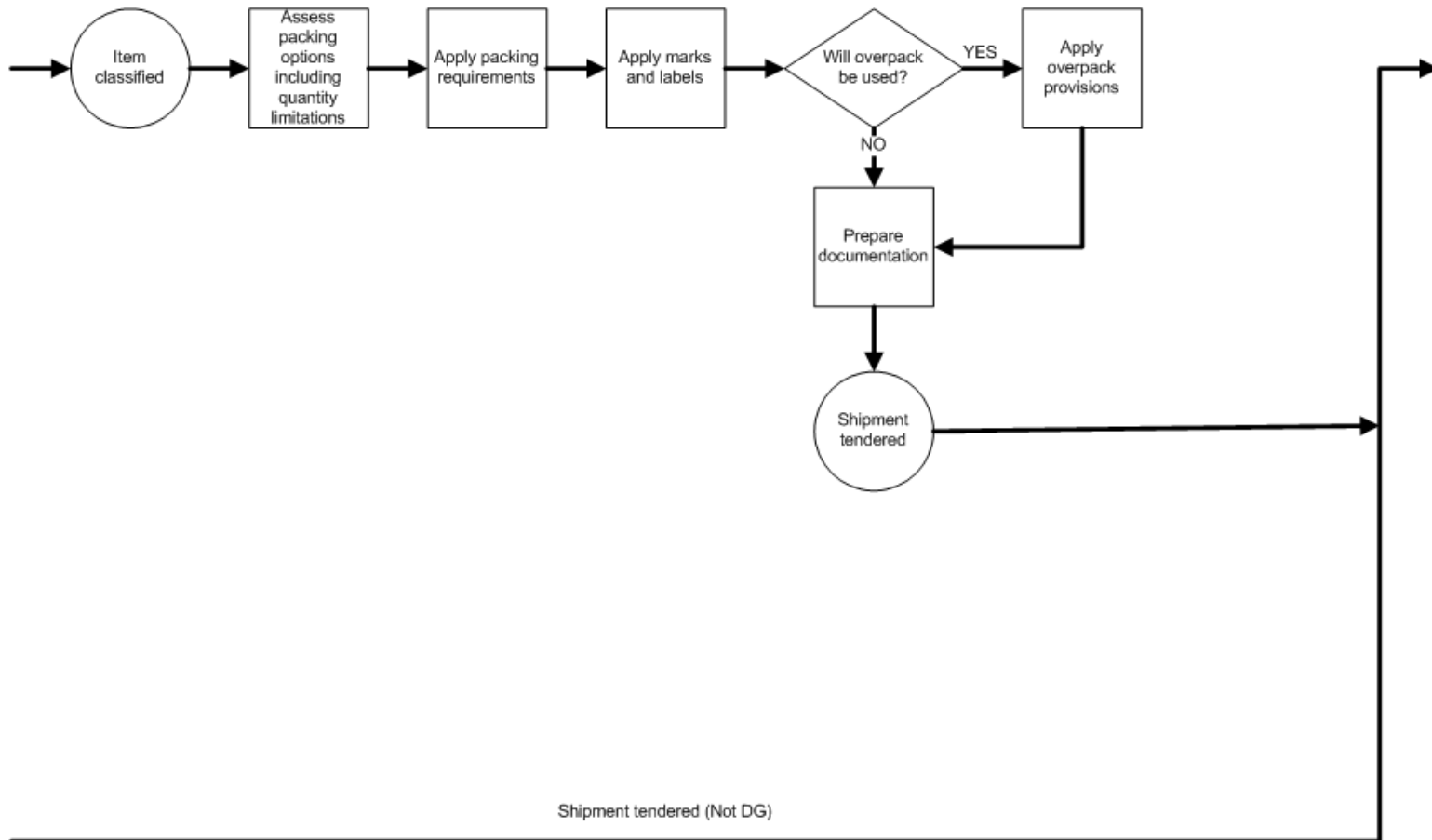
Apply marks and labels

Determine if overpack can be used

Prepare documentation



**Competency Unit 2
Preparing Dangerous Goods Shipment**



Shipment tendered (Not DG)

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Competency Unit 3 — Processing/accepting cargo

Competency Elements

Review documentation

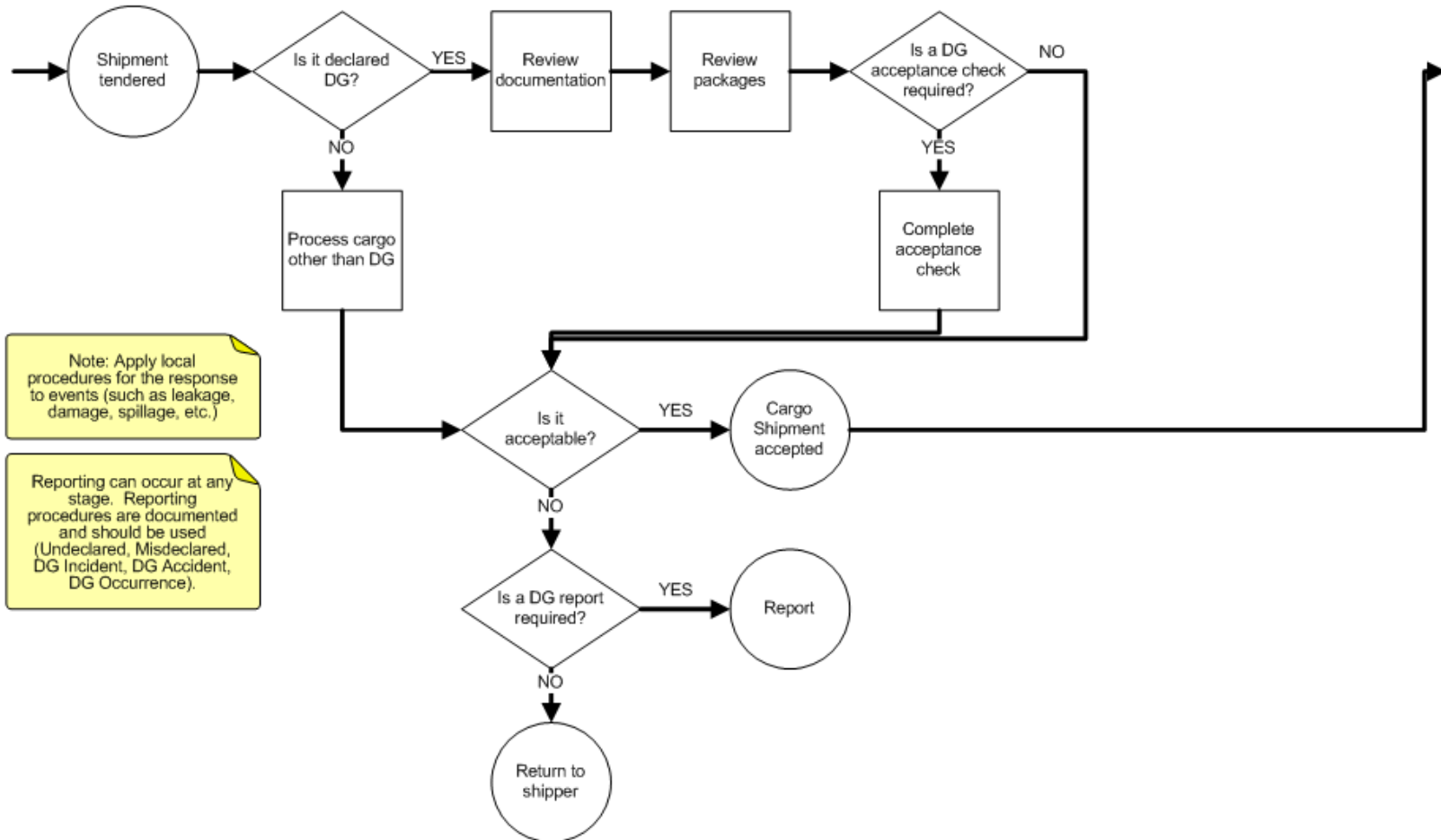
Review package(s)

Complete acceptance procedures

Process/accept cargo other than dangerous goods



Competency Unit 3 Processing /Accepting Cargo



Note: Apply local procedures for the response to events (such as leakage, damage, spillage, etc.)

Reporting can occur at any stage. Reporting procedures are documented and should be used (Undeclared, Misdeclared, DG Incident, DG Accident, DG Occurrence).

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Competency Unit 4 — Managing cargo pre-loading

Competency Elements

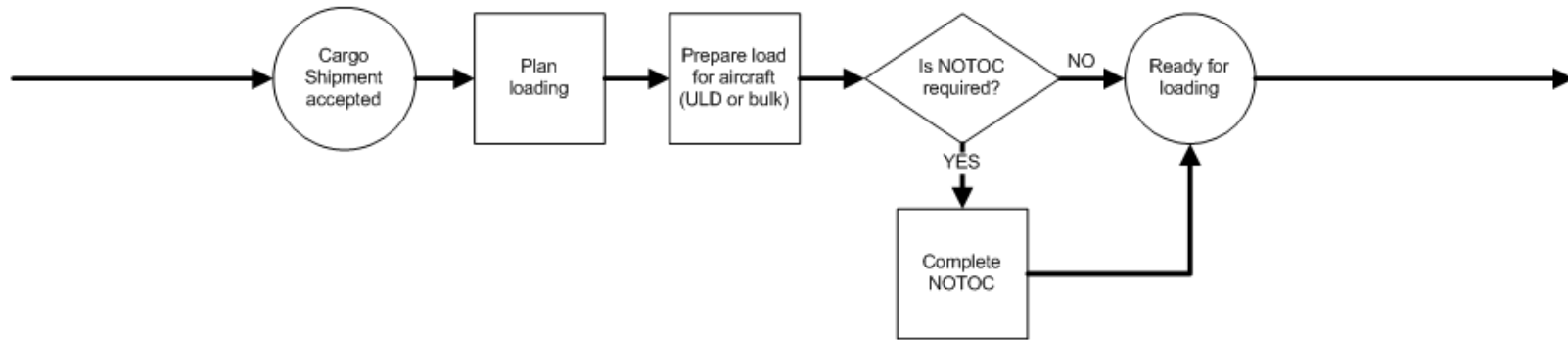
Plan loading

Prepare load for aircraft

Issue NOTOC



Competency Unit 4 Managing Cargo Pre-Loading



Note: Apply local procedures for the response to events (such as leakage, damage, spillage, etc.)

Reporting can occur at any stage. Reporting procedures are documented and should be used (Undeclared, Misdeclared, DG Incident, DG Accident, DG Occurrence).

Acronyms
NOTOC – Notification to Captain
ULD – Unit Load Device

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Competency Unit 5 — Accepting passenger and crew baggage

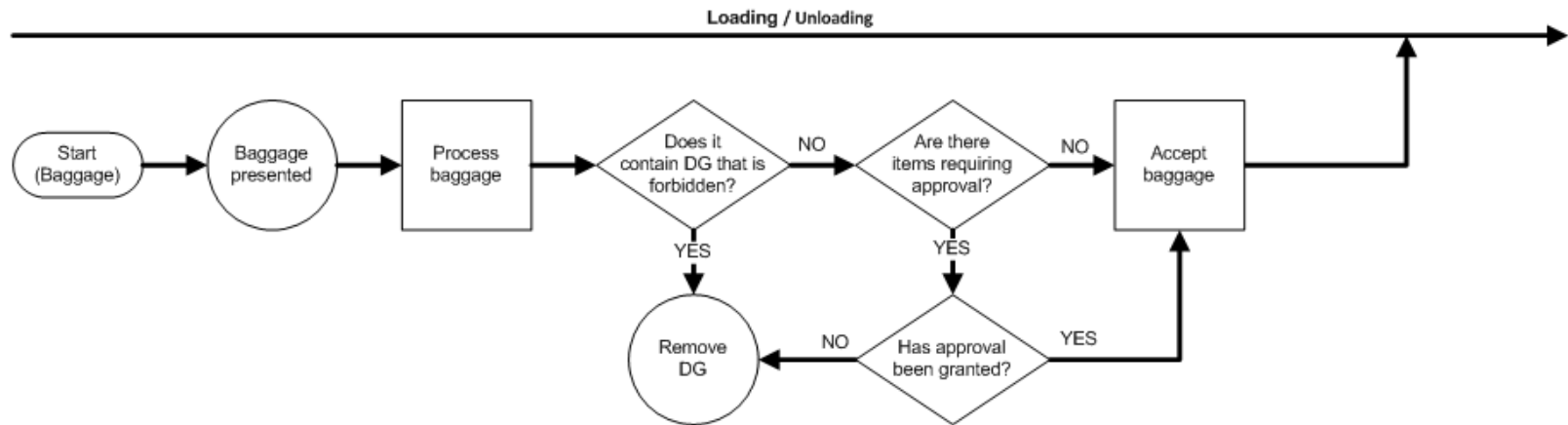
Competency Elements

Process baggage

Accept baggage



Competency Unit 5 Accepting Passenger and Crew Baggage



Note: Apply local procedures for the response to events (such as leakage, damage, spillage, etc.)

Reporting can occur at any stage. Reporting procedures are documented and should be used (Undeclared, Misdeclared, DG Incident, DG Accident, DG Occurrence).



Competency Unit 6 — Transporting cargo/baggage

Competency Elements

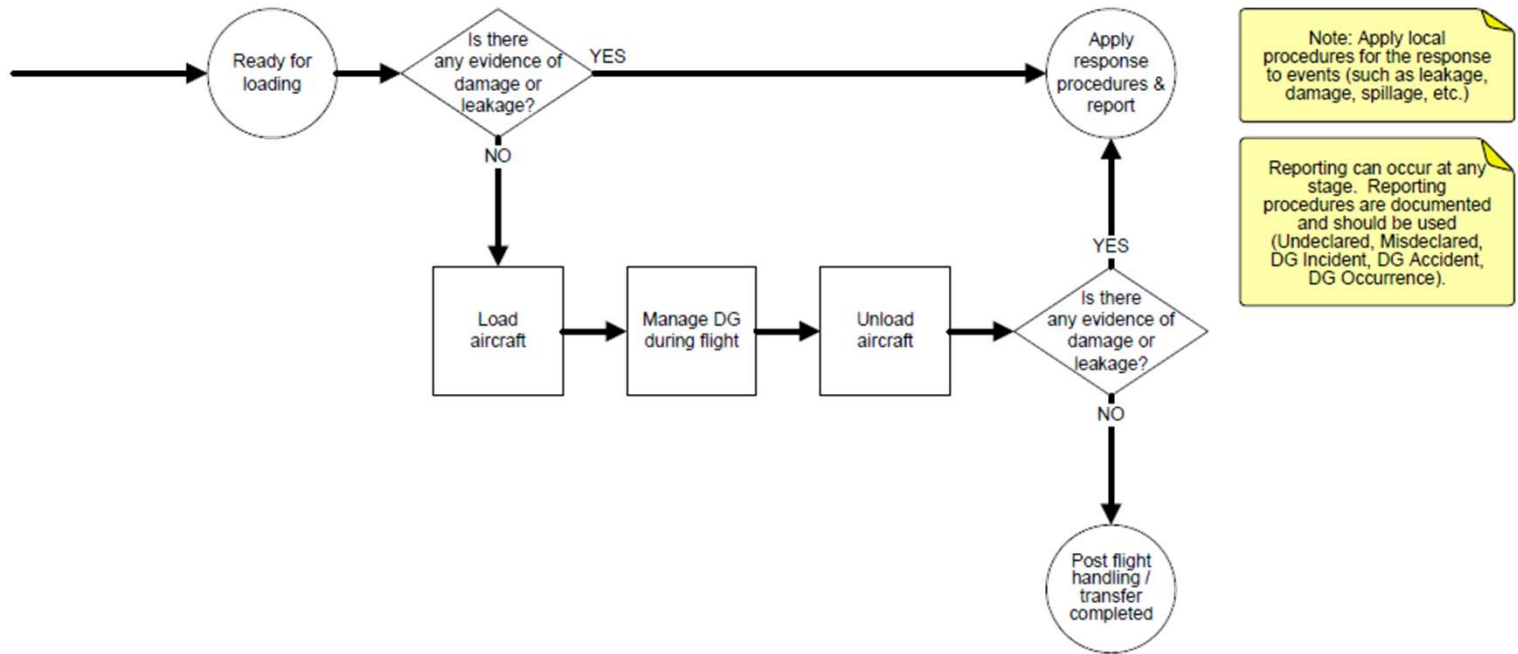
Load aircraft

Manage dangerous goods during flight

Unload aircraft



Competency Unit 6
Transporting Cargo / Baggage





COMPETENCY FRAMEWORK FOR DANGEROUS GOODS STATE EMPLOYEES



Competency Unit 1 — Support the development and implementation of a State dangerous goods programme

Competency Elements

Develop regulations

Develop policies and procedures

Develop tools to support the implementation of national regulations



Competency Unit 2 — Approve an operator's dangerous goods system

Competency Elements

Approve dangerous goods component of the operations manual

Approve dangerous goods training programme



Competency Unit 3 — Conduct oversight of dangerous goods operations

Competency Elements

Prepare for inspection

Conduct inspection

Finalize inspection



Competency Unit 4 — Evaluate dangerous goods accidents, incidents and other occurrences

Competency Elements

Conduct investigation

Take corrective/appropriate action



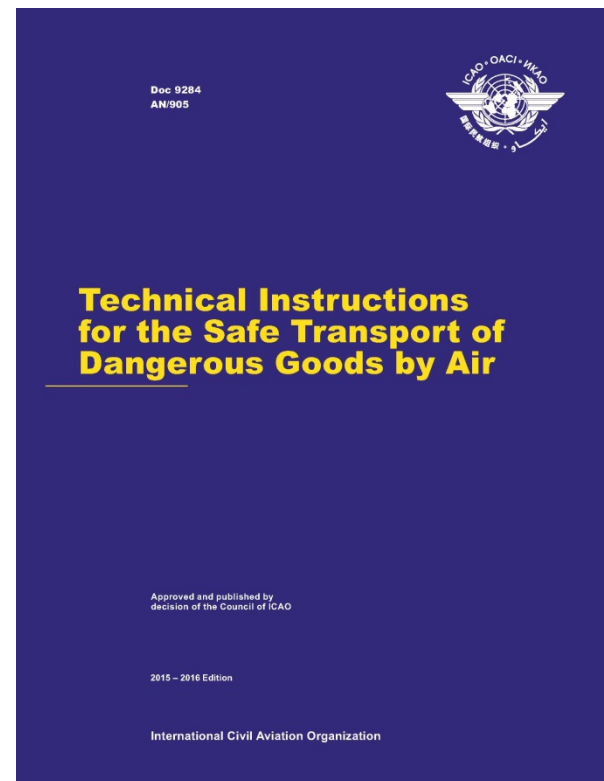
IMPLEMENTATION



Dangerous Goods Personnel

(revisions to Technical Instructions)

- 2017-2018 Edition
 - New Attachment 4
 - Revised training provisions (information only)
 - Competency framework
 - Guidance on competency based training
- 2019-2020 Edition
 - Part 1;4
 - Revised training provisions (mandatory)
 - Attachment 4
 - Competency framework
 - Guidance on competency based training

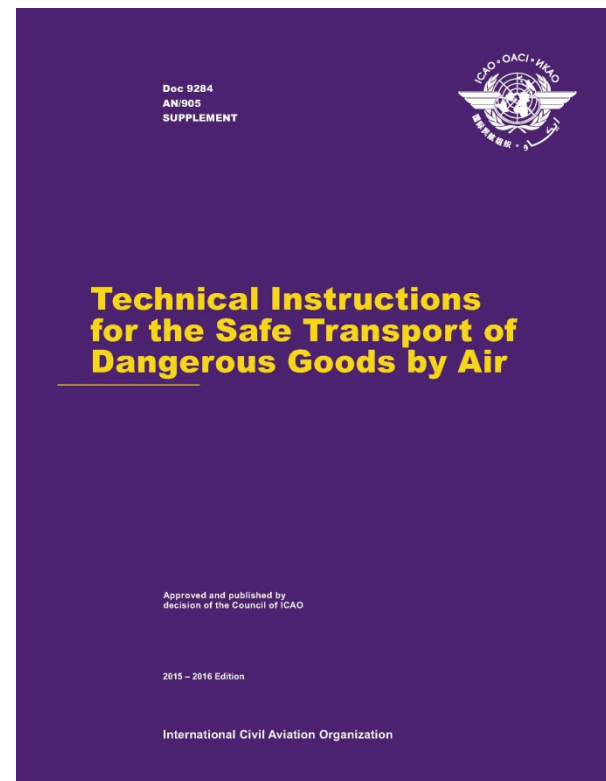




State Employees

(revisions to Supplement to Technical Instructions)

- 2017-2018 Edition
 - Competency framework for State employees
 - Guidance on competency based training for State employees





State and Industry — Feedback

- State regulators
 - State letter (October 2016)
- Regulated entities
 - www.icao.int/safety/DangerousGoods
- Completion by 31 March 2017





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THANK YOU