

DANGEROUS GOODS PANEL (DGP)

TWENTY-FIFTH MEETING

Montréal, 19 to 30 October 2015

Agenda Item 6: Resolution, where possible, of the non-recurrent work items identified by the Air Navigation Commission or the panel:

6.2: Development of competency-based training provisions for dangerous goods

COMPETENCY-BASED TRAINING

(Presented by D. Mirko)

SUMMARY

This information paper includes, in the appendix, the presentation given by D. Mirko during discussion on Competency-Based Training for Dangerous Goods Personnel and State Employees (DGP/25-WP/37).

APPENDIX

TRAINING COMMENTS ON COMPETENCY-BASED TRAINING FOR DANGEROUS GOODS PERSONNEL AND STATE EMPLOYEES (DGP/25-WP/37)

TRAINING Comments to WP 37.

1 Comment

(draft proposal on number functions).

WP 37 proposes system of training, where employer should create his program within the organization. To determine the what knowledge his personnel needs, for performing specific functions, he will use matrix tool and process flowchart, to create his program.

He will mark the point of competency element and the knowledge element.

					M	atri	x to	ol												
CU 1 Classifying dangerous goods		CU 2 Preparing dangerous goods shipment			CU 3 Processing/ accepting cargo				CU 4 Managing cargo pre- loading			CU 5 Accepting passenger and crew baggage		CU 6 Transporting cargo/baggage						
Dangerous goods knowledge	CE 1.1	CE 1.2	CE 1.3	CE 2.1	CE 2.2	CE 2.3	CE 2.4	CE 2.5	CE 3.1	CE 3.2	CE 3.3	CE 3.4	CE 4.1	CE 4.2	CE 4.3	CE 5.1	CE 5.2	CE 6.1	CE 6.2	CE 6.3
Scope and applicability																				
Limitation of dangerous goods on aircraft																				
Definitions																				
Training																				
Dangerous goods security																				
General provisions concerning radioactive material																				

Process functions corresponding to the competency

CU 1	Classifying dangerous goods
CU 2	Preparing dangerous goods shipment
CU 3	Processing/ accepting cargo
CU 4	Managing cargo preloading
CU 5	Accepting passenger and crew baggage
CU 6	Transporting cargo/baggage

Process flowchart

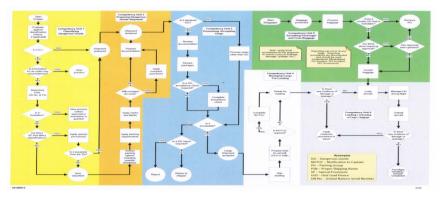


Table 1-4. Content of training courses

		pers ackers	Freig	ht forwa	arders		grou	Operat Ind han				Security staff
Aspects of transport of dangerous goods by air with which they should	Categories of staff											
be familiar, as a minimum	1	2	3	4	5	6	7	8	9	10	11	12
General philosophy	Х	χ	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Limitations	Χ		χ	χ	χ	χ	χ	χ	Х	χ	X	Х
General requirements for shippers	χ		χ			χ						
Classification	Χ	X	χ			χ						Х
List of dangerous goods	Χ	χ	χ			χ				χ		
Packing requirements	Χ	X	χ			χ						
Labelling and marking	Χ	Χ	χ	X	χ	χ	Χ	X	Х	Х	Х	Χ
Dangerous goods transport document and other relevant documentation	X		χ	Х		X	Х					
Acceptance procedures						Х						
Recognition of undeclared dangerous goods	χ	Х	χ	χ	Х	χ	χ	χ	χ	Х	χ	Х
Storage and loading procedures					Х	Х		χ		Χ		
Pilots' notification						Х		Х		Χ		
Provisions for passengers and crew	Х	χ	χ	χ	χ	χ	χ	χ	χ	Χ	χ	Х
Emergency procedures	Х	χ	Х	Х	Х	χ	χ	χ	Х	Х	Х	Х



CATEGORIES

- Shippers and persons undertaking the responsibilities of shippers
- 3 Staff of freight forwarders involved in processing dangerous goods
- Staff of freight forwarders involved in processing cargo or mail (other than dangerous goods)
- Staff of freight forwarders involved in the handling, storage and loading of cargo or mail
- 6 Operator's and ground handling agent's staff accepting dangerous goods
- Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods)
- 8— Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and
- 9 Passenger handling staff
- 10 Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers
- 11 Crew members (other than flight crew members)
- 12 Security staff who are involved with the screening of passengers and crew and their baggage and cargo or mail, e.g. security screeners, their supervisors and staff involved in implementing security procedures



CU 5 CU 1 CU 6 Accepting Preparing dangerous Classifying dangerous Processing/ Managing cargo prepassenger and ansporting goods shipment accepting cargo go/baggage CE 21 22 23 24 25 31 32 33 34 41 42 43 6.2 6.3 angerous goods knowledge cope and applicability Limitation of dangerous goods on aircraft rgerous goods security eneral provisions concerning radioactive materia

Process functions



- Classifying dangerous goods CU 1
- Preparing dangerous goods shipment CU 2
- CU 3 Processing/accepting cargo
- CU 4 Managing cargo preloading
- Accepting passenger and crew baggage
- Transporting cargo/baggage

WP 37 indicates 6 functions, based on process flowchart.

In our point of view, we need to indicate 7 functions,

to reflect current contracting practice in international transport of ground handling agents for cargo and for baggage.

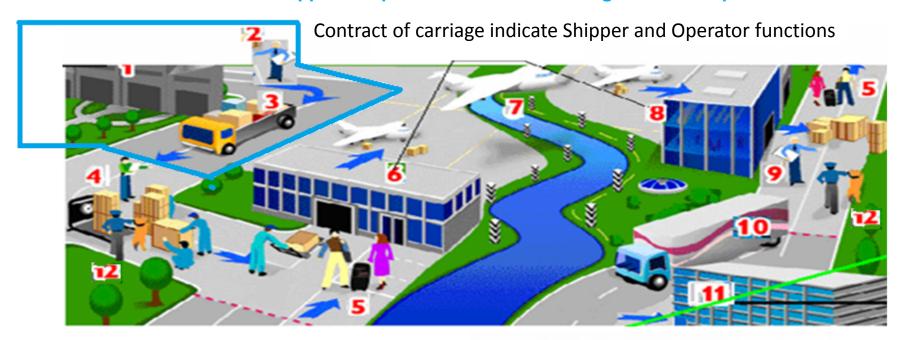
DG transportation involves contract functions segregation based on :

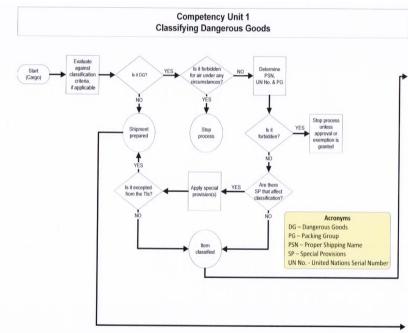
- contract of carriage (indicate Shipper and Operator);
- international practice of contracting out of a business process to another party (outsourcing).

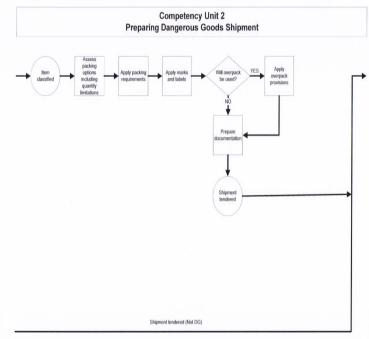
Example of outsourcing:

- Shippers responsibilities may be outsourced to "relevant person" (Part 5, ch.1, par 1.4);
- Operator responsibilities, may be outsourced to ground handling agents (Part 7, 7 (i).).

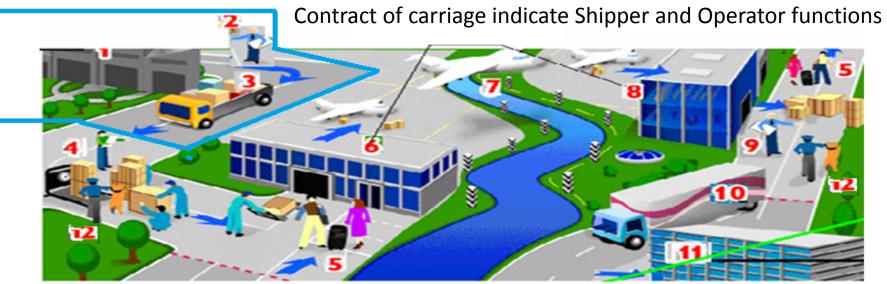
CU1+CU2 functions covers shippers responsibilities / outsourcing to relevant persons







CU1+CU2 shipper competence framework

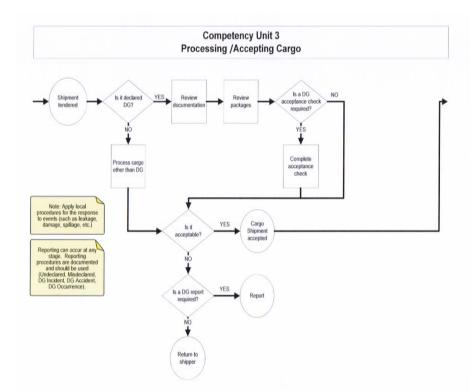


CE 1.1	Evaluato sub	stances or articles						
<u>CL 1.1</u>		Evaluate substances or articles against classification criteria, as applicable						
	PC 1.1.1	Determine if it is dangerous goods						
	PC 1.1.2	Determine if it is dangerous goods Determine if it is forbidden under						
	. 6 1.1.2	any circumstances						
CE 1.2	Determine d	angerous goods description						
CL 1.L	PC 1.2.1	Determine class or division						
	PC 1.2.2	Determine packing group, if applicable						
	PC 1.2.3	Determine proper shipping name and UN number						
	PC 1.2.4.	Determine if it is forbidden						
		unless approval or exemption is granted						
CE 1.3	Review spec	al provisions						
	PC 1.3.1	Assess if special provision(s) is applicable						
	PC 1.3.2	Apply special provision(s)						

CE 2.1	Assess packing options including quantity limitations
PC 2.1.1	Consider limitations
	(de minimus quantities, excepted quantities, limited quantities passenger aircraft, cargo aircraft only, special provisions)
PC 2.1.2	Consider State and operator variations
PC 2.1.3	Determine if all-packed-in-one can be used
PC 2.1.4	Select how dangerous goods will be shipped based on
	limitations and variations
CE 2.2	Apply packing requirements
PC 2.2.1	Consider constraints of packing instructions
PC 2.2.2	Select packaging materials (absorbent, cushioning, etc.)
PC 2.2.3	Assemble package
CE 2.3	Apply marks and labels
PC 2.3.1	Determine applicable marks
PC 2.3.2	Apply marks
PC 2.3.3	Determine applicable labels
PC 2.3.4	Apply labels
CE 2.4	Determine if overpack can be used
PC 2.4.1	Apply marks if necessary
PC 2.4.2	Apply labels if necessary
CE 2.5	Prepare documentation
PC 2.5.1	Complete the dangerous goods transport document
PC 2.5.2	Complete other transport documents (e.g. AWB)
PC 2.5.3	Include other required documentation
	(e.g. approvals/exemptions, etc.), as applicable
PC 2.5.4	Retain copies of documents as required

CU 3 covers operator and outsourcing to agents, performing acceptance check





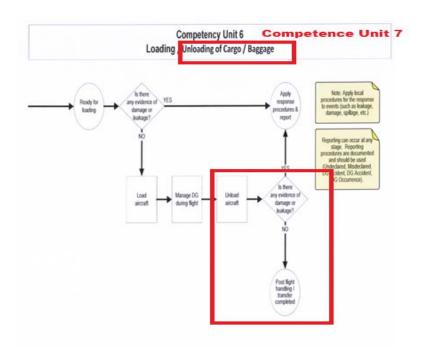
Competence framework

CE 3.1	Review documentation
PC 3.1.1	Verify air waybill
PC 3.1.2	Verify dangerous goods transport document
PC 3.1.3	Verify other documents as applicable (exemptions, approvals, etc.)
PC 3.1.4	Verify State/operator variations
CE 3.2	Review package(s)
PC 3.2.1	Verify marking
PC 3.2.2	Verify label
PC 3.2.3	Verify package type
PC 3.2.4	Verify package conditions
PC 3.2.5	Verify State/operator variations
CE 3.3	Complete acceptance procedures
PC 3.3.1	Complete acceptance checklist, if applicable
PC 3.3.2	Provide shipment information for load planning
PC 3.3.3	Retain documents as required
CE 3.4	Process/accept cargo other than dangerous goods
PC 3.4.1	Check documentation for indications of undeclared dangerous goods
PC 3.4.2	Check packages for indications of undeclared dangerous goods

CU6 covers operator transportation function, including unload of cargo and baggage. In practice unloading functions is outsourced to ground handling agent, and it should be presented as separate function – CU7.



International practice of contracting out of a business process to another party



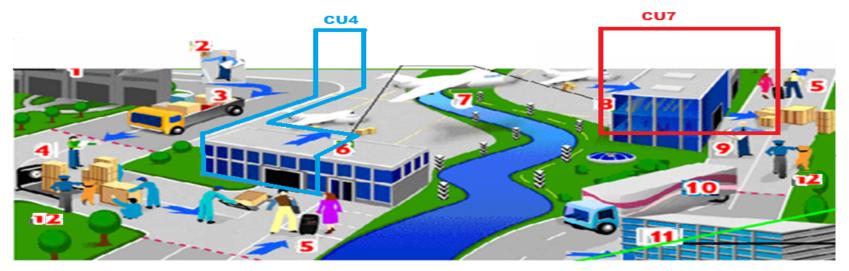
Competence framework

CE 6.1	Load aircraft
PC 6.1.1	Transport cargo/baggage to aircraft
PC 6.1.2	Check packages for indications of undeclared dangerous goods
PC 6.1.3	Check for damage and/or leakage
PC 6.1.4	Apply stowage requirements (e.g. segregation, separation, orientation)
PC 6.1.5	Verify that NOTOC reflects against aircraft load
PC 6.1.6	Verify passenger baggage requirements if applicable
PC 6.1.7	Inform pilot-in-command and flight operations officer/flight dispatcher
CE 6.2	Manage dangerous goods during flight
PC 6.2.1	Detect presence of dangerous goods not permitted in baggage
PC 6.2.2	Apply procedures in the event of an emergency
PC 6.2.3	Inform flight operations officer/flight dispatcher/air traffic control
	in the event of an emergency

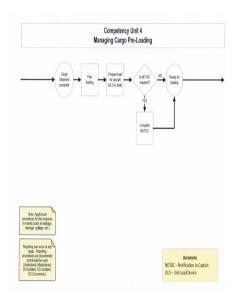
CU7 Unload /Cargo /Baggage

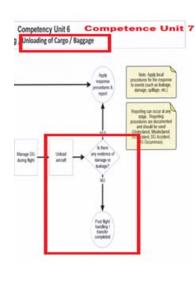
CE 7	Unload aircraft
PC 7.1	Apply specific unloading considerations as applicable
PC 7.2	Check packages for indications of undeclared dangerous goods
PC 7.3	Check for damage and/or leakage
PC 7.4	Transport cargo/baggage to facility/terminal

General functions of ground handling agent are in CU4 and CU7.



International practice of contracting out of a business process to another party





Competence framework

CE 4.1	Plan loading
PC 4.1.1	Determine stowage requirements
PC 4.1.2	Determine segregation, separation, aircraft/compartment limitations
CE 4.2	Prepare load for aircraft
PC 4.2.1	Check packages for indications of undeclared dangerous goods
PC 4.2.2	Check for damage and/or leakage
PC 4.2.3	Apply stowage requirements (e.g. segregation, separation, orientation)
PC 4.2.4	Apply ULD tags when applicable
PC 4.2.5	Transport cargo to aircraft
CE 4.3	Issue NOTOC
PC 4.3.1	Enter required information
PC 4.3.2	Verify conformance with load plan
PC 4.3.3	Transmit to loading personnel
CU7 Unload /Cargo	o /Baggage

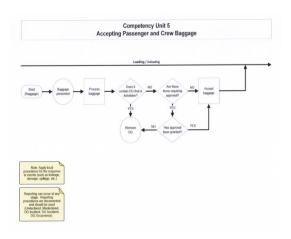
CE 7	Unload aircraft
PC 7.1	Apply specific unloading considerations as applicable
PC 7.2	Check packages for indications of undeclared dangerous goods
PC 7.3	Check for damage and/or leakage
PC 7.4	Transport cargo/baggage to facility/terminal

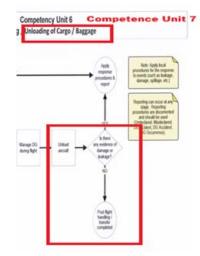
Functions of operator passenger baggage agent are in CU5+CU7

International practice of contracting out of a business process to another party

CU5

Minimum competence framework





CE 5.1	Process baggage
PC 5.1.1	Identify forbidden dangerous good
PC 5.1.2	Apply approval requirements
CE 5.2	Accept baggage
CE 5.2 PC 5.2.1	Accept baggage Apply operator requirements

CU7 Unload /Cargo /Baggage

<u>CE 7</u>	<u>Unload aircraft</u>
PC 7.1	Apply specific unloading considerations as applicable
PC 7.2	Check packages for indications of undeclared dangerous goods
PC 7.3	Check for damage and/or leakage
PC 7.4	Transport cargo/baggage to facility/terminal

We propose to add to the attachment 4, chapter 2, par.2.7, cl.2.7.2.1 function 7.

"g) Unload /Cargo /Baggage."

and amend numbers of competence units and sample matrix tool.

Functions corresponding to the competency

CU 1 Classifying dangerous goods CU 2 Preparing dangerous goods shipment CU 3 Processing/ accepting cargo CU 4 Managing cargo preloading CU 5 Accepting passenger and crew baggage CU 6 Transporting cargo/baggage CU 7 Unload /Cargo /Baggage

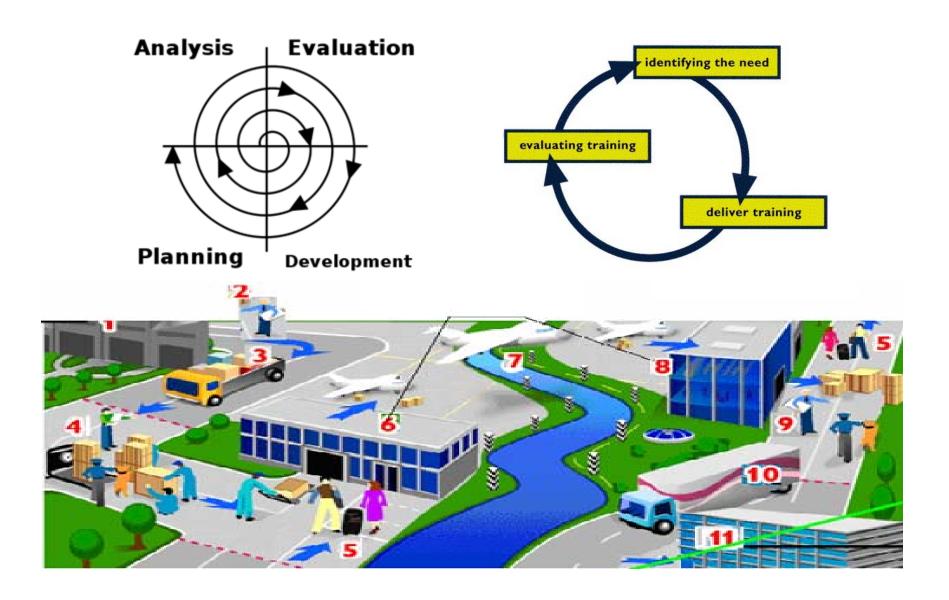
Sample matrix tool



2 Comment

(draft proposal on training modules).

In new method, for develop competency-based training, an employer should conducts a training needs analysis to determine what he needs. Since it will be his unique analysis, it is not clear what will be the minimum result.



Concerns related to removing categories to current Table 1-4

We agree with presenter of WP 37, that keeping the current tables in the new training chapter would be in conflict with the principles of competency-based training.

But on the other hand, categories of table 1-4 were also used as identification tool of minimum function/competence.

Such international identification of competence gives possibility operators in foreign states, to give for outsourcing:

- ground handling service;
- service for passenger baggage;
- service for tendering agents;

without assessment of their minimum competence.

It indicated for operator a minimum competence of foreign shipper, which sometimes may be represented by group of relevant persons.

In new system of competence base training, operators in foreign states will have to spend a lot of time to find out (by assessment) what competence has personal of contracted parties.

We agree with presenter of WP 37, that mandatory requirements in current system are limiting maximum knowledge should be removed.

But we can't accept removal of indication minimum competence requirements of knowledge which were used for categories of table 1-4.

Draft proposal: To add to new chapter 4, paragraph 4.2 (Training programmes), 4.2.1.

4.2.1 The employer must establish and maintain a dangerous goods training programme, having as minimum as one Training Module.

Table 1-4. Content of training courses

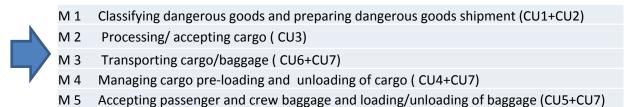
		pers ackers	Freig	ht forw	arders			Operat ind han				Security staff
Aspects of transport of dangerous goods by air with which they should -		Categories of staff										
be familiar, as a minimum	1	2	3	4	5	6	7	8	9	10	11	12
General philosophy	×	х	х	x	х	х	х	х	х	х	х	х
Limitations	х		х	х	х	х	х	х	х	х	х	х
General requirements for shippers	х		x			X						
Classification	х	х	x			х						х
List of dangerous goods	х	Х	х			х				х		
Packing requirements	x	х	x			х						
Labelling and marking	х	х	х	х	х	х	х	х	х	х	х	х
Dangerous goods transport document and other relevant documentation	x		х	х		x	х					
Acceptance procedures						x						
Recognition of undeclared dangerous goods	x	х	х	x	х	x	х	x	х	x	х	x
Storage and loading procedures					х	х		х		х		
Pilots' notification						x		x		x		
Provisions for passengers and crew	х	х	х	х	х	х	х	х	х	х	х	х
Emergency procedures	x	x	x	x	х	x	х	x	х	x	х	×

CATEGORIES

- Shippers and persons undertaking the responsibilities of shippers

- nonpers any person and perso 7 — Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods)
- 8 Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and
- 9 Passenger handling staff
- 10 Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers
- 11 Crew members (other than flight crew members)
- 12 Security staff who are involved with the screening of passengers and crew and their baggage and cargo or mail. e.g. security screeners, their supervisors and staff involved in implementing security procedures

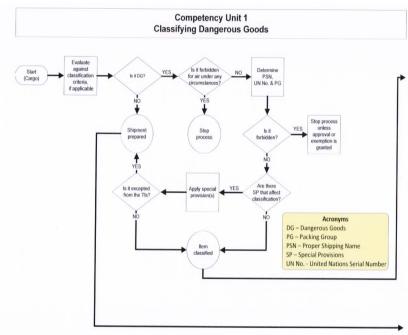
Training Modules

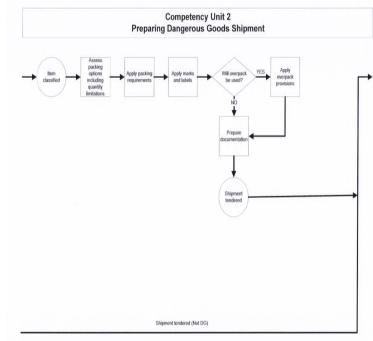


Minimum of competence for 1 training module set up as follow:

CU1+CU2 = M 1 Classifying dangerous goods and preparing dangerous goods shipment







M 1 Classifying dangerous goods and preparing dangerous goods shipment (CU1+CU2)

CU1+CU2



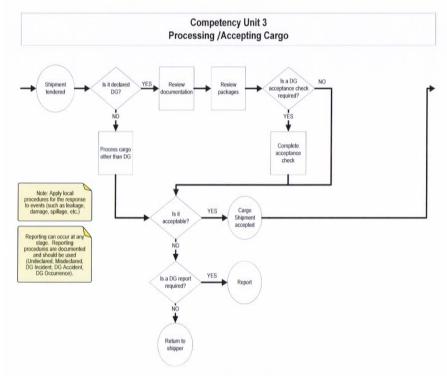
Minimum competence framework

CE 1.1	Evaluate sub	stances or articles
		ification criteria, as applicable
	PC 1.1.1	Determine if it is dangerous goods
	PC 1.1.2	Determine if it is forbidden under
		any circumstances
CE 1.2	Determine d	angerous goods description
	PC 1.2.1	Determine class or division
	PC 1.2.2	Determine packing group, if applicable
	PC 1.2.3	Determine proper shipping name and UN number
	PC 1.2.4.	Determine if it is forbidden
		unless approval or exemption is granted
CE 1.3	Review spec	ial provisions
	PC 1.3.1	Assess if special provision(s) is applicable
	PC 1.3.2	Apply special provision(s)

CE 2.1	Assess packing options including quantity limitations
PC 2.1.1	Consider limitations
	(de minimus quantities, excepted quantities, limited quantities,
	passenger aircraft, cargo aircraft only, special provisions)
PC 2.1.2	Consider State and operator variations
PC 2.1.3	Determine if all-packed-in-one can be used
PC 2.1.4	Select how dangerous goods will be shipped based on
	limitations and variations
CE 2.2	Apply packing requirements
PC 2.2.1	Consider constraints of packing instructions
PC 2.2.2	Select packaging materials (absorbent, cushioning, etc.)
PC 2.2.3	Assemble package
CE 2.3	Apply marks and labels
PC 2.3.1	Determine applicable marks
PC 2.3.2	Apply marks
PC 2.3.3	Determine applicable labels
PC 2.3.4	Apply labels
CE 2.4	Determine if overpack can be used
PC 2.4.1	Apply marks if necessary
PC 2.4.2	Apply labels if necessary
CE 2.5	Prepare documentation
PC 2.5.1	Complete the dangerous goods transport document
PC 2.5.2	Complete other transport documents (e.g. AWB)
PC 2.5.3	Include other required documentation
	(e.g. approvals/exemptions, etc.), as applicable
PC 2.5.4	Retain copies of documents as required
	•

M 2 Processing/accepting cargo (CU3)



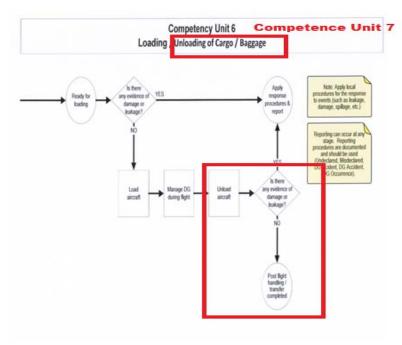


Minimum competence framework

CE 3.1	Review documentation
PC 3.1.1	Verify air waybill
PC 3.1.2	Verify dangerous goods transport document
PC 3.1.3	Verify other documents as applicable (exemptions, approvals, etc.)
PC 3.1.4	Verify State/operator variations
CE 3.2	Review package(s)
PC 3.2.1	Verify marking
PC 3.2.2	Verify label
PC 3.2.3	Verify package type
PC 3.2.4	Verify package conditions
PC 3.2.5	Verify State/operator variations
CE 3.3	Complete acceptance procedures
PC 3.3.1	Complete acceptance checklist, if applicable
PC 3.3.2	Provide shipment information for load planning
PC 3.3.3	Retain documents as required
CE 3.4	Process/accept cargo other than dangerous goods
PC 3.4.1	Check documentation for indications of undeclared dangerous goods
PC 3.4.2	Check packages for indications of undeclared dangerous goods

M 3 Transporting cargo/baggage (CU6+CU7)





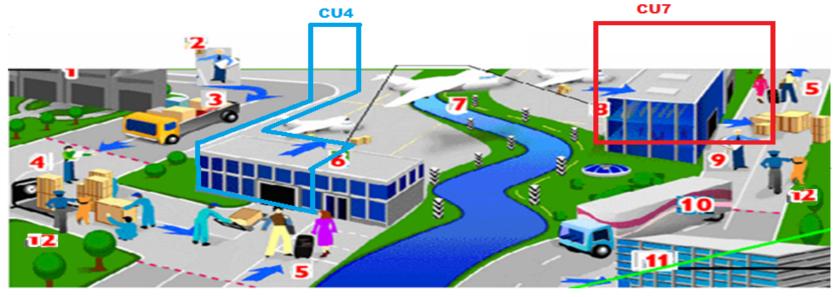
Minimum competence framework

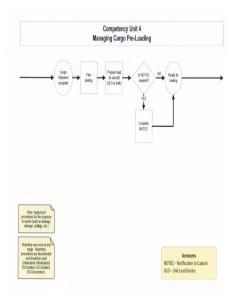
CE 6.1	Load aircraft
PC 6.1.1	Transport cargo/baggage to aircraft
PC 6.1.2	Check packages for indications of undeclared dangerous goods
PC 6.1.3	Check for damage and/or leakage
PC 6.1.4	Apply stowage requirements (e.g. segregation, separation, orientation)
PC 6.1.5	Verify that NOTOC reflects against aircraft load
PC 6.1.6	Verify passenger baggage requirements if applicable
PC 6.1.7	Inform pilot-in-command and flight operations officer/flight dispatcher
CE 6.2	Manage dangerous goods during flight
PC 6.2.1	Detect presence of dangerous goods not permitted in baggage
PC 6.2.2	Apply procedures in the event of an emergency
PC 6.2.3	Inform flight operations officer/flight dispatcher/air traffic control
	in the event of an emergency

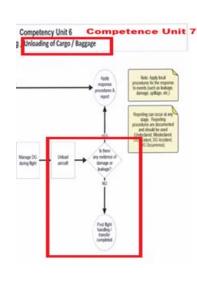
CU7 Unload /Cargo /Baggage

CE 7	Unload aircraft
PC 7.1	Apply specific unloading considerations as applicable
PC 7.2	Check packages for indications of undeclared dangerous goods
PC 7.3	Check for damage and/or leakage
PC 7.4	Transport cargo/baggage to facility/terminal

M 4 Managing cargo pre-loading and unloading of cargo (CU4+CU7)







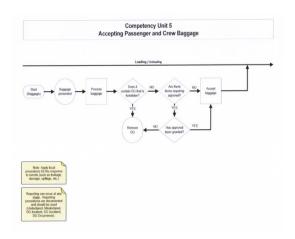
Minimum competence framework

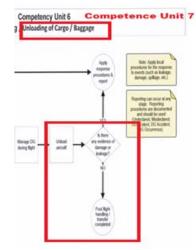
CE 4.1	Plan loading				
PC 4.1.1	Determine stowage requirements				
PC 4.1.2	Determine segregation, separation, aircraft/compartment limitations				
CE 4.2	Prepare load for aircraft				
PC 4.2.1	Check packages for indications of undeclared dangerous goods				
PC 4.2.2	Check for damage and/or leakage				
PC 4.2.3	Apply stowage requirements (e.g. segregation, separation, orientation)				
PC 4.2.4	Apply ULD tags when applicable				
PC 4.2.5	Transport cargo to aircraft				
CE 4.3	Issue NOTOC				
PC 4.3.1	Enter required information				
PC 4.3.2	Verify conformance with load plan				
PC 4.3.3	Transmit to loading personnel				
CU7 Unload /Cargo) /Baggage				

CE 7	Unload aircraft
PC 7.1	Apply specific unloading considerations as applicable
PC 7.2	Check packages for indications of undeclared dangerous goods
PC 7.3	Check for damage and/or leakage
PC 7.4	Transport cargo/baggage to facility/terminal

M 5 Accepting passenger and crew baggage and loading /unloading of baggage (CU5+CU7)







CE 5.1	Process baggage
PC 5.1.1	Identify forbidden dangerous good
PC 5.1.2	Apply approval requirements
CE 5.2	Accept baggage
CE 5.2 PC 5.2.1	Accept baggage Apply operator requirements

CU7 Unload /Cargo /Baggage

CE 7	Unload aircraft
PC 7.1	Apply specific unloading considerations as applicable
PC 7.2	Check packages for indications of undeclared dangerous goods
PC 7.3	Check for damage and/or leakage
PC 7.4	Transport cargo/baggage to facility/terminal

Draft proposal: To add to new chapter 4, paragraph 4.2 (Training programmes), 4.2.1.

4.2.1 The employer must establish and maintain a dangerous goods training programme, having as minimum one Training Module.

Table 1-4. Content of training courses

Aspects of transport of dangerous goods by air with which they should be familiar, as a minimum	Shippers and packers		Freight forwarders				Operators and ground handling agents					
	Categories of staff											
	1	2	3	4	5	6	7	8	9	10	11	12
General philosophy	х	Х	х	х	х	х	х	х	х	х	х	Х
Limitations	х		х	х	х	х	х	х	х	х	х	х
General requirements for shippers	х		x			х						
Classification	x	х	x			х						х
List of dangerous goods	х	х	х			х				х		
Packing requirements	x	х	x			х						
Labelling and marking	х	х	х	х	х	х	х	х	х	х	х	х
Dangerous goods transport document and other relevant documentation	х		х	х		x	х					
Acceptance procedures						x						
Recognition of undeclared dangerous goods	х	х	х	x	х	x	х	x	х	x	х	x
Storage and loading procedures					х	х		х		x		
Pilots' notification						x		X		x		
Provisions for passengers and crew	х	х	х	х	х	х	х	х	х	х	х	х
Emergency procedures	×	X	×	x	x	x	x	x	х	×	х	×

CATEGORIES

- Shippers and persons undertaking the responsibilities of shippers
- Packers Staff of freight forwarders involved in processing dangerous goods
- Staff of freight forwarders involved in processing cargo or mail (other than dangerous goods)
 Staff of freight forwarders involved in the handling, storage and loading of cargo or mail
 Operator's and ground handling agent's staff accepting dangerous goods
- 7 Operator's and ground handling agent's staff accepting cargo or mail (other than dangerous goods)
- 8 Operator's and ground handling agent's staff involved in the handling, storage and loading of cargo or mail and
- 9 Passenger handling staff
- 10 Flight crew members, loadmasters, load planners and flight operations officers/flight dispatchers
- 11 Crew members (other than flight crew members)
- 12 Security staff who are involved with the screening of passengers and crew and their baggage and cargo or mail. e.g. security screeners, their supervisors and staff involved in implementing security procedures

Training Modules



- Classifying dangerous goods and preparing dangerous goods shipment (CU1+CU2) M 1
- Processing/accepting cargo (CU3) M 2
- Transporting cargo/baggage (CU6+CU7)
- Managing cargo pre-loading and unloading of cargo (CU4+CU7)
- Accepting passenger and crew baggage and loading/unloading of baggage (CU5+CU7)

Content of records of training?

Module Competence unit Combination of functions Competence **Function** element Sub function

Statement – I am trained

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Thank you for attention.