APPENDIX C

2.4 Explanations for Checklist for flight Crew (Table 2, column 4)

Ref Explanation

A1 *Is there a training programme, is it currently approved*

Training programmes are a mandatory requirement.
The check does not require evaluation of the training programme, only confirmation that one exists.

A2 *Does it include the operator's own procedures*

No matter what base document has been used to develop the training, there are a number of areas where the procedures of the operator may need to be made specific, since they can vary depending on the type, size, etc of the operation. These procedures are likely to be in the areas of passengers baggage (where there are a number of references to "with the approval of the operator"), actions in the event of an in-flight emergency, reporting of dangerous goods accidents and incidents and reporting of undeclared dangerous goods. The training should point out any specific or different procedures.
A training programme is only acceptable if the operator's own procedures have been identified and are correct; the check should confirm this.

A3 *Does it include an examination*

An examination is a mandatory requirement.
The check does not require evaluation of the examination, only confirmation that one exists.

A4 *Is a certificate issued*

A certificate which is issued on successful completion of the examination is a mandatory requirement.
The check should confirm that a certificate is issued, that it shows the issue date, the expiry date and the title or other identification of the training programme (e.g.: training in the transport of dangerous goods for flight crew).

A5 *Are there training records*

Having and keeping training records is a mandatory requirement.
The check should confirm there are records, that they include the information shown in Part 1; 2.8 and they are kept for the minimum required periods according to JAR-OPS.

A6 *Are initial and recurrent training prescribed*

Initial training must be provided or verified upon the employment of a person in a position involving the transport of dangerous goods. Recurrent training is a mandatory requirement. Both the Technical Instructions and JAR-OPS prescribe that recurrent training be given at intervals of not longer than 2 years.
The check should confirm that initial training is prescribed and that recurrent training is given and at the required periods; this can be checked against the training records, although it is better to ask staff the question and then check the records for confirmation.

Ref Explanation

1.1 *References to law and source documents*

Staff should know what is the legislation and what are the working reference documents; and training should refer to them.
The check is only to confirm there are references made to national legislation, the Technical Instructions, JAR-OPS and the IATA Dangerous Goods Regulations.

1.2 *Where dangerous goods are found on aircraft*

Staff should appreciate that dangerous goods are not only found in cargo but also in passengers' baggage and in both the airworthiness and operational equipment. Training should give them this appreciation. The training should emphasize that replacement items and those removed for replacement need to be carried as dangerous goods.
The check should confirm that explanations are given.

1.3 *Classification of dangerous goods*

Staff need to appreciate what are dangerous goods and what are the classes, in order to recognise them if they are found in cargo and/or baggage. Training should give staff this appreciation but it is not necessary for detailed criteria to be given, although reference to some of the simpler criteria may aid understanding.
The check should confirm that the classes are identified and it is explained what are dangerous goods.

1.4 *Dangerous Goods Transport Document*

Dangerous goods in cargo must be accompanied by a Dangerous Goods Transport Document, commonly known as the Shipper's Declaration, certifying that the shipper has complied with all applicable requirements.
The check should confirm that information is provided.

1.5 *Quantity limitations*

Dangerous goods are limited by quantity per package (i.e. there are no limits per aircraft) and these quantities are generally less on passenger than on cargo aircraft.
The check should confirm that an explanation is given of the limitations that apply in respect of the type of aircraft on which dangerous goods may be carried and that quantities are limited per package.

1.6 *Forbidden and hidden dangerous goods*

Depending on their hazard, some dangerous goods are forbidden for carriage by air to varying degrees. Also, the aviation industry has a major problem with undeclared and mis-declared dangerous goods in cargo and forbidden items in passenger baggage; the reference documents have information on 'hidden hazards' and what might be found under general descriptions; training should look at the clues to aid detection of such items.
The check need only confirm that students are introduced to the concept that dangerous goods are forbidden for carriage by air under certain circumstances i.e. detailed information should be provided under 2.4. It should also confirm that information is given about undeclared and mis-declared dangerous goods in cargo; and forbidden items in baggage.

Ref	Explanation
1.7	*Acceptance* Dangerous goods in cargo must be subjected to an acceptance check, using a check list, to verify as far as possible that the package complies with the requirements. The check should confirm that information is given.
1.8	*Loading restrictions* Restrictions apply on how and where dangerous goods may be carried on an aircraft. The check need only confirm that students are introduced to the concept that loading restrictions apply i.e., detailed information should be provided under 5.
1.9	*Actions in emergencies* Actions can be taken by flight crew in the event of emergencies to minimise the risk to the aircraft and occupants and also emergency personnel responding to an accident or incident. The check need only confirm that students are advised that provisions exist for actions to be taken in emergencies i.e., more detailed information should be provided under 8.
1.10	*Training* Depending on their duties, all personnel involved in the carriage of dangerous goods by air must be trained commensurate with their responsibilities. The check should verify that this requirement is explained.
1.11	*Prohibition of dangerous goods in passenger and crew baggage with exceptions* With the exception of a specific list of exceptions, dangerous goods are not permitted for carriage by passengers. The check need only confirm that students are introduced to the concept that restrictions apply to dangerous goods carried by passengers, ie more detailed information should be provided under 7.
2.1	*Need for approval to carry dangerous goods* JAR-OPS requires an operator to hold approval to carry dangerous goods. Training should tell them this requirement exists and what it means in practice. The check should confirm that information is provided; and that it is made clear the operator holds such an approval.
2.2	*Medical aid for patients* The Technical Instructions and JAR-OPS (JAR-OPS 1/3.1160(b)(4)) exclude totally or partly a number of items that can be carried on an aircraft for use by patients. Training should explain the requirements. The check should confirm that information is provided.

Ref Explanation

2.3 *Veterinary aid for animals*

The Technical Instructions and JAR-OPS (JAR-OPS 1/3.1160(b)(3)) exclude totally or partly a number of items that can be carried on an aircraft as veterinary aid for animals. Training should explain the requirements but this may be omitted when the staff are not likely to be involved in the carriage of animals.
The check should confirm that information is provided.

2.4 *Forbidden dangerous goods*

Depending on their hazard, dangerous goods are (a) forbidden under any circumstances; (b) forbidden on both passenger and cargo aircraft in normal circumstances but can be carried in exceptional circumstances subject to exemption or approval by the States concerned; (c) forbidden on passenger aircraft but permitted on cargo aircraft; and (d) permitted on both passenger and cargo aircraft.
The check should explain the various degrees to which some dangerous goods are forbidden

2.5 *Airworthiness and operating items*

A number of airworthiness and operational items are dangerous goods e.g. chemical oxygen generators, escape slides/ rafts, batteries, but when fitted to the aircraft they are not subject to the requirements of the Technical Instructions and JAR-OPS. Also, some dangerous goods are allowed to be carried for catering or cabin service supplies. The reference documents have requirements for their replacements, or when they have been removed for replacement, if they are to be sent by air. Training should explain the requirements and that there is the potential that such items may be sent undeclared.
The check should confirm that information is provided.

2.6 *Dangerous goods in air mail*

The Technical Instructions prohibit dangerous goods, other than certain infectious substances (which may be packed in dry ice) and very low activity radioactive material, in air mail; operators need to have procedures for carrying mail containing such dangerous goods, if they are aware they have been offered for carriage. Training should explain the requirements and what action to take if it is suspected that air mail contains prohibited dangerous goods.
The check should confirm that information is provided.

2.7 *Excepted and Limited Quantities*

Provisions exist for small quantities of dangerous goods to be packed in non-specification packaging with particular marking and labelling requirements. The check should confirm that information is provided.

2.8 *State and operator variations*

States and operators can place additional restrictions on the carriage of dangerous goods by air.
The check should confirm that information is provided.

Ref Explanation

3.1 *Table 3-1 and Attachment 1 Chapter 1*

Table 3-1, "Dangerous goods list" is a list of approximately 3000 dangerous goods in alphabetical order. The list details various aspects for each entry e.g. proper shipping name, UN number, permitted quantities.
Attachment 1 Chapter 1 is a list of the UN numbers and Proper shipping names of the above dangerous goods in UN number order.
The check should confirm that an explanation is given of the information provided by Table 3-1 and Attachment 1 Chapter 1.

4.1 *Marks on packages to identify contents*

There are prescribed markings for packages that identify their contents, and others that are irrelevant. The training should include information on what are markings that aid identification of a package containing dangerous goods.
The check should confirm that information is given about relevant markings.

4.2 *Labels on packages to identify contents*

Labels are required on packages of dangerous goods both to identify the contents and to aid handling; the reference documents have illustrations of all the labels. The training should study the labels so they can be identified, either by looking at illustrations of them or using some other method to show depictions of them.
The check should confirm that adequate information about labels is given and their use is explained.

4.3 *The hazards denoted by labels*

Labels on packages of dangerous goods identify the contents by indicating what hazard(s) they present should the package be damaged, leak, etc. The labels will be the only initial indication of the hazard and it needs to be recognised if handling of the package is required. The training should explain what the symbols and colours on the labels mean.
The check should confirm the information is provided.

4.4 *Provision for replacement of labels*

Whilst the operator is not permitted to apply labels to a package prior to acceptance, labels which become detached thereafter may be replaced by the operator.
The check should confirm the information is provided.

[4.5 *Awareness of consumer warning labels*

Some everyday household items may be bear consumer warning labels which may or may not indicate they are regarded as dangerous goods in air transport.
The check should confirm that information is given.]

Ref Explanation

5.1 *Prohibition in cabin and on flight deck*

Apart from those dangerous goods permitted for carriage by passengers and crew, dangerous goods must not be carried in an aircraft cabin occupied by passengers or on the flight deck.
The check should confirm that information is provided.

5.2 *Segregation and incompatibility*

Table 7-1 of the Technical Instructions details the classes/divisions of dangerous goods which must be segregated from each other when loaded on an aircraft.
The check should confirm that an explanation of Table 7-1 is provided.

5.3 *Compliance with handling labels*

The Technical Instructions detail 4 types of handling label:
Cargo aircraft only: for dangerous goods not permitted for carriage on passenger aircraft; and
Package orientation: for combination packagings containing a liquid indicating the orientation in which the package must be loaded.
Cryogenic liquid: applied to flasks containing refrigerated liquefied gas.
Magnetized material: applies to magnetized material instead of the Class 9 hazard warning label.
The check should confirm that an explanation of each of the handling labels is provided.

5.4 *Accessibility of cargo aircraft only packages*

Packages bearing the ”cargo aircraft only” handling label must be loaded in such a manner that a crew member can see, handle and, where size and mass permit, separate from other cargo in flight. This does not apply to dangerous goods in classes 6, 7, 9 and low hazard class 3,
The check should confirm this requirement is explained.

5.5 *Securing to prevent movement and damage*

Packages of dangerous goods must be secured in a manner that will prevent movement and damage in flight, including when loaded in a unit load device.
The check should confirm this requirement is explained.

5.6 *Dealing with damaged packages/ decontamination*

Packages which are noted to be damaged or leaking in an aircraft must be removed from the aircraft. In the event of leakage, adjacent baggage or cargo and the aircraft and unit load device (if applicable) must be inspected for contamination which, if found, must be removed. There are special responsibilities of the operator in respect of damaged or leaking packages of infectious substances and radioactive material which include the involvement of appropriately qualified personnel.
The check should confirm these requirements are explained.

Ref Explanation

5.7 *Identification of unit load devices*

A tag must be affixed to the exterior of unit load devices detailing the classes or divisions of dangerous goods contained within, unless the hazard warning labels on the packages are visible.
The check should confirm this requirement is explained.

5.8 *Handling/ loading of radioactive material*

Packages of radioactive material must be loaded in such a manner that the exposure to radiation is kept to acceptable levels for passengers/ crew and unexposed film. This is achieved by adhering to Tables in the Technical Instructions which specify the distances which must be maintained between packages and cabin floors and flight deck partitions.
The check should verify this requirement is explained.

5.9 *Loading of magnetized material and dry ice*

Magnetized material, which will be labelled as such, must be loaded in such a manner that they cannot affect the aircraft compass detector unit. Dry ice must be loaded according to the ventilation rate of the aircraft.
The check should verify this requirement is explained

5.10 *Inspections before loading and after unloading*

Packages of dangerous goods must be inspected for signs of damage or leakage immediately prior to loading and after unloading.
The check should confirm these requirements are explained.

6.1 *Requirement for a NOTOC*

All dangerous goods (other than excepted quantities) carried as cargo must be notified to the pilot-in-command in written (or electronic) form commonly referred to as a NOTOC (Notification to Commander).
The check should confirm the information is provided.

6.2 *Understanding and interpreting the NOTOC*

The main details on a NOTOC are the Proper shipping name, UN number, class or division, subsidiary risk, packing group, the number of packages and the exact loading location and the net or gross mass of each package. For radioactive material, the Transport Index must also be stated. Provision exists for only the total quantity and an indication of the quantity of the largest and smallest package at each loading location for consignments of multiple packages containing dangerous goods of the same proper shipping name and UN number.
The check should confirm that the content of the NOTOC are explained.

6.3 *Accessibility during flight*

The NOTOC must be readily available to the commander during flight.
The check should confirm the information is provided

Ref Explanation

7.1 *What passengers/ crew cannot have*

With the exception of a specified list of permitted items, dangerous goods are forbidden for carriage by passengers or crew. The operator should have procedures for dealing with passengers or crew who try to board an aircraft with forbidden dangerous goods, these need to be identified; the reference documents have a list of hidden hazards that can be found in baggage.
The check should confirm if there are specific procedures and that they are included in the training; also that it is made clear that the majority of dangerous goods cannot be carried by passengers or crew.

7.2 *What passengers/ crew can have; and conditions*

There is a permitted list of items that passengers or crew can take on aircraft; this is shown in ACJ OPS 1/3.1160(b)(5). The training should give staff the information to enable them to recognise such dangerous goods and to know what conditions apply to their carriage.
The check should confirm the information is provided, either directly or by reference to the reference documents.

8.1 *Actions in the event of incidents/ accidents suspected to have been caused by dangerous goods*

There is the possibility of a passenger having forbidden dangerous goods, or even goods they are permitted to have, which cause an incident on the ground or in flight. An operator should have procedures for dealing with this eventuality. There is also the possibility that an incident may arise in cargo and be caused by dangerous goods. The training should point out these possibilities and say what procedures will be applied. If the operator has chosen to use the guidance for in-flight emergencies in the ICAO document (In-flight Emergencies Arising from the Transport of Dangerous Goods) reference to it should be included in the training.
The check should confirm the information is provided.

8.2 *Emergency response actions*

In the event of an in-flight emergency which may or may not be caused by dangerous goods, if the situation permits, specific information must be provided to ATC for the information of aerodrome authorities. The check should confirm that adequate information is given and that the operator's own procedures are explained.

8.3 *Risks to health, safety, property and the environment*

Should dangerous goods leak they may have the possibility of causing injury or damage or an environmental hazard. Training should point out that the classes of dangerous goods indicate their potential for injury, damage, etc, and this should not be ignored in dealing with any incident.
The check should confirm the information is provided.

Ref Explanation

8.4 *Reporting of dangerous goods incidents and accidents*

JAR-OPS contains definitions for dangerous goods accidents and incidents. Since their reporting is mandatory, operators need to have procedures for their reporting. Training should point out that such accidents and incidents can be caused by passengers and undeclared dangerous goods in cargo; and what procedures the operator has for their reporting.
The check should confirm the information is provided.

8.5 *Reporting of undeclared/ mis-declared dangerous goods*

It is possible for undeclared dangerous goods to be found in general cargo; the reporting of this is mandatory under the Technical Instructions and operators need to have procedures for reporting. These need to be identified during training. Training should point out the possibility that general cargo could contain undeclared dangerous goods and what reporting procedures apply
The check should confirm the information is provided.

8.6 *Reporting of forbidden goods in baggage*

Undeclared dangerous goods, or forbidden goods, in baggage means a passenger having dangerous goods which the requirements do not allow them to have. The reporting of finding such goods is mandatory under the Technical Instructions and the operator needs to have procedures for reporting. Training should point out that it is not uncommon for 'forbidden' dangerous goods to be carried by passengers, there have been accidents and incidents caused by them, and what procedures the operator has for reporting.
The check should confirm the information is provided.

9.1 *Are there a sufficient number of questions*

An examination does not need to be lengthy but it does need to have in the region of 10 - 12 questions covering different areas – see below.
The check should confirm there are a sufficient number of questions which are appropriate to flight crew.

9.2 *Do they cover all the areas of responsibility*

The test should cover all 8 subject areas of responsibility and questions should be worded so as to verify that the student has understood the training received
The check should evaluate the examination paper to confirm it does cover the main areas.

9.3 *Duration appropriate to level of questions*

Sufficient time should be allowed for the test so that students are not placed undue pressure, although the period chosen should not be unrealistically long.
The check should verify that appropriate time is allocated for the test.

9.4 *Test conditions*

The test should be "open book" i.e. it should not test reliance on memory. However, it should be conducted in conditions such that students are unable to confer with fellow students.
The check should verify that the test is conducted under appropriate conditions.

CHECKLIST FOR A TRAINING PROGRAMME FOR FLIGHT CREW (Table 2 column 4)

Operator/ Training provider	
Location:	
Date of check:	
Instructor(s):	
Inspector(s):	

In the column headed Acceptable, show 'Yes' or 'No'; 'No' is for when the training programme does not appear to meet the minimum requirements. The column headed Comments is used for any notes that may be needed as an aide memoir for the future, in particular it should contain a brief explanation for any 'No'. At the end of the form, the findings are completed; these will form the basis of the response to the operator on the acceptability or not of the training programme and whether it will be approved. If there is insufficient space, continue on another form.

A TRAINING PROGRAMME			
Ref		*Comments*	*Acceptal*
A1	Is there a training programme, is it currently approved		
A2	Does it include the operator's own procedures		
A3	Does it include an examination		
A4	Is a certificate issued		
A5	Are there training records		
A6	Is initial and recurrent training prescribed		

B TRAINING COURSE			
Ref	*Areas of Training*	*Comments*	*Acceptal*
1	**General philosophy**		
1.1	References to law and source documents		
1.2	Where dangerous goods are found on aircraft		
1.3	Classification of dangerous goods		
1.4	Dangerous Goods Transport Document		
1.5	Quantity limitations		

1.6	Forbidden and hidden dangerous goods		
1.7	Acceptance		
1.8	Loading restrictions		
1.9	Actions in emergencies		
1.10	Training		
1.11	Prohibition of dangerous goods in passenger and crew baggage with exceptions		
2	**Limitations**		
2.1	Need for approval to carry dangerous goods		
2.2	Medical aid for patients		
2.3	Veterinary aid for animals		
2.4	Forbidden dangerous goods		
2.5	Airworthiness and operating items		
2.6	Dangerous goods in air mail		
2.7	Excepted and Limited Quantities		
2.8	State and operator variations		
3	**List of dangerous goods**		
3.1	Table 3-1 and Attachment 1 Chapter 1		
4	**Marking and labelling**		
4.1	Marks on packages to identify contents		
4.2	Labels on packages to identify contents		
4.3	The hazards denoted by labels		
4.4	Provision for replacement of labels		
4.5	Awareness of consumer warning labels		
5	**Storage and loading procedures**		
5.1	Prohibition in cabin and on flight deck		
5.2	Segregation and incompatibility		
5.3	Compliance with handling labels		
5.4	Accessibility of cargo aircraft only packages		

5.5	Securing to prevent movement and damage		
5.6	Dealing with damaged packages		
5.7	Identification of unit load devices		
5.8	Handling/ loading of radioactive material		
5.9	Loading of magnetized material and dry ice		
5.10	Inspections before loading and after unloading		
6	**Provision of information to commander**		
6.1	Requirement for a NOTOC		
6.2	Understanding and interpreting the NOTOC		
6.3	Accessibility during flight		
7	**Passengers baggage**		
7.1	What passengers/ crew cannot have		
7.2	What passengers/ crew can have; and conditions		
8	**Emergency procedures**		
8.1	Actions in the event of incidents/ accidents		
8.2	Emergency response actions		
8.3	Risks to health, property and environment		
8.4	Reporting of dangerous goods accidents and incidents		
8.5	Reporting of undeclared/ mis-declared dangerous goods		
8.6	Reporting of forbidden goods in baggage		
9	**Examination**		
9.1	Are there a sufficient number questions		
9.2	Do they cover all the areas of responsibility		
9.3	Duration appropriate to level of questions		
9.4	Test conditions		

C FINDINGS		
Ref	*Finding*	*Timescale for remedial actio*

The training programme does / does not appear to comply with the requirements of the Technical Instructions and JAR-OPS (1/3.1220) for the reasons shown in C.

Signed: