Example Operations Manual Entry for a UK Remote Piloted Aircraft System Operator without Approval to Carry Dangerous Goods as Cargo

Revision History

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# SECTION 9 DANGEROUS GOODS AND WEAPONS

**Editorial Note 1:** References to EU regulations in this document are to those regulations as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018.

**Editorial Note 2:** Editorial notes within the following text indicate where the operator needs to add text to describe their specific operation. The editorial notes must be replaced with the operator’s own text before submission to the CAA.

## X.1 Policy on the Transport of Dangerous Goods

### X.1.1 **Approval for the Transport of Dangerous Goods**

Dangerous goods can only be carried according to the International Civil Aviation Organization’s Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions), irrespective of whether the flight is wholly or partly within or wholly outside the territory of a State. An approval must be granted by the State of the Operator before dangerous goods can be carried on an aircraft, except as identified in 9.1.3 and 9.1.5 below. An additional approval or an exemption may be required to permit the transport of some dangerous goods – see 9.1.3 below.

**Editorial Note 1:** *Insert Text*[Operator Name] does not hold a dangerous goods approval issued by the UK CAA for the transport of dangerous goods by air.

### X.1.2 **Reserved**

### X.1.3 **General Exceptions**

#### X.1.3.1 **Airworthiness and Operational Items (CAT.GEN.MPA.200(b)(1))**

An approval is not required for items classified as dangerous goods which are required to be aboard the aircraft for propulsion purposes, for the operation of its specialised equipment during flight, or which are required in accordance with the operating requirements;

**Note:** Dangerous goods intended as replacements for those referred to in X.1.3.1 above may not be carried without the approval referred to in X.1.1 and unless consigned and accepted for transport in accordance with the ICAO Technical Instructions.

### X.1.4 **Reserved**

### X.1.5 **Reserved**

X.1.6  **Reserved**

### X.1.7 **Marking and** **Labelling of Packages**

Articles and substances meeting the dangerous goods classification criteria are assigned a ‘UN Number’ under the United Nations classification system. This consists a four-digit number preceded by the capital letters ‘UN’. Packages of dangerous goods must be marked with the UN Number(s) applicable to their contents.

Packages containing dangerous goods can also be identified by labels indicating the hazard of the goods by their class or division or by the presence of certain handling labels/marks.

***Note:*** *When dangerous goods marks or labels are seen on items not declared as dangerous goods, it is often an indication that they do contain such goods. Undeclared dangerous goods must not be loaded on an aircraft and reporting procedures must be implemented (see 11.10.4).*

During the course of air transport, including storage, the dangerous goods mark(s) and label(s) must not be covered or obscured by any part of or attachment to the packaging or any other label or mark.

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| CLASS 1 – EXPLOSIVE |
| \* Division and compatibility group |   \*\* Compatibility group |

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| CLASS 2 – GASES |
| Flammable gas(Division 2.1) | Non-flammable, non-toxic gas (Division 2.2) | Toxic gas (Division 2.3) |

|  |
| --- |
| CLASS 3 – FLAMMABLE LIQUID |
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| CLASS 4 – FLAMMABLE SOLIDS; SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION; SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES |
| Flammable solid(Division 4.1) | Substance liable to spontaneous combustion (Division 4.2) | Substance which, in contact with water, emits flammable gas (Division 4.3) |

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| CLASS 5 – OXIDISING SUBSTANCES AND ORGANIC PEROXIDES |
| Oxidising substance(Division 5.1) | Organic peroxide (Division 5.2) (flame may be black or white) |
|  | **5.2** |
| CLASS 6 – TOXIC AND INFECTIOUS SUBSTANCES |
| Toxic substance (Division 6.1) |  Infectious substance (Division 6.2) |
|  | The bottom part of the label should bear the inscription:“INFECTIOUS SUBSTANCE — In case of damage or leakage immediately notify public health authority”. |

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| CLASS 7 – RADIOACTIVE MATERIAL |
| Category I | Category II | Category III |
| Criticality safety index label |  |

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| CLASS 8 – CORROSIVE |
|   |

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| --- | --- |
| CLASS 9 – MISCELLANEOUS |  |
|   | Class 9 label for Section I, IA and IB lithium battery shipmentsImage result for lithium battery class 9 label |

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| HANDLING LABELS |
| *Packages of dangerous goods may also bear labels providing handling information; these are:* |
| **Magnetized material** | **Cargo aircraft only** |
| **Cryogenic liquid label** | Package orientation(red or black) | **Keep away from heat** |

|  |
| --- |
| LITHIUM BATTERIES MARK |
| Diagram  Description automatically generated | This mark is applied to packages of lithium batteries which, whilst still regulated, are excepted from a number of the requirements. It can range in size from 105mm x 74mm to 120mm x 100mm. |
| EXCEPTED QUANTITIES MARK |
| *Packages containing excepted quantities of dangerous goods can be identified from the following:* |
|  | Hatching and symbol of the same colour, black or red, on white or suitable contrasting background.\* Place for class or, when assigned, the division number(s).\*\* Place for name of shipper or consignee, if not shown elsewhere on the package. |

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| LIMITED QUANTITIES MARK |
| *Packages containing limited quantities of dangerous goods can be identified from the following:* |
| ***LQ_Air_label*** |  |

|  |
| --- |
| ENVIRONMENTALLY HAZARDOUS SUBSTANCES MARK |
|  |
|  | Packages containing environmentally hazardous substances (UN Nos. 3077 and 3082) must be durably marked with the environmentally hazardous substance mark with the exception of packages containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids.  |

## X.2 Duties of All Personnel Involved

### X.2.1 **Detailed Assignments of Responsibilities (CAT.GEN.MPA.200 (d))**

**Editorial Note 1:** Operators need to assign the key responsibilities associated with the acceptance of general cargo for transport by the RPAS. Duties associated with the carriage of general cargo include:

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| --- | --- |
| Cargo Department/ Cargo Sales Agents | * Ensuring procedures are implemented to ensure dangerous goods as cargo are not carried.
* Recognition of undeclared dangerous goods.
* Ensuring that notices, giving information about the transport of dangerous goods, are displayed in sufficient number and prominence at cargo acceptance points.
 |
| Persons receiving or handling general cargo, mail and stores | * Recognition of undeclared dangerous goods.
* Dealing with dangerous goods that are found damaged or leaking during processing for transport.
* If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected, a report is made to the appropriate Authority (see 11.10.2).
 |
| Operations Personnel | * If there is a dangerous goods incident or accident, or if undeclared dangerous goods are detected, a report is made to the appropriate Authority (see 11.10.2).
 |
| Trainers | * Provision of initial and recurrent dangerous goods training commensurate with the responsibilities of the personnel concerned.
 |
| Compliance Monitoring Manager and Auditors  | * Ensuring that activities are monitored for compliance with the applicable dangerous goods requirements and that these activities are carried out properly under the supervision of the relevant head of functional area.
 |
| Safety Manager | * Ensuring the initiation and follow-up of internal occurrence / accident investigations.
 |

**Editorial Note 2:** In practice a an entity other than the Operator, may carry out some or all of the procedures for processing dangerous goods cargo for air transport. Such entity must be provided with sufficient information to enable these procedures to be actioned. Operators should specify whether they utilise suitably qualified personnel of the operator or of an external entity at the various locations of the operation and how the information is made available to their qualified personnel or the entity’s staff.X.3 Reserved

### **X.4 Recognition of Undeclared / Hidden Dangerous Goods (CAT.GEN.MPA.200(e))**

### X.4.1 **‘Hidden’ Dangerous Goods**

Personnel must be alert to indications that undeclared dangerous goods are present within cargo, mail or stores. Personnel interfacing with passengers must be alert to indications that prohibited dangerous goods are carried by passengers or within their baggage.

***NOTE: THE DISCOVERY OF UNDECLARED OR MIS-DECLARED DANGEROUS GOODS OR THE DISCOVERY OF DANGEROUS GOODS FORBIDDEN FOR CARRIAGE BY PASSENGERS (DISCOVERED AFTER THE CHECK-IN PROCESS) MUST BE REPORTED TO THE CAA – SEE 11.10.4.***

The following is a list of general descriptions that are often used for items in cargo or in passengers’ baggage and the types of dangerous goods that may be included in any item bearing that description.

*Aircraft on ground (AOG) spares* — may contain explosives (flares or other pyrotechnics), chemical oxygen generators, unserviceable tyre assemblies, cylinders of compressed gas (oxygen, carbon dioxide or fire extinguishers), fuel in equipment, wet or lithium batteries, matches.

*Automobile parts/supplies (car, motor, motorcycle)* — may include engines (including fuel cell engines), carburettors or fuel tanks that contain or have contained fuel, wet or lithium batteries, compressed gases in tyre inflation devices and fire extinguishers, air bags, flammable adhesives, paints, sealants and solvents, etc.

*Battery-powered devices/equipment — may contain wet or lithium batteries.*

*Breathing apparatus —* may indicate cylinders of compressed air or oxygen, chemical oxygen generators or refrigerated liquefied oxygen.

*Camping equipment* — may contain flammable gases (butane, propane, etc.), flammable liquids (kerosene, gasoline, etc.) or flammable solids (hexamine, matches, etc.).

*Cars, car parts* — see automobile parts, etc.

*Chemicals* — may contain items meeting any of the criteria for dangerous goods, particularly flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances.

*Consolidated consignments (groupages)* — may contain any of the defined classes of dangerous goods.

*Cryogenic (liquid)* — indicates refrigerated liquefied gases such as argon, helium, neon, nitrogen, etc.

*Cylinders* — may contain compressed or liquefied gas.

*Dental apparatus* — may contain flammable resins or solvents, compressed or liquefied gas, mercury and radioactive material.

*Diagnostic specimens* — may contain infectious substances.

*Diving equipment* — may contain cylinders of compressed gas (e.g. air or oxygen). May also contain high intensity diving lamps that can generate extreme heat when operated in air. In order to be carried safely, the bulb or battery should be disconnected.

*Drilling and mining equipment* — may contain explosive(s) and/or other dangerous goods.

*Dry shipper (vapour shipper)* — may contain free liquid nitrogen. Dry shippers are only not subject to the Technical Instructions when they do not permit the release of any free liquid nitrogen irrespective of the orientation of the packaging.

*Electrical/electronic equipment* — may contain magnetised materials, mercury in switch gear, electron tubes, wet or lithium batteries or fuel cells or fuel cell cartridges that contain or have contained fuel.

*Electrically-powered apparatus* (wheelchairs, lawn mowers, golf carts, etc.) — may contain wet or lithium batteries or fuel cells or fuel cell cartridges that contain or have contained fuel.

*Expeditionary equipment* — may contain explosives (flares), flammable liquids (gasoline), flammable gas (camping gas) or other dangerous goods.

*Film crew and media equipment* — may contain explosive pyrotechnic devices, generators incorporating internal combustion engines, wet or lithium batteries, fuel, heat-producing items, etc.

*Frozen embryos* — may be packed in refrigerated liquefied gas or dry ice (solid carbon dioxide).

*Frozen fruit, vegetables, etc*. — may be packed in dry ice.

*Fuel control units* — may contain flammable liquids.

*Hot-air balloon* — may contain cylinders with flammable gas, fire extinguishers, engines (internal combustion), batteries, etc.

*Household goods* — may contain items meeting any of the criteria for dangerous goods. Examples include flammable liquids such as solvent-based paint, adhesives, polishes, aerosols (for passengers, those not permitted under ICAO Technical Instructions 8;1.1.2), bleach, corrosive oven or drain cleaners, ammunition, matches, etc.

*Instruments* — may conceal barometers, manometers, mercury switches, rectifier tubes, thermometers, etc. containing mercury.

*Laboratory/testing equipment* — may contain items meeting any of the criteria for dangerous goods, particularly flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances, lithium batteries, cylinders of compressed gas, etc.

*Machinery parts* — may contain flammable adhesives, paints, sealants and solvents, wet and lithium batteries, mercury, cylinders of compressed or liquefied gas, etc.

*Magnets* and other items of similar material — may individually or cumulatively meet the definition of magnetised material.

*Medical supplies/equipment* — may contain items meeting any of the criteria for dangerous goods, particularly flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances, lithium batteries.

*Metal construction material* — may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.

*Metal fencing* — may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.

*Metal piping* — may contain ferro-magnetic material which may be subject to special stowage requirements due to the possibility of affecting aircraft instruments.

*Pharmaceuticals* — may contain items meeting any of the criteria for dangerous goods, particularly radioactive material, flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances.

*Photographic supplies/equipment* — may contain items meeting any of the criteria for dangerous goods, particularly heat-producing devices, flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances, lithium batteries.

*Racing car or motorcycle team equipment* — may contain engines (including fuel cell engines), carburettors or fuel tanks that contain fuel or residual fuel, wet and lithium batteries, flammable aerosols, nitromethane or other gasoline additives, cylinders of compressed gases, etc.

*Refrigerators* — may contain liquefied gases or an ammonia solution.

*Repair kits* — may contain organic peroxides and flammable adhesives, solvent-based paints, resins, etc.

*Samples for testing* — may contain items meeting any of the criteria for dangerous goods, particularly infectious substances, flammable liquids, flammable solids, oxidisers, organic peroxides, toxic or corrosive substances.

*Semen* — may be packed with dry ice or refrigerated liquefied gas (see also dry shipper).

*Sporting goods/sports team equipment —* may contain cylinders of compressed or liquefied gas (air, carbon dioxide, etc.), lithium batteries, propane torches, first aid kits, flammable adhesives, aerosols, etc.

*Swimming pool chemicals* — may contain oxidising or corrosive substances.

*Switches* in electrical equipment or instruments — may contain mercury.

*Toolboxes* — may contain explosives (power rivets), compressed gases or aerosols, flammable gases (Butane cylinders or torches), flammable adhesives or paints, corrosive liquids, lithium batteries, etc.

*Torches* — micro torches and utility lighters may contain flammable gas and be equipped with an electronic starter. Larger torches may consist of a torch head (often with a self-igniting switch) attached to a container or cylinder of flammable gas.

*Unaccompanied passengers’ baggage/personal effects* — may contain items meeting any of the criteria for dangerous goods not permitted for carriage by passengers and crew.

***Note:*** *Excess baggage carried as cargo may contain certain dangerous goods (see 9.1.3.4).*

*Vaccines* — may be packed in dry ice.

**X.4.2 Identification of Dangerous Goods Through X-Ray Screening**

Persons conducting security screening of cargo should be alert to the presence of dangerous goods within packages that are not marked and labelled as dangerous goods and/or not accompanied by a Shipper’s Declaration. In particular, items such as aerosols, ammunition, gas cylinders (camping gas, cylinders attached to life-jackets, etc.), cigarette lighters and wet acid batteries can be readily identified from x-ray images. Information provided on an air waybill or marked on a package often indicates that a consignment contains no dangerous goods. In the absence of such annotation by the shipper, should suspicions be raised by the size and shape of the contents of a package, consideration should be given to opening and hand-searching the consignment to verify that no undeclared dangerous goods are present.

**X.4.3 GHS Consumer Labelling (Overview)**

Some everyday household items bear consumer warning labels which may or may not indicate they are classified as dangerous goods in air transport. All over the world there are different laws on how to identify the hazardous properties of chemicals (called ‘classification’) and how information about these hazards is then passed to users (through consumer supply labels and safety data sheets for workers). This can be confusing because the same chemical can have different hazard descriptions in different countries. For example, a chemical could be labelled for supply as ‘toxic’ in one country, but not in another. For this reason, the UN brought together experts from different countries to create the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The GHS has been implemented within Europe by the Regulation on Classification, Labelling and Packaging of Substances and Mixtures (known as the CLP Regulation).

X.4.3.1 **GHS Labels**

Products bearing the following GHS labels ARE classified as dangerous goods:

|  |
| --- |
| acid_redAquatic-pollut-redrondflamflammeskullbottleexplos  |
| **Note:** A product bearing the GHS corrosive label (depicted far right above) is NOT classified as dangerous goods if the signal word ‘Danger’ and hazard statement ‘causes serious eye damage’ applies. |

Products bearing the following GHS labels (and none of the above) are NOT classified as dangerous goods:

|  |
| --- |
| exclam silhouete |

## X.5 Special Notification Requirements

##  This Section applies in the event of an Accident or Occurrence when Dangerous Goods are being carried or have been offered for air transport without having been prepared and ceclared in accordance with the ICAO Technical Instructions.

### X.5.1 **Dangerous Goods Accident and Incident Reports**

*Definitions:*

*Dangerous goods accident:* An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.

*Dangerous goods incident:* An occurrence other than a dangerous goods accident associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardises an aircraft or its occupants is also deemed to be a dangerous goods incident.

**NOTE:** A dangerous goods accident or incident may also constitute an aircraft accident or incident as specified in ICAO Annex 13 — Aircraft Accident and Incident Investigation.

An operator must report dangerous goods accidents and incidents to the appropriate authorities of the State of the Operator and the State in which the accident or incident occurred in accordance with the reporting requirements of those appropriate authorities.

**NOTE:** This includes incidents involving dangerous goods that are not subject to all or part of the Technical Instructions through the application of an exception or of a special provision (e.g. an incident involving the short circuiting of a dry cell battery that is required to meet short-circuit prevention conditions in a special provision of 3;3).

An operator must report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo or mail. Such a report must be made to the appropriate authorities of the State of the Operator and the State in which this occurred**.**

In addition to the requirements of the ICAO Technical Instructions for the reporting of dangerous goods occurrences (above), **any incident** which endangers or which, if not corrected, would endanger an aircraft, or any other person is reported to **CAA Safety Data**. Dangerous goods occurrences reportable under the Mandatory Occurrence Reporting Scheme include:

* Dangerous goods found not to have been secured to prevent movement
* Damage to packages of dangerous goods
* NOTOC errors where dangerous goods have not been stowed in accordance

 with loading instructions

* Failure to prepare electric wheelchairs in order to prevent accidental activation
* Electric wheelchairs found not to have been stowed and secured correctly
* Leakage of dangerous goods from passenger baggage

A dangerous goods accident or dangerous goods incident must be reported to dgo@caa.co.uk within 72 hours, unless exceptional circumstances prevent this. If necessary, a subsequent report shall be made as soon as possible giving all the details that were not known at the time the first report was sent. If a report has been made verbally, written confirmation shall be sent as soon as possible. Any type of accident or incident must be reported irrespective of whether the dangerous goods are in cargo, mail, stores, passengers’ baggage or crew baggage.

**Editorial Note:** In accordance with Regulation (EU) No. 376/2014on the reporting, analysis and follow-up of occurrences in civil aviation aircraft operators are required to store occurrence reports on a database capable of producing an output that is ECCAIRS compatible. Organisations need to submit Mandatory Occurrence Reports to the CAA in this format. Dangerous goods occurrences are to be reported to dgo@caa.co.uk using the following forms:

**CAA Form** [SRG 2808](http://www.caa.co.uk/srg2808) may be used to report a dangerous goods occurrence involving cargo or unaccompanied baggage.

The first and any subsequent report shall be as precise as possible and contain such of the following data that are relevant:

* Date of the incident or accident or the finding of undeclared or misdeclared dangerous goods.
* Location, the flight number and flight date.
* Description of the goods and the reference number of the air waybill, pouch, baggage tag, ticket, etc.
* Proper shipping name (including the technical name, if appropriate) and UN/ID number, when known.
* Class or division and any subsidiary hazard.
* Type of packaging, and the packaging specification marking on it.
* Quantity of dangerous goods.
* Name and address of the shipper, passenger, etc.
* Any other relevant details.
* Suspected cause of the incident or accident.
* Action taken.
* Any other reporting action taken.
* Name, title, address and telephone number of the person making the report.

Copies of relevant documents and any photographs taken should be attached to a report.

**NOTE: IF SAFE TO DO SO, THE DANGEROUS GOODS INVOLVED IN THE ACCIDENT OR INCIDENT SHOULD BE HELD PENDING CAA INVESTIGATION.**

**Editorial Note:** Operators should describe their procedures for reporting dangerous goods incidents, accidents and undeclared dangerous goods to the CAA. Where applicable, this information should be provided to handling agents so that, as a minimum, they are advised to whom non-MOR events should be submitted (Regulation (EU) No. 376/2014 places a direct legal duty upon a person who performs a function in respect of the ground handling of aircraft to report to the CAA any incident which endangers or which, if not corrected, would endanger an aircraft, its occupants or any other person).

### **X.5.2** **Removal of Contamination**

In the event of a spillage or leakage of dangerous goods within an aircraft, the position where the dangerous goods or ULD was stowed on the aircraft must be inspected for damage or contamination and any hazardous contamination removed. The hazard of the dangerous goods within packages concerned may be established by checking the entry on the NOTOC for that loading position or from hazard labels applied to the packages. The hazard classes and divisions of dangerous goods within a ULD may also be identified from the NOTOC or otherwise, should package labels not be visible, from the ULD tag bearing red hatchings applied to the outside of the ULD. Persons responding in the event of damage to or leakage of dangerous goods from packages must:

* identify the hazards and wear appropriate protective clothing;
* avoid handling the package or keep handling to a minimum;
* inspect adjacent packages for contamination and put aside any that may have been contaminated;
* arrange for decontamination of the aircraft and equipment; and
* in the case of infectious material, inform the appropriate public health authority or veterinary authority, and provide information to any other countries of transit where persons may have been exposed to danger; and notify the shipper and/or the consignee.

If it is evident that a package containing radioactive material is damaged or leaking, or if it is suspected that the package may have leaked or been damaged, access to the package must be restricted and a qualified person must, as soon as possible, assess the extent of contamination and the resultant dose rate of the package. The scope of the assessment must include the package, the aircraft, the adjacent loading and unloading areas and, if necessary, all other material which has been carried in the aircraft. When necessary, additional steps for the protection of persons, property and the environment must be taken in accordance with provisions established by the relevant competent authority, to overcome and minimise the consequences of such leakage or damage.

An aircraft which has been contaminated by radioactive materials must be immediately taken out of service and not returned until the dose rate at any accessible surface and the non-fixed contamination are not more than the values specified in the Technical Instructions. In the event of non-compliance with any limit in the Technical Instructions applicable to dose rate or contamination, the operator must ensure the shipper is informed if the non-compliance is identified during transport; take immediate steps to mitigate the consequences of the non-compliance; and communicate the non-compliance to the shipper and relevant competent Authority(ies), respectively, as soon as practicable and immediately whenever an emergency situation has developed or is developing.

## X.6 Conditions Under Which Weapons, Munitions of War and Sporting Weapons May Be Carried

X.6.1 **Need for Approval to Transport Munitions of War**

Weapons of war and munitions of war can only be carried provided an approval to do so has been granted by UK CAA before a flight. In the case of firearms, these must be carried unloaded, except as specified in X.6. 2 below.

**Editorial Note:** *Insert Text* ***[Operator Name does not hold] CAA approval for the transport of Munitions of War by air.***

X.6.2 **Notifying Remote Pilot in Command of the Carriage of Munitions of War**

The commander must be notified before a flight if weapons of war or munitions of war are to be carried on the aircraft.

# X.7 TRAINING SYLLABUS FOR TRANSPORT OF DANGEROUS GOODS

# (OPERATIONS PERSONNEL INCLUDING CREW MEMBERS)

### X.7.1 **Approval of Training Programmes**

 *(Insert Text* [‘Operator XXX’]) hold approval for training programmes in the carriage of dangerous goods by air for operators without an approval to carry Dangeorus Goods. This training is identified and described in the following text. Any substantive changes to this training (or proposals for sourcing training from an alternative external company) shall require prior approval by the competent authority and must be submitted to the assigned Oversight Manager or assigned Inspecting Officer, through dgo@caa.co.uk.

**Editorial Note:** Prior to contracting the provision of dangerous goods training to an external organisation, the operator must ensure that the proposed training materials reflect the syllabi contained in this manual and are approved by the CAA.

### X.7.2 **General Requirements Applicable to Dangerous Goods Training Programmes**

The goal of competency-based training and assessment (CBTA) is to produce a competent workforce by providing focused training. It does so by identifying key competencies that need to be achieved, determining the most effective way of achieving them and establishing valid and reliable assessment tools to evaluate their achievement

The Operator must ensure that personnel are competent to perform any function for which they are responsible prior to performing any of these functions. This must be achieved through training and assessment commensurate with the functions for which they are responsible. Such training must include::

* general awareness/familiarisation training - Personnel must be trained to be familiar with the general provisions;
* function-specific training — Personnel must be trained to perform competently any function for which they are responsible; and
* safety training — Personnel must be trained on how to recognize the hazards presented by dangerous goods, on the safe handling of dangerous goods, and on emergency response procedures.

**Editorial Note 1:**General information on the provisions for dangerous goods carried by passengers and crew (see 9.1.5) should be included in training courses, as appropriate.

Personnel who have received training but who are assigned to new functions must be assessed to determine their competence in respect of their new function. If competency is not demonstrated, appropriate additional training must be provided.

Recurrent training and assessment must be provided within 24 months of previous training and assessment in addition to the remainder of the month of completion to ensure competency has been maintained. If recurrent training and assessment is completed within the final three months of validity of previous training and assessment, the period of validity shall extend from the month of completion, until 24 months from the expiry month of that previous training and assessment.

As with other aviation qualifications an offence against the regulations will be committed if staff continue to work after their training and assessment validity has expired.

**Editorial Note 2:** Operators with a policy to provide recurrent dangerous goods training and assessment at periods of less than 24 months should state that policy.

A record of training and assessment must be maintained and include;

1. the individual’s name;
2. the month of completion of the most recent training and assessment;
3. a description, copy or reference to training and assessment materials used to meet the training and assessment requirements;
4. the name and address of the organisation providing the training and assessment; and
5. evidence which shows that the personnel  have been assessed as competent.

Training and assessment records must be retained by the employer for a minimum period of 36 months from the most recent training and assessment completion month and must be made available upon request to personnel or the appropriate national authority.

**Editorial Note 3:** Further information on Competency-Based Training and Assessment (CBTA) can be found in ICAO Doc 10147 - Guidance on a Competency-based Approach to Dangerous Goods Training and Assessment.

### X.7.3 **Dangerous Goods Training Syllabus**

The operator must ensure training is provided in accordance with the detailed requirements of Part 1;4 of the Technical Instructions to all relevant employees including those of agencies employed to act on the operator’s behalf, to enable them to carry out the functions for which they are responsible with regard to the transport of dangerous goods, passengers and their baggage, cargo and mail.

Personnel must be trained to recognise the hazards presented by dangerous goods, to safely handle them and to apply appropriate emergency response procedures.

**Editorial Note:** In order to identify the dangerous training and assessment personnel require, the operator should insert the training syllabi for each function involved in the transport of dangerous goods.  To support this, the operator should include:

* an assessment plan;
* a training plan;
* a competency framework for personnel;
* a dangerous goods task list;
* a task/knowledge matrix tool.

**Editorial Note 2:** As a minimum, the operator should include the personnel identified in *X.2.1 Duties of All Personnel Involved*

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**Extract from Table 1-5 of the ICAO Technical Instructions (Content of Training Courses)**

### X.7.4 **Instructor Qualifications**

Instructors of initial and recurrent dangerous goods training programmes must demonstrate or be assessed as competent in instruction and the function(s) that they will instruct prior to delivering such training.

Instructors delivering initial and recurrent dangerous goods training programmes must deliver such courses at least every 24 months, or in the absence of this, attend recurrent training.

**Editorial Note 1:** In addition to the above, operators should detail the experience and aptitudes considered appropriate for the selection of trainers and assessors.

**Editorial Note 2:** Any person assessing competence must be trained and assessed commensurate with this function. This includes the requirement to undertake recurrent training and assessment within 24 months of previous training and assessment.

**Editorial Note 3:** The above section does not apply to the exclusive use of Computer-Based Training (CBT) and other self-study materials for the delivery of dangerous goods training and assessment, i.e., where none of the training and assessment is delivered in person. There must, however, exist adequate means to ensure that persons creating and maintaining self-study training and assessment materials are competent and their knowledge of the transport of dangerous goods by air remains current.  This includes contracted training providers.

### X.7.5 **Identification of Training and Testing Materials**

**Editorial Note 1:** Operators should detail the dangerous goods training and assessment materials that have been subjected to approval so that they may be readily identified by trainers. The titles and revision numbers of presentations, videos, study books, handouts, visual aids ~~and~~and assessment tools should be included. Additionally, the pass mark for projects, examinations or oral assessments required to achieve ~~a~~ competency ~~pass~~ and procedures to be applied in the event that personnel do not achieve or maintain the required competency should be established.

**Editorial Note 2:** Tests to verify understanding must be conducted in a controlled environment that prevents collaboration.