International Civil Aviation Organization

DGP-WG/18-WP/3
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WORKING PAPER

DANGEROUS GOODS PANEL (DGP) WORKING GROUP MEETING

Montréal, 1 to 5 October 2018

Agenda Item 5: Dangerous good accident and incident reporting system (Job card DGP.005.01)

REPORT OF THE DGP WORKING GROUP ON REPORTING

(Presented by the Chairman of the DGP Working Group on Reporting)

SUMMARY

This working paper presents draft guidance material developed by the DGP Working Group on Reporting. Appendix A contains guidance material on dangerous goods reporting and Appendix B contains guidance material on dangerous goods investigations. DGP-WG/18 is invited to comment on the material. Revised guidance material will be presented at DGP-WG/19 based on comments received.

Action by the DGP-WG: DGP-WG/18 is invited to review and comment on the guidance material on dangerous goods reporting provided in Appendix A and on dangerous goods investigations provided in Appendix B to this working paper.

1. INTRODUCTION

1.1 The Dangerous Goods Panel Working Group on Reporting (DGP-WG/Reporting) met in London from 16 to 20 July 2018. The meeting was hosted by the United Kingdom Civil Aviation Authority (CAA). The goal of the meeting was to develop mature guidance material on dangerous goods reporting and dangerous goods investigations based on the material that was presented to the Twenty-Sixth Meeting of the Dangerous Goods Panel (DGP/26, Montréal, 16 to 27 October 2017) (see paragraph 6.2.1 of the DGP/26 Report).

2. GUIDANCE MATERIAL ON DANGEROUS GOODS REPORTING AND DANGEROUS GOODS INVESTIGATIONS

1.2 Guidance material for dangerous goods reporting is provided in Appendix A and guidance material for dangerous goods investigations is provided in Appendix B to this working paper.

The material is based on the revised reporting and investigation provisions for Annex 18 and the Technical Instructions developed by the working group that were presented to DGP/26 (see paragraph 6.2.1 of the DGP/26 Report). These are provided for in Appendix C and Appendix D to this working paper.

1.3 DGP-WG/Reporting will refine the guidance material based on comments from DGP-WG/18. A new package will be presented to DGP-WG/19. There may be a need for further refinement based on the work to clarify State oversight responsibilities in Annex 18 (ANC job card DGP.005.01). DGP-WG/Reporting will continue work on the provisions in coordination with the DGP Working Group on Annex 18 with the goal of presenting a finalized package to the twenty-seventh meeting of the DGP.

2. ACTION BY THE DGP-WG

2.1 DGP-WG/18 is invited to review and comment on the guidance material on dangerous goods reporting provided in Appendix A and on dangerous goods investigations provided in Appendix B to this working paper.

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APPENDIX A

DRAFT GUIDANCE MATERIAL FOR DANGEROUS GOODS REPORTING

Chapter 1

GUIDANCE ON DANGEROUS GOODS OCCURRENCE REPORTING

1.1 INTRODUCTION

1.1.1 Reporting of safety data and safety information by individuals and organizations in the aviation system is fundamental to safety management. The data collected is used to identify trends, evaluate safety performance and assess risk. As such, States are required to establish safety data collection and processing systems (SDCPS) to capture, store, aggregate and enable the analysis of safety data and safety information to support the identification of hazards in accordance with Annex 19 — *Safety Management*. Provisions in Annex 18 and the Technical Instructions require that SDCPS include dangerous goods accident, dangerous goods incident and other dangerous goods occurrence data.

1.1.2 The *Safety Management Manual* (Doc 9859) provides general guidance to support implementation of safety data collection and processing systems, and this chapter provides guidance specific to the implementation of dangerous goods reporting provisions contained in Annex 18 and the Technical Instructions. It addresses general safety reporting principles, dangerous goods reporting through mandatory safety reporting systems, dangerous goods reporting through voluntary reporting systems, assessing dangerous goods safety data, determining when remedial or correction action may be necessary, and exchanging dangerous goods safety information.

1.2 GENERAL

1.2.1 Effective safety management is highly dependent on the effectiveness of the SDCPS. Organizations should therefore ensure that its systems are developed, maintained and analysed by qualified people.

1.2.2 Reporting systems should facilitate processes for submitting reports, analyzing data, and generating relevant safety information. An overly-complex system may discourage or result in inaccurate reporting, so the system should be designed with ease of use in mind. The system should capture all relevant information about an occurrence, including what happened, where, when and to whom the report is intended. Details on the type of data that should be captures are provided in paragraph 1.6.

1.2.4 Safety data should ideally be categorized using taxonomies and supporting definitions so that the data can be captured and stored using meaningful terms. Common taxonomies and definitions establish a standard language, improving the quality of information and communication. The aviation community's capacity to focus on safety issues is greatly enhanced by sharing a common language. Taxonomies facilitate analysis and information sharing and exchange. Some examples of taxonomies include:

a) aircraft model: The organization can build a database with all models certified to operate;

b) airport: The organization may use ICAO or International Air Transport Association (IATA) codes to identify airports; and

c) type of occurrence: An organization may use taxonomies developed by ICAO and other international organizations to classify occurrences.

There are a number of industry-common aviation taxonomies and specialized taxonomy-development groups. Some examples include:

a) ADREP: an occurrence category taxonomy that is part of ICAO’s accident and incident reporting system. It is a compilation of attributes and the related values that allow safety trend analysis;

b) Commercial Aviation Safety Team (CAST)/International Civil Aviation Organization (ICAO) Common Taxonomy Team (CICTT): tasked with developing common taxonomies and definitions for aircraft accident and incident reporting systems;

c) Safety Performance Indicators Task Force (SPI-TF): tasked with developing globally harmonized metrics for service providers' safety performance indicators (SPIs) as part of their safety management systems (SMS), to ensure uniformity in the collection of information and comparison of analysis results.

1.2.5 Further guidance on safety data collection and processing systems is provided in Chapter 5 of Doc 9859. Doc 9859 is complimented by the Safety Management Implementation Website which provides examples, tools and supporting educational material (www.unitingaviation.com/publications/safetymanagementimplementation/content).

1.3 DANGEROUS GOODS SAFETY REPORTING SYSTEMS

1.3.1 Dangerous goods reporting systems are necessary at the State and service provider level. States need the data to support the identification of hazards and the monitoring of safety performance across the aviation system, and service providers need the data collected to support the identification of hazards and the monitoring of safety performance associated with their own activities.

Note.— The term "service provider" is used in this document to refer to an aviation industry organization implementing SMS whether on a mandatory or voluntary basis, unlike Annex 19 which uses the term to refer to a very specific list of organizations found in Chapter 3 of that Annex for which implementation of SMS is required. This list includes operators of aeroplanes or helicopters authorized to conduct international commercial air transport in accordance with Annex 6, Part I or Part III, Section II, respectively. Annex 18 and the Technical Instructions include reporting requirements for operators and for entities other than operators, including both aviation and non-aviation industry organizations involved with shipping dangerous goods.

1.3.2 Annex 18 and the Technical Instructions require States to include reporting of dangerous goods accidents, dangerous goods incidents and occasions when undeclared or misdeclared dangerous goods are discovered as part of their mandatory safety reporting systems in accordance with Annex 19. Annex 18 and the Technical Instructions also require States to include dangerous goods occurrences as part of its voluntary safety reporting systems in accordance with Annex 19.

1.4 MANDATORY DANGEROUS GOODS SAFETY REPORTING SYSTEM

1.4.1 General

1.4.1.1 Mandatory safety reporting systems should aim to capture all relevant information related to an occurrence, including what happened, where, when and to whom the report is intended. In addition, mandatory safety reporting systems should capture specific hazards which are known to contribute to accidents, the timely identification and communication of which is considered valuable.

1.4.2 Dangerous goods accidents and incidents

1.4.2.1 Accident and incident reporting is relevant to every stakeholder in aviation. Accidents and serious incidents are required to be reported as soon as possible and by the quickest means available to the State's accident investigation authorities in accordance with Annex 13. Annex 18 and the Technical Instructions contain specific requirements for reporting of dangerous goods accidents and incidents. Operators and other entities privy to dangerous goods accidents or incidents, including shippers; freight forwarders; customs authorities; and security screening providers, are required to 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.

1.4.2.2 It is important to note that the definitions for accidents and incidents in Annex 13 differ from the definitions for dangerous goods accidents and dangerous goods incidents in Annex 18. While accidents and incidents defined in accordance with Annex 13 apply to the operation of an aircraft, dangerous goods accidents and incidents defined in accordance with Annex 18 do not necessarily occur on board an aircraft. Data on accidents or incidents that did not occurr on board an aircraft is valuable because it may reveal a safety deficiency that could have resulted in an aircraft accident or incident if the dangerous goods had been on board an aircraft. If a dangerous goods accident or incident does occur on board an aircraft and does meet the criteria for accidents and incidents as defined in Annex 13, the reporting and investigation requirements of that Annex would apply.

1.4.2.3 According to the provisions of Annex 13, States' accident investigation authorities are required to investigate accidents, as well as serious incidents, of aircraft of a maximum mass of over 2 250 kg which have occurred in their territory. Safety investigations outside of those mandated by Annex 13 are also encouraged as they provide useful information to support safety performance improvement. As such, Annex 18 requires that States establish procedures for investigating dangerous goods accidents and incidents. Investigations are also necessary for service providers to fulfill their SMS responsibilities. Guidance on dangerous goods safety investigations is provided in Chapter 2 of this document.

1.4.2.4 Samples of basic dangerous goods reporting forms for dangerous goods accidents and dangerous goods incidents are provided in Appendices x and xx to this chapter.

1.4.3 Undeclared and misdeclared dangerous goods

1.4.3.1 Dangerous goods offered for transport as cargo without being identified or correctly identified as dangerous goods pose a risk to aviation safety. Annex 18 and the Technical Instructions refer to such dangerous goods as undeclared or misdeclared dangerous goods. These terms are also used to describe dangerous goods discovered in passenger or crew baggage when not permitted in accordance with Part 8 of the Technical Instructions. Occasions when undeclared or misdeclared dangerous goods are discovered to have been offered for transport as cargo or in passenger or crew baggage are required to be reported to the appropriate authority of the State in which they were discovered and the State of the Operator. This requirement applies to operators and other entities privy to such discoveries, which is often freight forwarders or security screeners. Effective reporting is improved when people understand the safety risks. Accordingly, the following section provides an overview of the risks posed by undeclared and misdeclared dangerous goods.

1.4.3.1 *Risks posed by undelcared and misdeclared dangerous goods*

1.4.3.1.1 Dangerous goods must be properly packaged, handled and stowed in order to be transported safely. The entity offering dangerous goods for transport is responsible for properly packaging them, and the operator is responsible for properly handling and stowing them on board the aircraft. The operator cannot properly handle and stow dangerous goods without knowledge of having them and without knowledge of the hazards they pose. Annex 18 and the Technical Instructions therefore require those offering dangerous goods for transport to properly package the dangerous goods, to apply labels and marks to the package to identify its contents, and to provide documentation identifying the dangerous goods contained in the package. This documentation includes a declaration or certification from the entity offering the dangerous goods for transport that everything has been done properly. This gives the operator a degree of confidence that everything has been done properly. The operator can determine how to handle and stowe the dangerous goods based on the information provided.

1.4.3.1.2 Unfortunately, there are cases of consignments of dangerous goods being offered for transport as general cargo without any indication that the consignment contains dangerous goods (“undeclared” dangerous goods). Undeclared dangerous goods may be offered deliberately to avoid having to go through the process of preparing a consignment of dangerous goods for transport or to avoid the cost of offering it for transport. They may also be offered inadvertently due to ignorance or error. Even when consignments are identified as containing dangerous goods, there are cases when they are incorrectly or incompletely identified (“misdeclared” dangerous goods). Misdeclared dangerous goods may be offered deliberately to reduce cost or in an attempt to circumvent restrictions placed on certain types of dangerous goods. They may also be offered inadvertently due to ignorance or error. For example, dangerous goods which are only permitted for transport on cargo aircraft or for which only small quantities are permitted may be identified as a similar but less hazardous substance that is permitted on passenger aircraft and/or is permitted in larger quantities.

1.4.3.1.3 There is an increased risk that undeclared or misdeclared dangerous goods have not been packaged safely and an increased risk that they will be unsafely handled and stowed if not detected as undeclared or misdeclared in time. Some dangerous goods may be considered too dangerous to be transported by air and are therefore forbidden for transport under any circumstance. Such goods may be unwittingly loaded on an aircraft if they were not declared or if they were declared as something less hazardous, posing a serious risk to safety. Every effort must therefore be taken to prevent undeclared or misdeclared dangerous goods from being loaded on an aircraft. Reporting is critical for this, as it may reveal areas where remedial or corrective action can be implemented to prevent recurrences.

1.4.3.2 *Identifying undeclared or misdeclared dangerous goods*

1.4.3.2.1 Undeclared or misdeclared dangerous goods are sometimes discovered after a spillage, leakage or fire occurs. Discovering them before such an event occurs may be difficult, but there are steps that can be taken to assist detection. Customers or passengers may not realize that what they are offering or attempting to carry on board an aircraft is considered dangerous goods. Shipping documents can provide clues that dangerous goods are present. The Technical Instructions provides a list of articles that may in fact be dangerous goods and includes examples of the types of dangerous goods they may be (Part 7, Chapter 6 of the Technical Instructions). Asking thorough questions about the contents of cargo or baggage before accepting is therefore a good idea. X-ray screening of cargo and baggage can also help detect the presence of dangerous goods. Systems are becoming more and more sophisticated and can help detect threats effectively.

1.4.3.2.2 Undeclared dangerous goods include dangerous goods offered for air transport without the required marks or hazard labels applied to the package(s) or without being accompanied by the required documentation. Misdeclared dangerous goods include dangerous goods offered for transport where the marks or labels applied to the package are not appropriate for the type of dangerous goods contained within or where the documentation does not accurately describe the dangerous goods contained within the package. The following are examples of misdeclared dangerous goods offered for transport as cargo:

a) lithium batteries identified as lithium batteries contained in equipment;

b) chemical oxygen generators identified as oxygen cylinders;

c) a consignment of radioactive material assigned a lower Transport Index than is applicable;

d) explosives of Division 1.2 identified as miscellaneous dangerous substances of Class 9.

The following is an example of misdeclared dangerous goods carried by a passenger: Prior to the transfer of baggage from the cabin to the cargo compartment, a passenger informs the operator that they have portable electronic devices containing lithium batteries. It is subsequently determined that the lithium batteries were not contained in the portable electronic devices but rather were packed loosely in the baggage (“spare” lithium batteries are not permitted in checked baggage because they pose a greater risk than when contained in equipment because of the lack of protection from the equipment).

1.5 VOLUNTARY SAFETY REPORTING SYSTEM

1.5.1 Annex 19 requires States to establish voluntary safety reporting systems to collect safety data and safety information that is not captured by mandatory safety reporting systems. Annex 18 further recommends that States include voluntary reports of entities other than operators in this system. While mandatory systems normally capture data concerning incidents that have already occurred, voluntary safety reporting systems can be very effective at detecting latent conditions such as inappropriate regulations or ineffective safety procedures before an incident occurs. They often capture lower consequence events such as near misses or errors. These events are often human-error related. Often personnel are the closest to safety hazards, so a voluntary reporting system enables them to actively identify these hazards and suggest workable solutions.

1.5.2 Non-compliances with the Technical Instructions found during an acceptance check is an example of a dangerous goods event that may be considered for voluntary reporting. These events are not required to be reported to the State, but the operator may choose to report voluntarily if errors such as incorrect size or design or spelling mistakes within markings or documentation. Such errors may indicate latent conditions such as a lack of shipper competence which could manifest into active failures.

1.5.3 Whether organizations or individuals are willing to report their experiences and errors is largely dependent on the perceived benefits associated with reporting. If those in a position to report safety issues are protected and treated in a fair and consistent manner, they are more likely to divulge such information and work with the regulator or management to effectively manage the associated safety risks. It is therefore very important to provide appropriate protection to encourage people to report what they see or experience (see paragraph 1.7 for guidance on protection of safety information). Chapter 5 of the *Safety Management Manual* provides additional guidance on voluntary reporting systems.

1.6 DANGEROUS GOODS DATA THAT SHOULD BE COLLECTED

To aid the investigation and subsequent data analysis, dangerous goods occurrence reports should be in plain language and contain as much of the following information as is readily available, but its dispatch should not be delayed due to the lack of complete information:

a) reference to any notification forwarded in accordance with Annex 13;

b) number of persons fatally or seriously injured and extent of property damage;

c) nature of the occurrence (accident, incident, undeclared, misdeclared, other occurrence),

d) sub-nature (cargo, mail, baggage/passenger)

e) date, time (UTC) and location of where the occurrence was discovered;

f) aircraft type designation, registration, flight number, departure airport, destination airport

g) transport phase (e.g. acceptance, cargo build, transit, loading, in-flight, unloading)

h) name and contact details of the entities involved (e.g. shipper, freight forwarder, ground handling agent, operator, passenger);

i) reference number of the air waybill, pouch, baggage tag, ticket, etc.;

j) description of dangerous goods involved, i,e.:

1) proper shipping name (including the technical name, if appropriate) and (UN)/identification (ID) number, when known;

2) class or division and any subsidiary risk;

3) type of packaging, and the packaging specification marking on it;

4) quantity;

k) description of the occurrence and suspected cause;

l) information about any continuing danger to safety, health or the environment;

m) corrective and preventative actions proposed/taken;

n) any other reporting action taken (i.e. other States the report was shared with); and

o) name, title, address and telephone number of the person/entity making the report.

1.7 PROTECTION OF SAFETY DATA, SAFETY INFORMATION AND RELATED SOURCES

1.7.1 The protection of safety data, safety information and related sources is essential to ensure continued availability of information. Whether organizations or individuals are willing to report their experiences and errors is largely dependent on the perceived benefits and disadvantages associated with reporting. If organizations and individuals who report safety issues are protected and treated in a fair and consistent manner, they are more likely to divulge such information and work with the regulator or management to effectively manage the associated safety risk(s).

1.7.2 Annex 19 contains provisions for the protection of safety data, safety information and related sources captured by voluntary and mandatory safety reporting systems. Protecting safety data and safety information captured by voluntary safety reporting systems is a Standard, to ensure the continued availability and greater uniformity among States, whereas for mandatory safety reporting systems the provision of such protection is a recommended practice. Detailed guidance on protection of safety data, safety information and related sources is provided in Chapter 7 of the *Safety Management Manual*.

1.8 ASSESSING SAFETY DATA

1.8.1 States are required to establish and maintain a process to analyse the safety data and safety information from the SDCPS and associated safety databases in accordance with Annex 19. Processes should be in place to assess both individual dangerous goods reports to determine whether remedial, corrective or preventative action is necessary and the complete data in the SDCPS to identify trends, evaluate safety performance in relation to safety targets and safety objectives, and to assess risk. Remedial, corrective and preventative actions could be necessary at any point during the analysis of the SDCPS. Actions may include trend monitoring, investigations, safety promotion, formal warnings, audit, compliance monitoring and/or civil penalties or fines.

1.8.2 When individual dangerous goods reports are assessed, one or several outcomes may be necessary. The range of outcomes encountered include:

a) no further action — the information is recorded and retained for trend monitoring purposes;

b) asking the operator/forwarder for more details, to investigate further or instigate improved preventive measures to prevent a recurrence;

c) State Authority deciding to investigate further (including the possibility of undertaking a joint investigation with another regulatory authority or the operator/GHA);

d) Counselling/educating the passenger/shipper/forwarder/operator/agent;

e) Referral or notification of the incident to other relevant authorities, such as foreign aviation authorities with responsibility for Annex 18.

1.8.3 Analysis of the complete data in the SDCPS should result in a depiction of the safety situation in ways that enable decision makers to make data-driven safety decisions. The safety data or safety information might reveal hazards or deficiencies that necessitate remedial or corrective action to maintain safety or identify areas where preventive action would enhance aviation safety by addressing potential or emerging risks. Guidance on assessing safety data and safety analysis is provided in Chapter 6 of Doc 9859.

1.8.2 Implementing processes for data collection and analysis takes time and money, as well as expertise and skills that may not be readily available to the organization. Safety analysis may be a new function the State or service provider may need to establish. It should be noted that the required competencies to conduct effective safety analysis

might be outside of the purview of a traditional safety inspector. States and service providers should consider the skills necessary to analyse safety information and decide whether this role, with appropriate training, should be an extension of an existing position or whether it would be more efficient to engage the skills separately, outsource the role all together, or a hybrid of these approaches. The decision will be driven by the plans and circumstances of each State or service provider.

1.9 SAFETY INFORMATION SHARING AND EXCHANGE

Safety can be further improved when safety information is shared or exchanged. It ensures a consistent, data-driven and transparent response to safety concerns at the global, State and organizational levels. States should therefore promote the establishment of safety information sharing or exchange networks among users of the aviation system, and facilitate the sharing and exchange of safety information, unless their national law provides otherwise. Safety promotion guidance for States and service providers is provided in Chapters 8 and 9 of the Safety Management Manual.

1.10 NOTIFICATION OF DANGEROUS GOODS SAFETY RISKS TO ICAO

Annex 18 requires the State to forward safety information to ICAO with a minimum of delay, if, in the analysis of the dangerous goods information contained in its safety data collection and processing system (SDCPS) it identifies safety issues which may pose an unacceptable risk to the global aviation safety system.

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APPENDIX

SAMPLE TEMPLATES FOR DANGEROUS GOODS OCCURRENCE REPORTING

Authority Name

Reference Number

Chapter 1 **CARGO DANGEROUS GOODS OCCURRENCE REPORT – PART 1**

Occurrences should be reported to the within 72 hours of the occurrence becoming known to the reporter (see Note 6)

1 **Please ensure that both Parts 1 and 2 of this form are completed**

1. Aircraft operator:	2. Date of occurrence:	3. Local time of occurrence:	
4. Flight date:	5. Flight number:	6. Aircraft type:	7. Aircraft registration:
8. Location of occurrence:	9. Origin of goods:	10. Departure airport:	11. Destination airport:
12. AWB number:	13. House AWB:	14. Consignment number:	15. Total No. of pieces:
16. Shipper name and address:		17. Consignee name and address:	
18. Names and addresses of all other companies involved (courier company/freight forwarder):			

19. Description of occurrence: (if necessary, continue on additional page)		
20. Consignment is being held: Yes/No (See Note 9)	21. Location consignment is held:	22. Photographs are available: Yes/No
23. Name/title of person reporting:	24. Tel:	25. Reporter's reference/ASR number:
26. Company and address:	27. Fax:	28. Date of report:
	29. Email:	30. Signature:

Form: DGO 36A (021006)

Chapter 2 CARGO DANGEROUS GOODS OCCURRENCE REPORT – PART 2

2 Occurrences should be reported within 72 hours of the occurrence becoming known to the reporter (see Note 6).

a) **Please ensure that both Parts 1 and 2 of this form are completed.**

1. Proper shipping name	2. UN/ID num	3. Class/ Div	4. Sub-risks	5. Number, quantity and type of inner packaging for **each** outer packaging	6. Number and type of outer packaging	7. Total quantity of dangerous goods	8. UN Specification marks	9. Dangerous goods markings (inner and outer packagings)	10 Dangerous goods labels (inner and outer packagings)	11. Documentation

If necessary, continue on additional sheet

Examples (these can be deleted from electronic versions of this form in order to provide additional space in the above boxes)

Paint	UN1263	3	-	4 x 1L metal cans 2 x 1L metal cans	1 x fibreboard box 1 x fibreboard box	6L	None	UN 1263 on cans, none on boxes	Class 3 labels on cans, none on boxes	TREM Card attached to box
Suspected flammable liquid	Not Known	3	-	2 x 5L Plastic jerricans	4 x plywood boxes	40L	4G/X5/S/06 GB3395	Consumer flammable symbol on jerricans and boxes	None	Safety datasheets in outer box
Aerosols (flammable)	UN1950	2.1	-	12 x 300ml aerosols	1 x fibreboard box	3.6L/4.5kg	None	Flammable symbol and UN1950 on aerosols. UN1950 in diamond on box	None	None

Form: DGO 36A (021006)

Chapter 3 **CARGO DANGEROUS GOODS OCCURRENCE REPORT – NOTES**

1. **1. It is important that this form is completed in as much detail as possible; this will help to avoid delays in processing the report and unnecessary additional work by both the reporter and the CAA.**

2. 2. Any type of dangerous goods occurrence must be reported, irrespective of whether the dangerous goods are contained in cargo, mail or baggage.

3. 3. A dangerous goods accident is an occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage. For this purpose serious injury is an injury which is sustained by a person in an accident and which: (a) requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received; or (b) results in a fracture of any bones (except simple fractures of fingers, toes or nose); or (c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or (d) involves injury to any internal organ; or (e) involves second or third degree burns, or any burns affecting more than 5% of the body surface; or (f) involves verified exposure to infectious substances or injurious radiation. A dangerous goods accident may also be an aircraft accident; in which case the normal procedure for reporting of air accidents must be followed.

4. A dangerous goods incident is an occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property 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 the aircraft or its occupants is also deemed to constitute a dangerous goods incident.

5. This form should also be used to report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo, mail or unaccompanied baggage. A separate form is available for incidents related to passengers/crew.

6. An initial report, which may be made by any means, must be despatched within 72 hours of the occurrence, to the Authority of the State (a) of the operator; and (b) in which the incident occurred, unless exceptional circumstances prevent this. This occurrence report form, duly completed, must be sent as soon as possible, even if all the information is not available.

7. Copies of all relevant documents and any photographs should be attached to or sent with this report.

8. Completed reports must be sent to the CAA, Dangerous Goods Office, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR; Tel no: 01293 573800; Fax no: 01293 573991; e-mail address: XXX.

9. Providing it is safe to do so, all dangerous goods, packagings, documents, etc., relating to the occurrence must be retained in a suitable location until after the initial report has been sent to the Dangerous Goods Office, CAA and they have indicated whether or not these should continue to be retained.

10. Below are further explanations for some of the boxes on Part 1 of this form:

Box	Explanation/details
1	Operator of the aircraft that the goods travelled on or on which they would have travelled if not intercepted.
4 - 7	To be completed if goods were carried or if goods had been allocated to a particular flight.
8	Location on aircraft or name of airport/town if found before or after flight.
9	Airport or country.
12 - 14	All applicable references for the consignment should be shown.
15	The total number of pieces in the consignment, including any not containing dangerous goods.
16 - 17	The shipper and consignee, as shown on either the accompanying documentation or on the packages themselves. These boxes should not be used to show the company delivering the

consignment to the airport (see box 18).

19 How the incident occurred, how it was found (e.g. by x-ray, freight checks, upon unloading etc.), the reason for the occurrence and any action taken as a result of occurrence.

22 Digital photographs of the consignment are extremely useful. If photographs cannot be taken (and only if safe to do so) photocopies of markings/labels on packagings can also be of use.

11. At the bottom of Part 2 there are examples of how to complete that part. Below are further explanations for some of the boxes:

Box	**Explanation/details**
5 - 6	Give as much detail as possible in order to identify exactly the number and type of inner and outer packagings and the quantities of dangerous goods for each inner packaging.
9 - 10	It is important to record <u>any</u> dangerous goods markings and labelling visible on the inner and/or outer packagings since this may determine the action taken by the CAA. Note that the following type of marking (UN number inside a diamond) is sometimes used for dangerous goods being transported by road/sea and should be recorded:

Form: DGO 36A (021006)

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APPENDIX B

DRAFT GUIDANCE MATERIAL FOR DANGEROUS GOODS INVESTIGATIONS

Chapter 2

GUIDANCE TO STATES ON CONDUCTING DANGEROUS GOODS SAFETY INVESTIGATIONS

2.1 INTRODUCTION

2.1.1 The analysis of safety occurrences and safety hazards and the development of findings and recommendations from investigations to improve safety is an important part of safety management. Annex 13 requires States to investigate accidents as well as serious incidents of aircraft of a maximum mass of over 2 250 kg which have occurred in their territory. These investigations are conducted by the State's accident investigation authority (AIA) in compliance with Annex 13. Safety investigations outside of those mandated by Annex 13 are encouraged as they provide useful safety information to support safety performance improvement. They may be conducted by State authorities or service providers. Annex 18 requires that States establish procedures for investigating dangerous goods accidents and incidents, undeclared or misdeclared dangerous goods, and any other safety issues related to the transport of dangerous goods by air. Annex 18 also requires States to ensure that operators establish procedures for investigating safety issues related to the transport of dangerous goods through the application of their safety management system. This chapter focuses on dangerous goods safety investigations conducted by State authorities. Guidance on service provider safety investigations can be found in Chapter 9 of the *Safety Management Manual* (Doc 9859).

Note.— The term "service provider" is used in this document to refer to an aviation industry organization implementing SMS whether on a mandatory or voluntary basis, unlike Annex 19 which uses the term to refer to a very specific list of organizations found in Chapter 3 of that Annex for which implementation of SMS is required. This list includes operators of aeroplanes or helicopters authorized to conduct international commercial air transport in accordance with Annex 6, Part I or Part III, Section II, respectively.

2.1.2 As noted in Chapter 1, the definitions for accidents and incidents in Annex 13 differ from the definitions for dangerous goods accidents and dangerous goods incidents in Annex 18. While accidents and incidents defined in accordance with Annex 13 apply to the operation of an aircraft, dangerous goods accidents and incidents defined in accordance with Annex 18 do not necessarily occur on board an aircraft. Investigating accidents or incidents that did not occur on board an aircraft is important because it may reveal a safety deficiency that could have resulted in an aircraft accident or incident if the dangerous goods had been on board an aircraft. If a dangerous goods accident or incident does occur on board an aircraft and does meet the criteria for accidents and incidents as defined in Annex 13, the reporting and investigation requirements of that Annex would apply.

2.2 PURPOSE OF THE INVESTIGATION

2.2.1 The dangerous goods safety investigation should focus on the identified hazards and safety risks and opportunities for improvement, not on blame or punishment. Nevertheless, enforcement action may be warranted in response to deliberate, reckless, negligent, or careless acts or repeat violations. The way the investigation is conducted, and most importantly, how the report is written, will influence the likely safety impact, the future safety culture of the organization, and the effectiveness of future safety initiatives.

2.2.2 The investigation should conclude with clearly defined findings and recommendations that eliminate or mitigate safety deficiencies.

2.3 PLANNING THE INVESTIGATION

2.3.1 The State should determine the level of resources and depth to which any dangerous goods investigation should be conducted. The creation and usage of a risk assessment guide and safety investigation matrix may help to determine the level of investigation to be applied. For example, an error or omission by a passenger that has not resulted in a dangerous

goods incident may simply be logged for statistical and trend-monitoring purposes; a low-level incident may require a desktop assessment and a series of phone calls; while a significant failure in a number of processes may require an on-site visit.

2.3.2 The scope and complexity of the investigation may be influenced by the following factors:

a) the severity or potential severity of the outcome;

b) regulatory or organizational requirements to carry out an investigation;

c) safety value to be gained;

d) opportunity for safety action to be taken;

e) risks associated with not investigating;

f) contribution to targeted safety programmes; and

g) identified trends;

2.4 THE INVESTIGATION PROCESS

2.4.1 Dangerous goods safety investigations should be conducted by personnel with appropriate skills and expertise. Some investigations may be conducted by one person, some by a bigger team, and some may require the assistance of other specialists. The size of the team and the expertise profile of its members depend on the nature and severity of the occurrence being investigated.

Note.— The Manual on the Competencies of Civil Aviation Safety Inspectors *(Doc 10070) provides guidance to oversight authorities and training organizations on the development and maintenance of a competent civil aviation safety inspectors workforce.*

2.4.2 The major elements of the dangerous goods investigation process include:

a) gathering and analysis of information;

b) identification of hazards;

c) drawing of conclusions, including the determination of actual root causes and/or the contributing factors resulting in the occurrence;

d) development of corrective actions and the identification of the necessary improvements to the aviation system; and

e) making of safety recommendations, when appropriate.

2.4.2.1 Gathering and analysis of information

2.4.2.1.1 *Overview*

2.4.2.1.1.1 Gathering and analysis of information is one of the most important elements in the investigation process. It is the baseline on which the remaining elements rely on, hence it requires a thoughtful approach where the processes described below must be taken into account. Factual information derived from data-gathering activities serves as the basis for all conclusions and recommendations from an investigation. Without effective data gathering, the root cause of the dangerous goods occurrence cannot be truly identified and investigated. An investigation may be triggered by a single reported occurrence, an inspection, or it may be triggered through the analysis of the State's SDCPS (see Chapter 1). For example, analysis of data collected may reveal that several minor incidents occurred for the same reasons involving the same entity. This may lead the State to conduct a more thorough investigation.

2.4.2.1.1.1.2 A dangerous goods occurrence is typically reported through a verbal or written notification to the appropriate national authority. The gathering and analysis of information in a dangerous goods investigation would start with the evaluation of this initial notification. If the initial notification lacks any critical information to determine if an immediate response or actions will be required, the dangerous goods investigator should contact the person who reported the occurrence for more information. It will also help the dangerous goods investigator to develop a plan on what to do next. Even though the gathering and analysis of information is the initial step to conducting an investigation, there is always an opportunity to gather and analyse more information, if necessary, prior to the investigation report being finalized.

2.4.2.1.1.1.3 States should consider taking an integrated approach to the collection of safety data that come from a myriad of resources, both internal and external. Integration allows organizations to get a more accurate view of

their safety risks, and the organization's achievement of its safety objectives. It is worth noting that safety data and safety information that initially seems to be unrelated, may later turn out to be critical for identifying safety issues and supporting data-driven decision-making.

2.4.2.1.1.1.4 It is impractical for any State or organization to collect and process all possible safety-related data and information. It is therefore advisable to streamline the amount of safety data and safety information by identifying what specifically supports the effective management of safety within their organization. The safety data and safety information collected should support the reliable measure of the system performance and the assessment of known risks, as well as the identification of emerging risks, within the scope of the organization's activities. The safety data and safety information required will be influenced by the size and complexity of the organization's activities.

2.4.2.1.1.1.5 States are encouraged to appoint an individual or team to gather, aggregate and analyse available data. The State safety analyst should analyse data to identify and document potential hazards as well as corresponding effects or consequences. The detail required in the hazard identification process depends on the complexity of the process under consideration.

2.4.2.1.2 *Gathering information*

2.4.2.1.2.1 There are many types of information that can be gathered in an investigation. The three most common types of information gathered in an investigation are:

a) documents (electronic or paper);

b) statements from relevant parties; and

c) photographs.

The sooner the information can be collected and taken into the possession of the investigator, the more likely evidence will still be available and the more detailed recollection of the events will be. It is important for the investigator to maintain specific and accurate accountability of what, who, when, and where the information was gathered. If a copy or image of a document is gathered, then it should be noted where the original document is stored.

2.4.2.1.2.2 Depending on the information obtained from the initial source that provided the notification, the investigator may need to gather information at the location of the dangerous goods occurrence. Documents can usually be easily obtained through electronic means without the need to physically respond to a location. The interviewing of witnesses and other persons can be accomplished through voice communication. Photographic information can also be obtained by the entity in possession of the items that need to be photographed, but in many circumstances it is difficult to obtain the correct level of detail, clarity, and scope of photographic information unless it is acquired by the investigator.

2.4.2.1.2.3 It is important for the appropriate national authority and the personnel involved in the investigation to ensure that all information gathered in response to the dangerous goods occurrence is preserved and readily available. This is critical during the investigation process so that no gathered information is misplaced or lost. It is also important once the investigation is completed so that the gathered information can be reviewed or revisited at a later date.

2.4.2.1.3 *Analysing information*

2.4.2.1.3.1 For a better understanding of the facts, the investigator should review all relevant documents (e.g. air waybill, dangerous goods transport document, information to pilot-in-command, acceptance checklist, safety data sheet) in order to seek factors that contributed to the dangerous goods occurrence. For example, by reviewing the transport document, an investigator may establish that an incorrect type of packaging was declared. The investigator may need to send the data to other experts to get further information about what happened. This should be done when the investigator does not have all the required knowledge about the specific dangerous goods involved in the occurrence. This should also be done when there is a different competent authority responsible for the transport of the dangerous goods involved in the occurrence (often the case with radioactive materials and explosives). The State should compile and maintain records of past investigations in its safety data collection and processing system (SDCPS) as defined in Annex 19. One of the purposes of compiling and maintaining records is for use during future investigations.

2.4.2.1.3.2 The analysis of information is conducted in parallel with the gathering of information during the investigation. In the process of gathering and analysing information, the investigator is essentially putting together a timeline of the dangerous goods occurrence. The analysis of information could simply be the review and detailed study of specific information on documents, interview statements, or photographs that help to give a better understanding of the dangerous goods occurrence. This analysis can also identify gaps that require additional information to be gathered.

2.4.2.2 Identifying hazards

2.4.2.2.1 Hazard identification is predicated on the collection of representative data which identifies conditions which could cause or contribute to a dangerous goods occurrence. Hazards are an inevitable part of dangerous goods activities. However, their manifestation and possible consequence can be addressed through various mitigation strategies.

Hazard identification can be considered as a first step in the safety risk management process. The corresponding safety risks are then assessed within the context of the potentially damaging consequences related to the hazard. Where the safety risks are assessed to be unacceptable, additional safety risk controls must be built into the system.

2.4.2.2.2 Hazard identification is based on a combination of the following two methodologies:

a) Reactive: This methodology involves analysis of past outcomes or events. Hazards are identified through investigation of safety occurrences. Incidents and accidents are an indication of system deficiencies and therefore can be used to determine which hazard(s) contributed to the event. Analysing the hazards identified during an incident or accident investigations is an example of a reactive methodology.

b) Proactive: This methodology involves collecting safety data of lower consequence events or process performance and analysing the safety information or frequency of occurrence to determine if a hazard could lead to an accident or incident. The safety information for proactive hazard identification is primarily from safety reporting systems and the safety assurance function. Hazards identified during audits or inspections, or from mandatory reports are examples of a proactive methodology.

2.4.2.2.3 Hazards may be detected through use of reporting systems, inspections or audits. Hazards should be identified before they lead to an occurrence involving dangerous goods. Examples of sources for hazard identification include:

a) **investigation reports**; reviewing or studying investigation reports can identify hazards, especially those which are deemed to be [indirect] contributing factors and which may not have been adequately addressed by corrective actions implemented as a result of previous investigations

b) **mandatory and voluntary safety reporting systems**;

c) **audits and third-party audits**; external audits can sometimes identify hazards. These may be documented as an unidentified hazard or captured less obviously within an audit finding.

d) **Trade associations and information exchange systems**; many trade associations and industry groups are able to share safety data that may include identified hazards.

An important mechanism for proactive hazard identification is a voluntary safety reporting system.

2.4.2.2.4 Hazards can be identified by reviewing or studying investigation reports, especially those hazards which are deemed to be [indirect] contributing factors and which may not have been adequately addressed by corrective actions implemented as a result of previous investigations.

2.5.3 THE DRAWING OF CONCLUSIONS, INCLUDING THE DETERMINATION OF THE ACTUAL ROOT CAUSES AND/OR THE CONTRIBUTING FACTORS RESULTING IN THE OCCURRENCE

2.5.3.1 Before drawing any conclusions about the dangerous goods occurrence, the investigator should compile and analyze all the information received in order to search for the root causes. The root causes may be related to more than one aspect, such as:

a) deliberate violations of requirements by passengers, shippers, operators or any other entities involved with air transport;

b) errors or omissions by passengers, shippers, operators or any other entities involved with air transport;

c) lack of clear requirements or procedures;

d) failure to follow procedures; and

e) inadequate training.

2.5.4 THE DEVELOPMENT OF PREVENTIVE, CORRECTIVE OR REMEDIAL ACTIONS AND THE IDENTIFICATION OF THE NECESSARY IMPROVEMENTS TO THE AVIATION SYSTEM

2.5.4.1 During the investigation process, the need for preventive, corrective or remedial action may be identified to address circumstances or conditions that present unacceptable risks to aviation with the aim of:

a) guarding against the potential for immediate harm or injury as a result of a safety risk until that risk can be identified and mitigated;

b) ensuring that appropriate action is taken to minimize the likelihood that such a risk might occur again in the future;

c) preventing exposure to an unmitigated safety risk; or

d) ensuring the integrity of the reporting system itself and the larger system of which the reporting system is a part.

Preventive action is taken to prevent the occurrence or recurrence of an event or a hazard that poses a risk to safety. Corrective action is taken to address particular safety-related shortcomings or deficiencies such as repacking dangerous goods that were incorrectly packed. Remedial action is taken to address the underlying causes of particular safety-related shortcomings or deficiencies, such as training. Remedial action might also involve restricting, limiting, suspending or revoking the privileges of an entity or person who fails to continue to meet the necessary qualifications to exercise those privileges.

2.5.4.2 The corrective actions taken during or after an investigation process should be monitored either by the States involved or by other entities involved, under their safety management system, in accordance with Annex 19. Surveillance activities may be needed to ensure that the corrective actions are effective.

2.5.4.3 If a similar occurrence happens again, it might mean that:

a) the root causes were not properly identified; or

b) the corrective actions were ineffective; or

c) the corrective actions related to the previous similar occurrence were not implemented properly.

The investigation should be reopened if new and significant evidence becomes available.

2.6 Final report

2.6.1 All the facts, conclusions and recommendations related to the dangerous goods occurrence should be included in a final report.

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APPENDIX C

PROPOSED AMENDMENTS TO ANNEX 18

CHAPTER 1. DEFINITIONS

The following amendment is proposed for the sake of alignment with dangerous goods incident and to differentiate from the definition of an aircraft incident in Annex 13.

Dangerous goods accident. An occurrence associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in fatal or serious injury to a person or major property or environmental damage.

The following added for the sake of clarity. The note is currently included under the definition for dangerous goods incident in the Technical Instructions.

Note.— A dangerous goods accident may also constitute an aircraft accident as defined in Annex 13— Aircraft Accident and Incident Investigation.

The following amendments are largely structural to improve readability. In addition, "fluid" is replaced with "contents" so as to address solids.

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~~ where:

a) ~~injury to a person,~~ a person is injured;

b) there is property or environmental damage~~,~~;

c) there is fire, breakage, spillage, leakage of ~~fluid~~ contents or radiation or there is other evidence that the integrity of the packaging has not been maintained~~.~~; or

d) ~~A~~any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft or its occupants ~~is also deemed to constitute a dangerous goods incident~~.

Note.— A dangerous goods incident may also constitute an aircraft incident as defined in Annex 13 — Aircraft Accident and Incident Investigation.

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CHAPTER ~~12~~ 11. ~~DANGEROUS GOODS ACCIDENT AND INCIDENT REPORTING~~DANGEROUS GOODS OCCURRENCE REPORTING

Replace reporting provisions currently contained in Chapter 12 with the following new provisions. These revised provisions are based on Annex 19 with Amendment 1 incorporated. Reporting requirements already covered by Annex 19 are not repeated here. They are, however, expanded to include entities other than operators.

The following note is copied from note under Chapter 8 of Annex 13.

Note.— In addition to the provisions of this chapter, other provisions relative to the promotion of dangerous goods accident and incident prevention by collection and analysis of safety data and by a prompt exchange of safety information, as part of the State safety programme (SSP), are included in Annex 19 — Safety Management *and, to this effect, are applicable to this Annex. Further guidance is contained in the* Safety Management Manual (SMM) *(Doc 9859).*

The following aligns with paragraph 5.1.2 of Annex 19.

11.1 Mandatory safety reporting system

11.1.1 The State shall include reporting of dangerous goods accidents, dangerous goods incidents and occasions when undeclared or misdeclared dangerous goods are discovered as part of their mandatory safety reporting systems in accordance with the provisions of Annex 19.

11.1.2 Each States' mandatory reporting systems shall include a requirement for the operator to report dangerous goods accidents and dangerous goods incidents to the appropriate authority of the State in which they occurred and to the State of the Operator.

11.1.3 Each States' mandatory reporting systems shall include a requirement for the operator to report occasions, when undeclared or misdeclared dangerous goods are discovered to the appropriate authority of the State in which they were discovered and State of the Operator.

11.1.4 Each States' mandatory reporting systems shall include a requirement for entities other than operators to report dangerous goods accidents and dangerous goods incidents to the appropriate authority of the State in which they occurred.

11.1.5 Each States' mandatory reporting systems shall include a requirement for entities other than operators to report occasions when undeclared or dangerous goods are discovered to the appropriate authority of the State in which they were discovered.

11.2 Voluntary safety reporting system

Recommendation.— States should establish a voluntary safety reporting system to collect safety data and safety information not captured by mandatory reporting systems for entities other than operators.

Note.— States are required to establish voluntary safety reporting systems for air operators in accordance with the provisions of Annex 19. Further guidance is included in the Safety Management Manual (SMM) *(Doc 9859).*

11.3~~3~~4 Safety information sharing and exchange

11.3.1 If a State, in the analysis of the dangerous goods information contained in its safety data collection and processing system (SDCPS) identifies safety issues which may pose an unacceptable risk to the global aviation safety system, that State shall forward such safety information to ICAO with a minimum of delay.

Note 1.— Provisions for a SDCPS and safety information sharing and exchange between States are included in Annex 19. Further guidance is contained in the Safety Management Manual (SMM) *(Doc 9859).*

Note 2.— Whenever practicable, the safety information sent to ICAO is to be prepared in one of the working languages of the Organization.

11.3.2 The State shall provide ICAO with dangerous goods information from their SDCPS upon request to address global safety issues related to the transport of dangerous goods.

CHAPTER ~~11~~12. ~~COMPLIANCE~~DANGEROUS GOODS ~~OVERSIGHT AND COOPERATION~~ SURVEILLANCE OBLIGATIONS

Replace compliance provisions currently contained in Chapter 11 with the following new provisions. These revised provisions are based on Annex 19 with Amendment 1 incorporated. Oversight requirements already covered by Annex 19 are not repeated here. They are, however, expanded to include entities other than operators.

The following note is copied from note under Chapter 8 of Annex 13 (same as note added to reporting chapter, above (Chapter 11)).

Note.— In addition to the provisions of this chapter, other provisions relative to the promotion of dangerous goods accident and incident prevention by collection and analysis of safety data and by a prompt exchange of safety information, as part of the State safety programme (SSP), are included in Annex 19 — Safety Management *and, to this effect, are applicable to this Annex. Further guidance is contained in the* Safety Management Manual (SMM) *(Doc 9859).*

12.1 Surveillance obligations

The State shall ensure that the surveillance obligations required by Annex 19 apply to all entities performing any function prescribed in the Technical Instructions.

12.2 Resolution of safety issues related to the safe transport of dangerous goods

12.2.1 The State shall ensure that the resolution of safety issues required by Annex 19 related to the transport of dangerous goods applies to all entities performing any function prescribed in the Technical Instructions.

12.3 Cooperation between States

12.3.1 The State shall participate in cooperative efforts with other States with the aim of eliminating unsafe practices and non-compliance with the Technical Instructions.

12.3.2 Each States' cooperative efforts shall include coordination of investigations of dangerous goods accidents and dangerous goods incidents, identified safety issues related to the transport of dangerous goods, non-compliance with the Technical Instructions and enforcement actions.

Provisions for dangerous good by mail currently included in Chapter 11 (11.4) are moved to new Chapter 14 (see below). Training programme requirements for designated postal operators are also moved to new Chapter 14 (proposed amendments to Chapter 10 are shown after proposed new Chapter 14 below)

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CHAPTER ~~12~~13. DANGEROUS GOODS ~~ACCIDENT AND INCIDENT REPORTING~~ SAFETY INVESTIGATIONS

13.1 Dangerous goods safety investigation

~~12.1~~13.1.1 With the aim of preventing the recurrence, the State shall establish procedures for investigating: ~~of~~

a) dangerous goods accidents and dangerous goods incidents~~,~~

b) undeclared or misdeclared dangerous goods in cargo, mail or baggage; and

c) other safety issues related to the transport of dangerous goods by air.

13.1.4 The State shall ensure that operators establish procedures for investigating safety issues related to the transport of dangerous goods through the application of their safety management system.

13.1.5 **Recommendation.—** The State should encourage entities other than the operator to establish procedures for investigating safety issues related to the transport of dangerous goods by air.

~~each Contracting State shall establish procedures for investigating and compiling information concerning such accidents and incidents which occur in its territory and which involve the transport of dangerous goods originating in or destined for another State. Reports on such accidents and incidents shall be made in accordance with the detailed provisions of the Technical Instructions.~~

~~12.2 **Recommendation.** — *With the aim of preventing the recurrence of dangerous goods accidents and incidents, each Contracting State should establish procedures for investigating and compiling information concerning such accidents and incidents which occur in its territory other than those described in 12.1. Reports on such accidents and incidents should be made in accordance with the detailed provisions of the Technical Instructions.*~~

~~12.3 With the aim of preventing the recurrence of instances of undeclared or misdeclared dangerous goods in cargo, each Contracting State shall establish procedures for investigating and compiling information concerning such occurrences which occur in its territory and which involve the transport of dangerous goods originating in or destined for another State. Reports on such instances shall be made in accordance with the detailed provisions of the Technical Instructions.~~

~~12.4 **Recommendation.** — *With the aim of preventing the recurrence of instances of undeclared or misdeclared dangerous goods in cargo, each Contracting State should establish procedures for investigating and compiling information concerning such occurrences which occur in its territory other than those described in 12.3. Reports on such instances should be made in accordance with the detailed provisions of the Technical Instructions.*~~

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CHAPTER 14. DANGEROUS GOODS BY MAIL

Moved from Chapter 10:

~~10.1~~14.1 Establishment of training programmes

Initial and recurrent dangerous goods training programmes shall be established and maintained in accordance with the Technical Instructions.

~~10.2~~14.2 Approval of training programmes~~

Moved from Chapter 10:

~~10.2.2~~ Dangerous goods training programmes for designated postal operators shall be approved by the civil aviation authority of the State where the mail is accepted by the designated postal operator.

~~*Note 1. See 11.4 for dangerous goods by mail.*~~

Moved from Chapter 11:

~~11.4~~14.2 ~~Dangerous goods by mail~~Procedures for controlling the introduction of dangerous goods in mail into air transport

The procedures of designated postal operators for controlling the introduction of dangerous goods in mail into air transport shall be approved by the civil aviation authority of the State where the mail is accepted.

Note 1.— In accordance with the Universal Postal Union (UPU) Convention, dangerous goods are not permitted in mail, except as provided for in the Technical Instructions.

Note 2.— The Universal Postal Union has established procedures to control the introduction of dangerous goods into air transport through the postal services (see the UPU Parcel Post Regulations and Letter Post Regulations).

Note 3.— Guidance for approving the procedures established by designated postal operators to control the introduction of dangerous goods into air transport may be found in the Supplement to the Technical Instructions (Part S-1, Chapter 3).

Renumber existing Chapter 13 to Chapter 14

CHAPTER 10. TRAINING PROGRAMMES

10.1 Establishment of training programmes

Initial and recurrent dangerous goods training programmes shall be established and maintained in accordance with the Technical Instructions.

10.2 Approval of training programmes

10.2.1 Dangerous goods training programmes for operators shall be approved by the appropriate authority of the State of the Operator.

Note.— Dangerous goods training programmes are required for all operators regardless of whether or not they are approved to transport dangerous goods.

~~10.2.2 Dangerous goods training programmes for designated postal operators shall be approved by the civil aviation authority of the State where the mail is accepted by the designated postal operator.~~

10.2.3 **Recommendation.—** *Dangerous goods training programmes required for entities other than operators and designated postal operators should be approved as determined by the appropriate national authority.*

Note 1.— Dangerous goods training programme requirements for designated postal operators are included in ~~See 11.4~~Chapter 14 ~~for dangerous goods by mail~~.

Note 2.— See 4.2.2 of Annex 6 — Operation of Aircraft, *Part I* — International Commercial Air Transport — Aeroplanes *for surveillance of operations by a foreign operator.*

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APPENDIX D

PROPOSED AMENDMENTS TO THE TECHNICAL INSTRUCTIONS

Part 1

GENERAL

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Chapter 3

GENERAL INFORMATION

Parts of this Chapter are affected by State Variation BE 1; see Table A-1

3.1 DEFINITIONS

. . .

Dangerous goods accident. An occurrence associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in fatal or serious injury to a person or major property or environmental damage.

Note.— A dangerous goods accident may also constitute an aircraft accident as defined in Annex 13 — Aircraft Accident and Incident Investigation.

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~~ where:

a) a person is injured~~,~~;

b) there is property or environmental damage~~,~~;

c) there is fire, breakage, spillage, leakage of ~~fluid~~ contents or radiation or other evidence that the integrity of the packaging has not been maintained~~.~~; or

d) ~~A~~any occurrence relating to the transport of dangerous goods which seriously jeopardizes the 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~~ defined in Annex 13 — Aircraft Accident and Incident Investigation.

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Chapter 7

~~INCIDENT AND ACCIDENT~~ DANGEROUS GOODS OCCURRENCE REPORTING

. . .

Moved from Part 7;4:

~~4.4~~7.1 REPORTING OF DANGEROUS GOODS ACCIDENTS AND INCIDENTS

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

Based on current Part 1;7 (Struck out text is moved to new 1;7.2.2):

7.1.2 Entities other than operators ~~who are in possession of dangerous goods at the time a~~ must report dangerous goods accidents or dangerous goods incidents ~~occurs or at the time a dangerous goods incident is discovered to have occurred should follow the reporting requirements of Part 7;4.4. Entities other than operators who discover undeclared or misdeclared dangerous goods should follow the reporting requirements of Part 7;4.5. These entities may include, but are not limited to, freight forwarders, customs authorities and security screening providers.~~ must report to the appropriate authority of the State in which the accident or incident occurred.

Moved from Part 7;4:

Note 1.— ~~This~~ The provisions in 7.1.1 and 7.1.2 include~~s incidents~~ occurrences involving dangerous goods that are not subject to all or part of these 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).

Based on end of current Part 1;7:

Note 2.— The entities referred to in 7.1.2 may include, but are not limited to, freight forwarders, customs authorities and security screening providers.

Moved from Part 7;4:

~~4.5~~7.2 REPORTING OF UNDECLARED OR MISDECLARED DANGEROUS GOODS

7.2.1 An operator must report when ~~any occasion when~~ undeclared or misdeclared dangerous goods are ~~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 which they were discovered. An operator must also report when ~~any occasion when~~ dangerous goods ~~-~~not permitted under 8;1.1.1 are ~~are~~ discovered, either in the baggage of passengers or crew members or on ~~the~~ their person~~, of passengers or crew members~~. Such a report must be made to the appropriate authority of the State ~~in which this occurred~~ in which they were discovered.

Based on second part of current Part 1;7:

7.2.2 Entities other than operators ~~who discover~~ must report when undeclared or misdeclared dangerous goods are discovered in cargo or mail ~~must~~. Such a report must be made to the appropriate authority of the State in which they were discovered. These entities must also report when ~~any occasion when~~ dangerous goods not permitted under 8;1.1.1 are ~~are~~ discovered~~,~~ either in the baggage of passengers or crew members or on their person.

Note.— The~~se~~ entities referred in 7.2.~~1~~2 may include, but are not limited to, freight forwarders, customs authorities and security screening providers.

Discussions on the following provisions to be continued, including relationship to voluntary reporting system:

~~4.6~~7.3 REPORTING OF DANGEROUS GOODS OCCURRENCES

An operator must report to the State of the Operator and the State of Origin any occasion when:

a) dangerous goods are discovered to have been carried when not loaded, segregated, separated or secured in accordance with Part 7;2; or

b) dangerous goods are discovered to have been carried without information having been provided to the pilot-in-command in accordance with Part 7;4.1.

To be done: consequential amendments to references to reporting provisions throughout Technical Instructions to be

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