



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**TWENTY-NINTH MEETING**

**Montréal, 13 to 17 November 2023**

**Agenda Item 2: Managing air-specific safety risks and identifying anomalies (*Ref: REC A DGS 2025*)**

**2.2: Develop proposals, if necessary, for amendments to the Technical Instructions for the *Safe Transport of Dangerous Goods by Air* (Doc 9284) for incorporation in the 2025-2026 Edition**

**PROVISIONS FOR THE USE OF ELECTRONIC DATA FOR INFORMATION TO THE PILOT-IN-COMMAND**

(Presented by D. Brennan)

**SUMMARY**

This working paper proposes a revision to the provision of information to the pilot-in-command to permit the transmission of electronic data to the pilot-in-command in lieu of such information in printed format.

**Action by the DGP:** The DGP is invited to is invited to consider the amendments in Part 7;4.1 as shown in the appendix to this working paper.

**1. INTRODUCTION**

1.1 There has been discussion at the panel on permitting the provision of the information on dangerous goods carried as cargo to the pilot-in-command electronically, in lieu of a paper document, for over 6 years, dating first to the Dangerous Goods Panel Working Group Meeting in 2016 (DGP-WG/16) (see paragraph 3.2.7.1 of the DGP-WG/16 report).

1.2 This discussion has continued over multiple meetings of the panel as well as separate discussions with operators through the International Air Transport Association (IATA) Dangerous Goods Board and with flight crew through International Federation of Air Line Pilots' Associations (IFALPA) and jointly through an IATA/IFALPA informal working group.

1.3 There is broad agreement that allowing operators to provide the information to the pilot-in-command electronically would improve the accuracy and safety level and enhance the usability of information. For instance, by enabling the transmission of electronic data, operators could consider capturing data directly from the electronic dangerous goods transport document to produce the electronic notification to the pilot-in-command (e-NOTOC) upon completing the mandatory acceptance checks. With the application of electronic data, it also becomes feasible for pilots to search electronically and precisely for the necessary information without going through pages of printed NOTOC, particularly for freighter operations, where the size of the NOTOC may be extensive.

1.4 A revised proposal to permit the use of electronic data, in lieu of paper, for the information to the pilot-in-command was presented at the DGP Working Group Meeting in 2023 (DGP-WG/23) (see paragraph 4.9.1.1 of the DGP-WG/23 Report). This proposal made the use of electronic data in lieu of paper by the operator contingent on the agreement of the appropriate national authority of the State of the Operator.

1.5 While there was overwhelming support from the panel members for the proposal, the member nominated by IFALPA still had concerns that the proposed wording did not ensure that the information would be available to pilot-in-command during an emergency, even when electrical systems may be lost. He also suggested that as the “expert working group” had not completed its work it would be premature to agree to any proposal and that there should be input from airport rescue and firefighting (ARFF) services given the importance of the information to emergency responders.

1.6 In the subsequent discussions at DGP-WG/23 of the proposal, comments were also provided by several members that the procedures for the provision of information should be included into the operator’s Operations Manual or another appropriate manual; that the reference to electronic data processing (EDP) or electronic data interchange (EDI) techniques was too limiting and that the provisions should be more performance-based.

1.7 To address the issue of the availability of the information, the proposal has been revised to include a requirement that the information to the pilot-in-command must be available “at all times during flight”. This is quite unambiguous and would require that the operator satisfy their authority that this can be achieved regardless of any in flight emergency or abnormal operation.

1.8 As far as the “expert group”, to IATA’s knowledge there has been no meetings or discussions, and if there has, then operators and IATA have not been involved or consulted.

1.9 For the needs of the emergency responders, here it is believed that the actual risk posed by dangerous goods carried as cargo to emergency responders in the event of an aircraft incident or accident needs to be considered.

1.10 The primary object of emergency responders, at least in the initial phase of an incident or accident, is the preservation of human life, i.e. evacuation of the occupants of the aircraft. In probably 99.999% of incidents or accidents, the aircraft will pose the greatest risk to the emergency responders, i.e. the fuel, cylinders of compressed gas, pressurised hydraulic or pneumatic systems and so on. The potential for any dangerous goods carried as cargo to add to the risk to emergency responders is very, very low.

1.11 It is recognized that there will be a very small number of flights where the dangerous goods being carried do pose an additional risk to emergency responders, such as Division 1.1 or 1.2 explosives being carried under an exemption or radioactive materials under special arrangement.

However, a system should not be designed to require all flights to address the 0.001% of events when additional requirements could be developed to address these limited circumstances.

1.12 If there is a view of the panel that provisions must be developed for flights when dangerous goods being carried could pose an unacceptable risk to emergency responders, then that should be a separate consideration. For example, there could be a requirement that dangerous goods carried under an exemption must include the provision of information in advance of the flight on the type and quantity of the dangerous goods being carried. This could be required to be sent to the airport of destination, of transit and all airports nominated as alternates.

1.13 To the other concerns raised, it is the author's view that the operator's procedures for the provision of information to the pilot-in-command, by paper or as data, and the need for this to be in the Operations Manual or other appropriate manuals is already addressed in Part 7;4.2 and no additional specification is required.

1.14 As for EDP or EDI being too limiting, these are generic descriptions and there is no system or technology specified or implied. The reference to "EDP" and "EDI" has been in the Technical Instructions in Part 5;4 permitting the transmission of the data on the dangerous goods transport document in lieu of a paper document for over sixteen years without any suggestion of these terms being too limiting or that there is a particular technology or system that is required.

1.15 As for the provisions not being performance-based, the specific requirement that exists today is for the data elements that must be included on the information to the pilot-in-command. That is the "what". There is nothing in the Technical Instructions today, or in the proposal in this working paper, that specifies the "how". Therefore, it is believed that the proposal is completely performance-based. The operator is required to provide the pilot-in-command with specific information when dangerous goods are carried as cargo. How the operator achieves that is up to the operator to determine. The only clear specification is that the information must be available at all times during flight.

## 2. ACTION BY THE DGP

2.1 The DGP is invited to consider the amendments in Part 7;4.1 as shown in the appendix to this working paper.

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## APPENDIX

### PROPOSED AMENDMENT TO PART 7 OF THE TECHNICAL INSTRUCTIONS

## Part 7

## OPERATOR'S RESPONSIBILITIES

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### Chapter 4

### PROVISION OF INFORMATION

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#### 4.1 INFORMATION TO THE PILOT-IN-COMMAND

4.1.1 As early as practicable before departure of the aircraft, but in no case later than when the aircraft moves under its own power, the operator of an aircraft in which dangerous goods are to be carried must:

- a) provide the pilot-in-command with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo; ~~and~~
- b) provide personnel with responsibilities for operational control of the aircraft (e.g. the flight operations officer, flight dispatcher, or designated ground personnel responsible for flight operations) with the same information that is required to be provided to the pilot-in-command (e.g. a copy of the written information provided to the pilot-in-command). Each operator must specify the personnel (job title or function) to be provided this information in their operations manual and/or other appropriate manuals; and
- c) where an agreement exists with the appropriate national authority of the State of the Operator, the operator may provide the information to the pilot-in-command by EDP or EDI techniques in lieu of written or printed information.

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4.1.4 The information provided to the pilot-in-command must also include a signed confirmation, or some other indication, from the person responsible for loading the aircraft that there was no evidence of any damage to or leakage from the packages or any leakage from the unit load devices loaded on the aircraft.

4.1.5 The information provided to the pilot-in-command must be readily available to the pilot-in-command at all times during flight.

4.1.6 This information provided to the pilot-in-command should be presented on a dedicated form and should not be by means of air waybills, dangerous goods transport documents, invoices, etc.

4.1.7 The pilot-in-command must indicate on a copy of the information provided to the pilot-in-command, or in some other way, that the information has been received.

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