



DANGEROUS GOODS PANEL (DGP) WORKING GROUP MEETING (DGP-WG/22)

Montréal, 21 to 25 November 2022

Agenda Item 2: Managing air-specific safety risks and identifying anomalies (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 TO THE PILOT-IN-COMMAND

(Presented by D. Brennan)

SUMMARY

This information paper provides an update to the Dangerous Goods Panel on the discussion with the industry on permitting the transmission of electronic data to the pilot-in-command being the single source of information in addition to the allowance of such information in printed format.

1. INTRODUCTION

1.1 Allowance for the information to the pilot-in-command to be provided as data in lieu of a paper document was discussed at DGP-WG/16 (DGP-WG/16-WP/54, paragraph 3.2.7), DGP/27 (DGP/27-WP/49 paragraph 2.2.8) and DGP/28 (DGP/28-WP/59 paragraph 2.2.8).

1.2 The previous working papers submitted by the three presenters proposed different amendments to Part 7; 4.1 (Information to the pilot-in-command) with the ultimate goal to permit the data to be transmitted electronically solely in lieu of providing the information in printed format.

1.3 At DGP-WG/16, some members agreed with the proposal while some agreed in principle but recognised the concerns raised by the member nominated by International Federation of Air Line Pilots' Associations (IFALPA), which was to make a printed paper copy available at all times on top of the data transmitted. At DGP/27, IFALPA suggested there may be a need to maintain a requirement for a paper copy in addition to electronic data, and a group established to study the emergency response information needs of every stakeholder. At DGP/28, IFALPA emphasised that "they did not oppose

electronic transmission and understood the benefits but could not support allowing an exclusively-electronic notification to captain without a way to provide information to first responders”. Since the stakeholder group was not yet complete, the panel agreed that any revisions to the provisions to be premature.

1.4 The International Air Transport Association (IATA) has been participating in the discussion with IFALPA together with a group of interested operators over the past few years. Due to the interruption by the COVID-19 pandemic, these discussions progressed very slowly and the last meeting was held virtually on 10 December 2021.

1.5 Similar to the feedback from IFALPA at the previous meetings of the ICAO DGP, they raised the following comments in the interest group meetings:

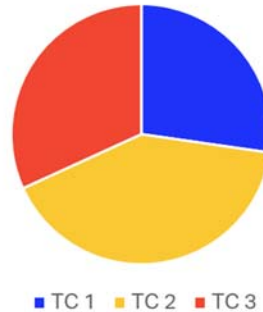
- a) although local stations or the operator’s hub may have the capability to transmit the data electronically to aircraft rescue and firefighting (ARFF) before they arrive to the scene, ARFF is usually not manned, and they also do not have the equipment to reach out to operators and request the data be sent while responding to an incident;
- b) even if ARFF crew members have the necessary equipment to receive the data, when handling an emergency situation, they will be wearing their protection equipment, and therefore it may be impossible to access their electronic equipment for the data;
- c) some ARFF crew members cannot speak English, and therefore, communicating with the involved operator to obtain the information can have difficulties; and
- d) some airports may also not have the capability to receive electronic data to tackle an emergency event and language can also be a challenge.

1.6 In order to validate these comments and to understand the system capability of the operators, IATA launched a survey to approximately 100 operators, ranging from flag-carriers to domestic operators, soliciting for comments on the following questions:

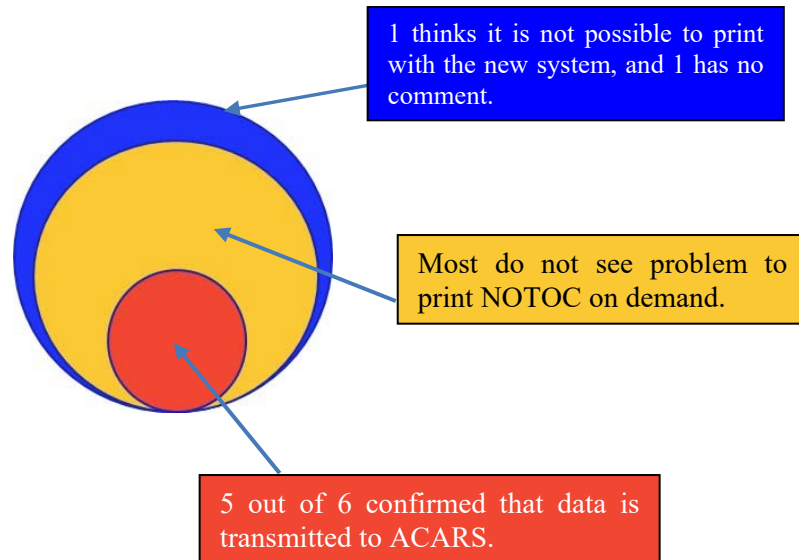
- a) Is your company considering transmitting e-NOTOC (notification to captain, aka notification to the pilot-in-command) data to the pilot-in-command in lieu of a printed NOTOC?
- b) If e-NOTOC data transmission is permitted, will your system be able to output the information and make it available in a printable format?
- c) What is the opinion of your local ARFF of communicating with the concerned operator in English and obtaining the dangerous goods information when needed from the operator?
- d) What is your current emergency response procedure (please include how information is shared with the ARFF and airport involved)?
- e) Have you had any experience on having diverted to an airport where you were unable to contact or communicate in English?

1.7 During the consultancy period of one and a half months, 22 international operators responded.

Number of Operators Responded by
Traffic Conference Area (TC)



1.8 Twenty-one operators responded that they are considering transmitting e-NOTOC data to the pilot-in-command in lieu of a printed NOTOC. Among the twenty-one operators, three of them are transmitting e-NOTOC data today, one other has implemented for passenger flights but not freighters, another one has implemented for domestic flights but not international flights, and one other implemented but returned to printed NOTOC because of the concern from their civil aviation authority on the confirmation of receipt (of data). All other operators either already have a project planned or have started the discussion on implementation.



1.9 With the six operators that have experience in transmitting e-NOTOC data, five of them indicated that the data is sent to the cockpit through ACARS and a paper NOTOC is printed there.

1.10 All the operators confirmed that dangerous goods information (or NOTOC) is provided to ARFF in English only. However, the response to the question on the usage of English, and whether or not

it is considered as being a language barrier locally was diverse. As expected, English is not an issue at English speaking countries as well as bilingual countries. Yet, in some instances, local fire-brigade expects the pilots to communicate with them in local language. However, one of the operators that responded raised a valid point that their standard procedure is to get the local contractor or airline staff to be involved, and they can speak the language. Another operator from South America commented that the declaration of the event must be in English, and usually all that the ARFF needs include the UN number and location of the dangerous goods because very often, there was just insufficient time even for the pilots to communicate everything on the NOTOC.

1.11 Regarding the last question of whether or not they had an experience on a flight diverted to an airport where they were unable to contact or communicate in English. All 22 operators unanimously said no. This could imply that they either did not experience flight diversion, or flights were diverted to an English-speaking country, or flights were diverted to a non-English speaking country but without issues to communicate in English. One of the operators based in North Asia responded with more details that even if their flights were diverted, the pilot and their operation team would only communicate with the local authorities of the airport, therefore, they never had this challenge from communicating with ARFF.

1.12 Through the response to the fourth question about the current emergency response procedure, it is understood that most operators (16 out of 22 responded) have a standard procedure that their system operations control (SOC) (e.g. flight control, flight dispatch, operations control) holds the dangerous goods information at all times, and they provide the information to the air traffic control of the airport involved either by email or fax, and the air traffic control would provide the details to ARFF. Some operators indicated that since the dangerous goods information is available at their SOC, even if they are asked by ARFF, the same information could be provided to them directly as well. The other six operators either did not provide the details of their procedure or simply commented that the dangerous goods information would be provided to the ARFF by the pilot, who may not be able to speak the local language.

2. DISCUSSION BY THE DGP-WG

2.1 At IATA, we have been made aware of by many operators on their interest in transmitting electronic data to the pilot-in-command, provided if the printed format only needs to be produced or made available, when needed, which is in line with many operators' digitalisation and sustainability strategies.

2.2 To a large extent, it is also believed that moving to electronic data transmission not only improves the accuracy and consequentially safety level but also enhances the usability of the information. For instance, by enabling the transmission of electronic data to the pilot-in-command, operators can consider capturing data from the electronic transport document to produce the 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, especially for freighter operations.

2.3 Although it was confirmed in the last meeting that e-NOTOC data can co-exist with a printed NOTOC but e-NOTOC data cannot be used exclusively, many operators have already raised the concern that if printed NOTOC must be maintained, there is no incentive to invest in their systems for enabling electronic data transmission, and will remain status quo.

2.4 At DGP/23 (DGP/23-WP/102 paragraph 5.5.1), an amendment was made to Part 7; 4.1 that the same information to the pilot-in-command must also be provided to the flight dispatcher because it would allow ARFF to obtain dangerous goods information in an expeditious manner through the dispatchers. Therefore, since the proposal was agreed at DGP/23, pilot-in-command is never the single source to obtain the dangerous goods information, even in case of emergency. As flight dispatchers or personnel holding the same responsibility are not on board the aircraft, they are not expected to be handing a printed NOTOC to the ARFF either. This practice is also verified by the comment received from the 16 (out of the 22) operators who responded to the IATA survey, that the SOC holds the dangerous goods information at all times and they can provide the information to air traffic control and even ARFF, if needed.

2.5 The DGP-WG is invited to discuss and consider allowing information to the pilot-in-command to be either transmitted electronically or legibly written or printed.

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