International Civil Aviation Organization

DGP-WG/07-WP/21
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WORKING PAPER

DANGEROUS GOODS PANEL (DGP)
MEETING OF THE WORKING GROUP OF THE WHOLE

Memphis, 30 April to 4 May 2007

Agenda Item 4: Amendments to the *Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods* (Doc 9481)

GUIDANCE FOR PORTABLE ELECTRONIC DEVICE FIRES IN AIRCRAFT CABINS

(Presented by Mark Rogers)

SUMMARY

This paper proposes to amend the Red Book checklist for Dangerous Goods Incidents in the Passenger Cabin to include guidance for fires involving passenger electronic devices.

Action by the DGP-WG is in paragraph 2.

1. INTRODUCTION

1.1 The *Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods* (Doc 9481) contains examples of checklists to be incorporated by operators for use in responding to a dangerous goods emergency. Because of the unique characteristics of battery fires, it is proposed to add guidance specific to addressing a fire involving portable electronic devices in the cabin.

2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to:

a) amend the Cabin Crew Checklist for Dangerous Goods Incidents in the Passenger Cabin During Flight as shown in Appendix A to this working paper; and

b) amend the Amplified Cabin Crew Checklist for Dangerous Goods Incidents in the Passenger Cabin During Flight as shown in Appendix B to this working paper.

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APPENDIX A

AMENDMENT TO CABIN CREW CHECKLIST FOR DANGEROUS GOODS INCIDENTS IN THE PASSENGER CABIN DURING FLIGHT

3.3 CABIN CREW CHECKLIST FOR DANGEROUS GOODS INCIDENTS IN THE PASSENGER CABIN DURING FLIGHT

INITIAL ACTION

- Notify pilot-in-command
- Identify the item

In case of fire:

- Use standard procedure / check use of water

In case of fire involving a portable electronic device:

- Use standard procedure / obtain and use Halon extinguisher
- Remove external electrical power from device (if applicable)
- Once fire has been suppressed, move device to an area without flammable material, such as a galley oven (if not adjacent to the cockpit), if possible
- Remove power to remaining electrical outlets until the aircraft's system can be determined to be free of faults, if the device was previously plugged in

In case of spillage or leakage:

- Collect emergency response kit or other useful items
- Don rubber gloves and smoke hood or smoke mask — portable oxygen
- Move passengers away from area and distribute wet towels or cloths
- Place dangerous goods item in polyethylene bags
- Stow polyethylene bags
- Treat affected seat cushions / covers in the same manner as dangerous goods item
- Cover spillage on carpet / floor
- Regularly inspect items stowed away / contaminated furnishings

AFTER LANDING

- Identify to ground personnel dangerous goods item and where stowed
- Make appropriate entry in maintenance log

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APPENDIX B

AMENDMENT TO THE AMPLIFIED CABIN CREW CHECKLIST FOR DANGEROUS GOODS INCIDENTS IN THE PASSENGER CABIN DURING FLIGHT

3.4 AMPLIFIED CABIN CREW CHECKLIST FOR DANGEROUS GOODS INCIDENTS IN THE PASSENGER CABIN DURING FLIGHT

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IN CASE OF FIRE

USE STANDARD PROCEDURE / CHECK USE OF WATER

Standard emergency procedures must be used to deal with any fire. In general, water should not be used on a spillage or when fumes are present since it may spread the spillage or increase the rate of fuming. Consideration should also be given to the possible presence of electrical components when using water extinguishers.

IN CASE OF FIRE INVOLVING A PORTABLE ELECTRONIC DEVICE

USE STANDARD PROCEDURE / OBTAIN A USE HALON EXTINGUISHER

Standard emergency procedures must be used to deal with any fire**.** Although Halon has been shown to not be effective against lithium metal fires, Halon will be effective in fighting the subsequent fire of surrounding materials, or in fighting a lithium ion battery fire.

REMOVE EXTERNAL ELECTRICAL POWER FROM DEVICE (IF APPLICABLE)

A battery has a higher likelihood of catching fire through thermal runway during or immediately following a charging cycle, although the effects of thermal runaway may be delayed for some period of time. By removing external power from the device, it will be assured that additional energy is not being fed to the battery to promote a fire.

ONCE FIRE HAS BEEN SUPPRESSED, MOVE DEVICE TO AN AREA WITHOUT ANY FLAMMABLE MATERIAL, SUCH AS A GALLEY OVEN (IF NOT ADJACENT TO COCKPIT), IF POSSIBLE

A battery fire that appears to have been extinguished may reignite after some period of time. Battery fires often emit sparks, flammable gasses or molten material several feet high, and may easily ignite surrounding materials. By moving the device to an area without flammable material, this risk may be reduced. The device should not be moved if it is too hot to safely handle, nor should it be placed adjacent to the cockpit.

REMOVE POWER TO REMAINING ELECTRICAL OUTLETS UNTIL THE AIRCRAFT'S SYSTEM CAN BE DETERMINED TO BE FREE OF FAULTS, IF THE DEVICE WAS PREVIOUSLY PLUGGED IN

By removing power to the remaining electrical outlets it can be assured that a malfunctioning aircraft system does not contribute to additional failures of passenger portable electronic devices.

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