

54th CONFERENCE
DIRECTOR GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGIONS

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AGENDA ITEM 3: AVIATION SAFETY AND
AIR NAVIGATION

**IMPLEMENTATION AND EFFICIENT MANAGEMENT OF
ICAO SARPS REGARDING ALTERNATIVE FIRE
EXTINGUISHING AGENT TO HALON FIRE EXTINGUISHERS**

(Presented by Republic of Korea)

SUMMARY

For sustainable development of air transport, the establishment and application of international standards of environmental protection is significant. The development and use of alternative fire extinguishing agent to Halon, which is used for the fire extinguishing systems of engine nacelles/APU and cargo compartments, has been requested in order to protect the ozone layer. The ICAO has been active in preparing international standards; however, certification of alternative fire extinguishing agents has been postponed. Consequently, the implementation of SARPs has also been postponed by two years from the end of 2016. As such consequences have caused confusion in Member States regarding its implementation, it is necessary to discuss and pay more attention to this issue. Also in order to minimize the unnecessary discharge of Halon owned by Member States, it is necessary to consider efficient management methodologies; for example, requesting fire extinguisher manufacturers to recharge.

IMPLEMENTATION AND EFFICIENT MANAGEMENT OF ICAO SARPS REGARDING ALTERNATIVE FIRE EXTINGUISHING AGENT TO HALON FIRE EXTINGUISHERS

1. INTRODUCTION

1.1 According to the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol), Halon gas production has been banned in developed countries since 1994 or in developing countries since 2010. Halon produced before those dates is allowed for use in many different fire suppression fields, including aviation.

1.2 The ICAO has specified an application period for Halon alternatives in Annex 6 and 8 of the SARPs. It requests that Member States notify the ICAO of the amount of Halon they possess and whether they manage it appropriately.

1.3 In the case of aircraft portable fire extinguishers, it had been planned to develop and apply alternative agents by 31 December, 2016; however, a promising alternative agent known as 2-bromotrifluoropropane (2BTF) had not been developed before that date, and certification was delayed. The 109th ICAO Council has decided to postpone the starting date of application for two years, until 31 December, 2018.

1.4 Readjustment of the ICAO SARPs application date, made urgently before the deadline, may cause confusion in the establishment and implementation of domestic laws; therefore, it is necessary first to consider how much time is sufficient necessary for technological development and certification and then to set up the deadline.

2. DISCUSSION

2.1 Protection of the environment is a matter of priority concern for the global community. Recognizing the importance of environmental protection for sustainable development of air transport, the ICAO has been making utmost efforts in this direction, including it as one of its five strategic goals.

2.2 Major issues related to environmental protection in aviation raised to date include regulations on aircraft effluent gas and MBM. In addition, there has been a request to stop the use of Halon in the fire extinguishing systems of engine nacelles/APU and cargo compartments and to instead develop and apply alternative materials in order to protect the ozone layer.

2.3 The Halon Technical Option Committee states that there are currently 43,000 metric tons of Halon 1301 and 33,000 metric tons of Halon 1211. Most of it exists in North America and Europe, where most of the aircraft manufacturers are located. The remaining Halon is owned by Member States that operate aircraft and use very small amounts. The Republic of Korea (ROK), for example, has 1.76 metric tons of Halon 1301.

2.4 In order to stop the unnecessary discharging of Halon into the atmosphere, it is necessary to minimize any accidental release that may occur during testing and handling. To do so, contracting parties are responsible for distributing information related to airlines and maintenance companies. They must also monitor the status of their Halon holdings. The development of alternative materials to Halon is not a simple issue. Alternatives must have equivalent fire extinguishing effects to Halon at the same volume and weight. Also, they must contribute to minimizing global warming effects.

2.5 In the case of handheld extinguishers, 2BTF, which was under review as a potential alternative agent to Halon, did not meet the conditions of having fire extinguishing effects equivalent to that of Halon, and consequently certification was postponed. Certification by the relevant authorities was concluded on 26 September, 2016, and so, in fact, it has become impossible to replace

Halon within a given period. Accordingly, the ICAO Council has made the difficult decision to postpone the application date. In order to meet the postponed deadline, the ICAO Air Navigation Commission in charge of technical review of international standards must consult with the Council and undertake a thorough review.

2.6 The implementation of ICAO SARPs is the basic responsibility of all contracting States; therefore, changes in the application standard of SARPs may affect each Member State regarding rule making and implementation. It is necessary to operate a mechanism in which review and confirmation can be made as early as possible.

2.7 Even though the amount of Halon owned by Member States in aviation field is small, best practices must be shared to prevent any unnecessary discharge into air.

2.8 The ROK, in the case of the unnecessary discharge of Halon used in aircraft due to fire alarms, etc., sends all fire extinguishers to manufacturers for recharge, and in this way, any environmental destruction caused by the discharge of Halon is minimized.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) urge the ICAO to review international standards related to Halon thoroughly so that Member States can implement without confusion and impact on the environment; and
- b) request Member States of all regions to notify the ICAO of Halon usage and discuss best practices; for example, requesting fire extinguisher manufacturers to recharge in order to prevent any unnecessary discharge. Into air.

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