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# Maintenance of ecological safety at use halons after regeneration as fire extinguishants in civil aircraft

## Halon are used as fire extinguishants for application in fire extinguishing syst

- \*\*EM\* Halon 1211 (12B1) is used in hand-held portable extinguishers for the protection of a fires arising in the cabin or cockpit.
- \*\*EM Halon 1301 (13B1) is used in built in fire- extinguishing systems in both cargo and large aircraft and aircraft powerplants of foreign production.
- \*EX Halon 2402 (114B2) is used in built in fire- extinguishing systems in both cargo and large aircraft and aircraft powerplants.
- MM Halons 1211 and 2402 after regeneration are used for ground and flight tests.

#### The production of halons is forbidden

- ZeThe Parties to Montreal Protocol have decided to stop production of halons 1211, 1301 and 240
- #Halons 1211, 1301 and 2402 are allowed to application and are most effective substances use application in fire extinguishing systems of aircrafts.
- ZA leak of halons in atmosphere from fire extinguishing systems, outputing from exploitation is I
- The reuse Halons 1211, 1301 and 2402 in fire extinguishing systems of aircrafts without rege their quality by consensus of standards is forbidden.
- ZeThe system of the account, collection, storage and regeneration of halons is created
- The State Service of civil aviation of ministry of the transport of Russian Federation has entrus of functions of the departmental informational analytical center on halons destroying the ozone

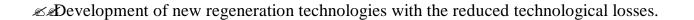
### **Regeneration of halons**

- Althorough the regeneration is made on special fixed equipments developed on the technical project Gos complex of technological processes on clearing of halons from impurities.
- Condition for regeneration of halons is the consensus of concentration of main substance to requ
- An result of Regeneration, halons completely restore the qualities and can be reused in fire exting of specified life by consensus of standards.
- A cosses of regenerations do not exceed 10 15 % from a mass of an initial product depending halon.

### Problems, connected with stop of production of halons

- ZeThe stocks of new Halons 1211, 1301 and 2402 practically are spent.
- Althere is magnification of an amount of halon 1301 because of purchasing foreign aircrafts and domestic production.
- AThe same effective substances as the halons 1211, 1301 and 2402 used as fire extinguishar extinguishing systems of aircrafts do not exist.
- AThe losses of regenerations of the halon by regeneration technologies consensus, existing in Ru halons from fire extinguishers make significant magnitude.
- ZeThe utilization technology of sub-standard halons and equipments is absent.

## Prime measures for a solution of problems on maintenance of a fire protection ai exploitation



- Development of the special equipment on collection of halons from fire extinguishers for furthe
- Maintenance of a replacement of halons on alternate substances is necessary. (The work on a 1211 on the halon 227?? is conducted.)
- Excreation of bank of halons for civil aviation is necessary.
- Excreation of an information system on halons is necessary.
- Zutoring staff of the aviation enterprises on use, storage, collection and transportation of halons
- Development of normative, instructive and other documents on operation of halons is necessary
- ZeDevelopment and introduction of the utilization technology of halons is necessary.