AIRCRAFT HALON USE AND MANAGEMENT IN THE AIR FORCE

NORMAN TAFLINGER
SAN ANTONIO AIR LOGISTICS CENTER
KELLY AIR FORCE BASE, TEXAS
AIR FORCE REGULATION 19-15
30 SEPTEMBER 1991
ENVIRONMENTAL PLANNING
REDUCTION IN USE OF CHLOROFLUOROCARBONS, HALONS,
AND OTHER SUBSTANCES THAT DEPLETE STRATOSPHERIC OZONE
OPR HQ USAF/CEVV (MAJ T MOREHOUSE)

IMPLEMENTS –
MONTREAL PROTOCOL ON SUBSTANCES THAT
DEPLETE THE OZONE LAYER, AS AMENDED
PRESIDENTIAL DIRECTIVES
CLEAN AIR ACT AMENDMENTS OF 1990
DOD DIRECTIVE 6050 9
EPA REGULATIONS THAT APPLY
AFR 19-15 CATEGORIES OF OLDS USE

I  MISSION CRITICAL
   DIRECT COMBAT-MISSION IMPACT & NO ALTERNATIVE
   STOP HALON USE BY JAN 2000
   BANKING MAY DELAY LOSS OF USE

II  ESSENTIAL USE
   INDIRECT COMBAT-MISSION IMPACT
   STOP HALON USE BY JAN 1996

III  NON-ESSENTIAL USE
   SUPPORT ROUTINE OPERATIONS OR ALTERNATIVES EXIST
   STOP HALON USE BY JAN 1994
AIR FORCE POLICY SPECIFIC TO HALON

1 - HQ USAF APPROVAL REQUIRED FOR FACILITY SYSTEMS

2 - PORTABLE AIRCRAFT EXTINGUISHERS ONLY
    OR AS APPROVED BY HQ USAF

3 - DISCHARGE DURING TRAINING OR TESTING PROHIBITED

4 - RELEASE DURING TESTING OR INSPECTION PROHIBITED

5 - CEASE PROCUREMENT DURING OCTOBER 1991

6 - BANKING WILL NOT REPLACE ALTERNATIVE RESEARCH
CHIEF OF STAFF ACTION MEMORANDUM
1 JANUARY 1993

AIR FORCE BAN ON PURCHASES OF OZONE DEPLETING CHEMICALS

IMPLEMENTS –

NAT DEF AUTH ACT FOR FY 1993, TITLE III,
PUBLIC LAW 102-484, SECTION 326
SEC OF DEFENSE (AQ) POLICY FOR ODC’s – 11 AUG 92
AIR FORCE POLICY –

1 - RECYCLING AND BANKING BY DLA ONLY FOR AIRCRAFT FIRE SUPPRESSION AND REFRIGERATION SYSTEMS REQUIRED FOR FLIGHT SAFETY, SURVIVABILITY, AND/OR CERTIFICATION

2 - PURCHASE OF NEW HALON AFTER 1 JUNE 93 PROHIBITED

3 - NEW DESIGNS SHALL NOT REQUIRE HALON

4 - REMOVE HALON FROM SPECS, STDs, & T Os

5 - FUEL TANK INERTING IN COMBAT OR EMERGENCIES ONLY

6 - ELIMINATE FALSE ALARMS & CHANGE USE PROCEDURES

7 - PHASE OUT FLIGHT LINE & FACILITY HALON SYSTEMS

8 - CONVERT AUTOMATIC FLOODING SYSTEMS TO MANUAL USE

9 - INVENTORY AIR FORCE HALON IN PLACE AND IN STOCKS

10 - BANK ODC's FROM CLOSED BASES & RETIRED AIRCRAFT

11 - METRICS, WAIVER AUTHORITY, REPORTING TO CONGRESS
# U S AIR FORCE HALON

AS REPORTED TO HQ AFMC/CEV
23 MARCH 1993

(AIR COMBAT COMMAND REPORT NOT INCLUDED)

<table>
<thead>
<tr>
<th>HALON TYPE</th>
<th>ON HAND LBS</th>
<th>IN PROCESS LBS</th>
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<tbody>
<tr>
<td>1202</td>
<td>10, ≥12</td>
<td>50, 721</td>
</tr>
<tr>
<td>1211</td>
<td>5, ≥46, 916</td>
<td>2, 067, 201</td>
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<tr>
<td>1301</td>
<td>50, 647</td>
<td>1, 081, 815</td>
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<tr>
<td>2402</td>
<td>158</td>
<td>766</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5, 761, 933</td>
<td>3, 200, 483</td>
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</table>
# HALON 1301 IN AIRCRAFT FIRE PROTECTION SYSTEMS

<table>
<thead>
<tr>
<th>Model</th>
<th>Quantity</th>
<th>Weight</th>
<th>Model</th>
<th>Quantity</th>
<th>Weight</th>
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<tbody>
<tr>
<td>C-5's</td>
<td>126</td>
<td>112,480</td>
<td>FB-111's</td>
<td>388</td>
<td>1,746</td>
</tr>
<tr>
<td>KC-135's</td>
<td>742</td>
<td>82,816</td>
<td>H-1's</td>
<td>93</td>
<td>1,414</td>
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<tr>
<td>EC-135's</td>
<td>40</td>
<td>216</td>
<td>H-53's</td>
<td>49</td>
<td>872</td>
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<tr>
<td>C-130's</td>
<td>724</td>
<td>29,248</td>
<td>B-1's</td>
<td>96</td>
<td>490</td>
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<tr>
<td>A-10A's</td>
<td>644</td>
<td>25,760</td>
<td>E-3A's</td>
<td>34</td>
<td>428</td>
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<tr>
<td>C-141's</td>
<td>270</td>
<td>9,410</td>
<td>H-3's</td>
<td>61</td>
<td>152</td>
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<tr>
<td>F-15's</td>
<td>867</td>
<td>5,722</td>
<td>T-39's</td>
<td>14</td>
<td>84</td>
</tr>
</tbody>
</table>

270,838 LBS OF HALON IN 4,148 AIRCRAFT
HALON 1202 IN AIRCRAFT FIRE PROTECTION SYSTEMS

724 C-130's  32,942 lbs
327 F-111's  8,274 lbs
126 C-5's    4,914 lbs

46,129 LBS OF HALON IN 1,177 AIRCRAFT

3,200 LBS OF HALON 1202 IN STOCK AT KELLY AFB
DEPOT LEVEL MAINTENANCE AT KELLY AFB

FIRE PROTECTION SYSTEMS ON C-5's AND C-130's

USE HALON 1202 AND 1301 STORAGE BOTTLES

DEVELOPED THE CAPABILITY TO PERFORM HYDROSTATIC TESTING AND RECHARGING ON THESE BOTTLES

DEVELOPED THE CAPABILITY TO TEST THE 25 KINDS OF HALON STORAGE BOTTLES MANAGED AT KELLY AFB

THE AIRCRAFT PRODUCTION DIVISION IS CERTIFIED BY THE DEPARTMENT OF TRANSPORTATION FOR THIS WORK
HALON 1301 RECOVERY & RECLAMATION

BEGAN PROCUREMENT WORK IN APRIL 1991
BEGAN TOTAL HALON RECOVERY IN DECEMBER 1992
BEGAN INSTALLATION IN SEPTEMBER 1992
SYSTEM OPERATIONAL IN APRIL 1993

THE SYSTEM CAN RECOVER AND RECLAIM
200+ LBS OF HALON 1301 PER HOUR

RECOVERY EFFICIENCY IS BETTER THAN 99%

CAN SUPPORT THE ENTIRE AIR FORCE RECLAMATION
REQUIREMENT AND THE OTHER SERVICES AS WELL

LIMITED BY STORAGE AND TEST TURN-AROUND
HALON 1301 RECOVERY/RECLAMATION/RECHARGING SYSTEM

- Scale
- Displays
- Leak detector
- Fire bottle
- Scale recharge stand
- Recharge console
- Control console
- Nitrogen vent
- Recovery reclamation unit
- Pump & valve assembly
- Recovery stand
- Leak detector
HALON STORAGE SYSTEM

LEAK DETECTOR

HIGH PRESSURE NITROGEN SCALE

RECYCLED HALON 1301 PUMP & VALVE ASSEMBLY SCALE

TEMPORARY 1 SCALE

TEMPORARY 2 SCALE

PRESSURE RELIEF VALVE

2000 POUND BULK STORAGE TANK
HALON BANKING BY
THE DEFENSE LOGISTICS AGENCY

DLA IS PREPARING AN ALL SERVICES ODC BANK

- MISSION CRITICAL USES ONLY
- EACH SERVICE WILL IDENTIFY ITS REQUIREMENTS
  TYPE, APPLICATION, QUANTITY, DURATION
  TO REPLACE LOSSES DUE TO RECYCLING & FIRES

- EACH SERVICE PLACES ODC’s INTO ITS “BANK ACCOUNT”
  FROM RETIRED AIRCRAFT, FIRE & NON-MISSION CRITICAL
  COMBAT VEHICLES, FACILITY SYSTEMS, FLIGHTLINE
  BOTTLES, CLOSED AND OVERSEAS BASES
- STORAGE OF UNREUSABLE HALON FOR DESTRUCTION
- EACH MISSION CRITICAL USER POSSESSING A WAIVER MAY
  DRAW ON THEIR ACCOUNT TO MEET CURRENT NEEDS