



U.S. AIR FORCE

Air Force Petroleum Agency (AFPET)



Science & Technology Div. (PTPT) Update

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OVERVIEW



- **AF Petroleum Agency**
 - **Science & Technology Division**

- **Shelf Life Updating**

- **Qualifying to Cleaning Compound, MIL-PRF-87937**

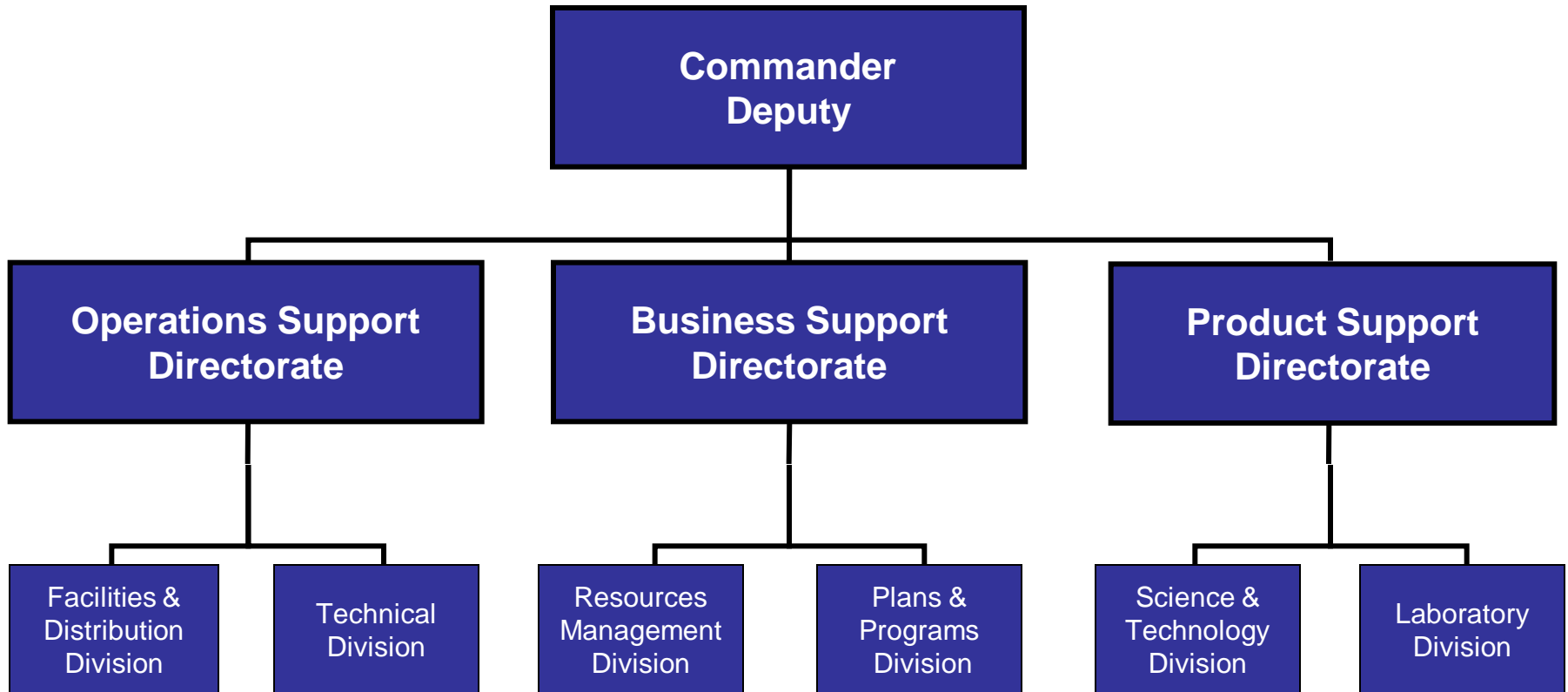
- **Deicers**

- **FSII Reduction**



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Organizational Chart





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Science & Technology Division



Our Responsibilities

- Manage:
 - Shelf Life Update Program
 - Technical Orders and Specifications for Aerospace Fuels, Lubricants and Chemicals
- Tri-Service POL Users Group, USAF member
- US HOD to ASIC FG and NATO F&L WG
- USAF member to UK MOD AFC, IATA, ASTM

Governing documents control

- All space/aviation liquids, chemicals, gases
 - Develop/revise/publish/distribute, 29 T.O.s
 - Preparer, 44 specifications, 10 QPLs
 - USAF custodian 455 specifications
 - Reviewer, 127 specifications
- Establish/maintain product quality, sampling, and handling practices/procedures for field activities and/or procurement agencies

Program support

- Synthetic fuel blend certification program
- Environmentally friendly deicing fluid ESTCP
- B20 in tactical vehicles ESTCP
- FSII reduction study



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SHELF LIFE PROGRAM



Products Needing Shelf Life Updating

T.O. 42B-1-1, Quality Control of Fuels and Lubricants

- **Chapter 7, Aircraft Engine Oils & other Petroleum Products**

T.O. 42C-1-12, Quality Control of Chemicals

- **Chapter 5, Testing Requirements**

T.O.s Available at AFPET T.O. CoP

<https://wwwd.my.af.mil/afknprod/ASPs/docman/DOCMain.asp?Tab=0&FolderID=OO-LG-WR-14-4-4&Filter=OO-LG-WR-14>



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SHELF LIFE PROGRAM



Pathway to the AFPET Shelf Life Updating Data Base

- AFPET web page
 - <https://afpet.wpafb.af.mil/>

- Air Force Petroleum Agency COP
 - <https://wwwd.my.af.mil/afknprod/ASPs/CoP/OpenCoP.asp?Filter=OO-LG-WR-14>



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SHELF LIFE PROGRAM



Address <https://afpet.lackland.af.mil/sft/shelf/queryform.asp> Go Links »

Quality Control of Lubricants and Chemicals

Shelf Life/Retest

We need to know the specification for this product in order to give you correct disposition instructions. Please resubmit your request.

<i>NSN</i>	<input type="text"/>	For example: 6850-00-123-1234
<i>Specification</i>	<input type="text"/>	For example: MIL-L-1234 or V-V-123
<i>Contract</i>	<input type="text"/>	For example: 400-85-D-1234 or GS-07F-12345
<i>Lot Number</i>	<input type="text"/>	For example: 1007F
<i>Quantity on Hand</i>	<input type="text" value="0"/>	For example: 145 (quantity only, not the unit of issue)
<i>Date of Manufacture</i>	<input type="text"/>	For example: 12/1999

- LABORATORY ADDRESSES
- SAMPLING PROCEDURES
- MSDS'S
- USER TIPS
- AFT HOME
- EMAIL US
- BULLETINS
- LOG OFF



CLEANING COMPOUND MIL-PRF-87937



Changes to the specification

Removal of:

Type II - Water Dilutable Cleaning Compound



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CLEANING COMPOUND MIL-PRF-87937



Qualifying New Product

- **Manufacturer request to PTPT to have their product qualified to spec and type.**
- **PTPT sends a qualification packet to the manufacturer**
 - **SD-6**
 - **Current specification**
 - **Instructions of the qualification procedures**
 - **Approximate cost for testing**
- **Manufacturer supplies the required information**
- **PTPT reviews the provided information**
- **PTPT (after review of information) sends a letter to proceed to test**
- **PTPT evaluates test results and make a determination**
- **PTPT upon successful determination issues a letter of qualification**



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DEICERS



Runway Deicers

Deicer Shortage

- Potash strike in Canada

New Formulations

- Less corrosive, more environmentally friendly
- Battelle under SERDP, testing new formulation this coming winter

Aircraft Deicers

Joint Testing Protocol for inclusion into SAE AMS 1424

EcoFlo by Octagon,

- Testing this next winter ('09-10)
- Lower BOD, less corrosive



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FSII Reduction Study



Background

- FSII required as a jet fuel additive
 - Prevents formation of ice crystals
 - Helps prevent microbe growth
- Lower concentration will save DoD \$\$
- Study funded by DSCR

Tasks

- Bench- scale testing
- Microbiological activity measurements
- Field survey of FSII concentration values
- Full-scale system component testing
- Flight demonstration

Status

- Bench-scale testing – **complete**
- Microbiological testing - **complete**
- Field survey – **complete**
- Full-scale component testing – **initiated**
- Flight demonstration - **delayed**