
• Integrity - Service - Excellence

PFC Program Review



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Agenda

- **What Are PFCs**
- **Drinking Water**
- **Using the CERCLA Approach**
- **Environmental Studies and Mitigation**
- **Communication Strategy**
- **What's ahead?**



Perfluorinated Compounds (PFCs)

- **A group of fluorinated carbon compounds**
- **Two are focus of regulatory interest**
 - **Perfluorooctane sulfonate (PFOS)**
 - **Perfluorooctanoic acid (PFOA)**
- **Studies continue to assess adverse health effects associated with exposure**



PFCs - Properties

- **Man-made compounds with unique chemical properties**
 - Very stable and persistent in the environment
 - Lipid and water repellent
 - Bioaccumulate
- **Used in MANY products for non-stick, stain and heat resistant properties**





AF-Specific Background

- **PFC-based Aqueous Film Forming Foam (AFFF) the product of choice for fighting fuel fires in the AF**
 - Nearly 1M gallons of PFOS-based AFFF in stock (3M product)
 - Used from 1970 for fire fighting training, petroleum fires, and in some hangar fire suppression systems
 - Other non-PFOS based formulations also used





Regulatory Standings

- **CERCLA** - not a listed hazardous substance
- **RCRA** - not a regulated waste
- **USEPA Safe Drinking Water Act** - not currently regulated. Unregulated Contaminant Monitoring Rule to monitor 2013-2015
- **USEPA lifetime Health Advisory (HA) Values** (May 2016)
 - PFOA or PFOS, or the sum – 0.07 µg/L
- **USEPA Tier 3 toxicity values for PFOA & PFOS**
 - may be used in risk assessment



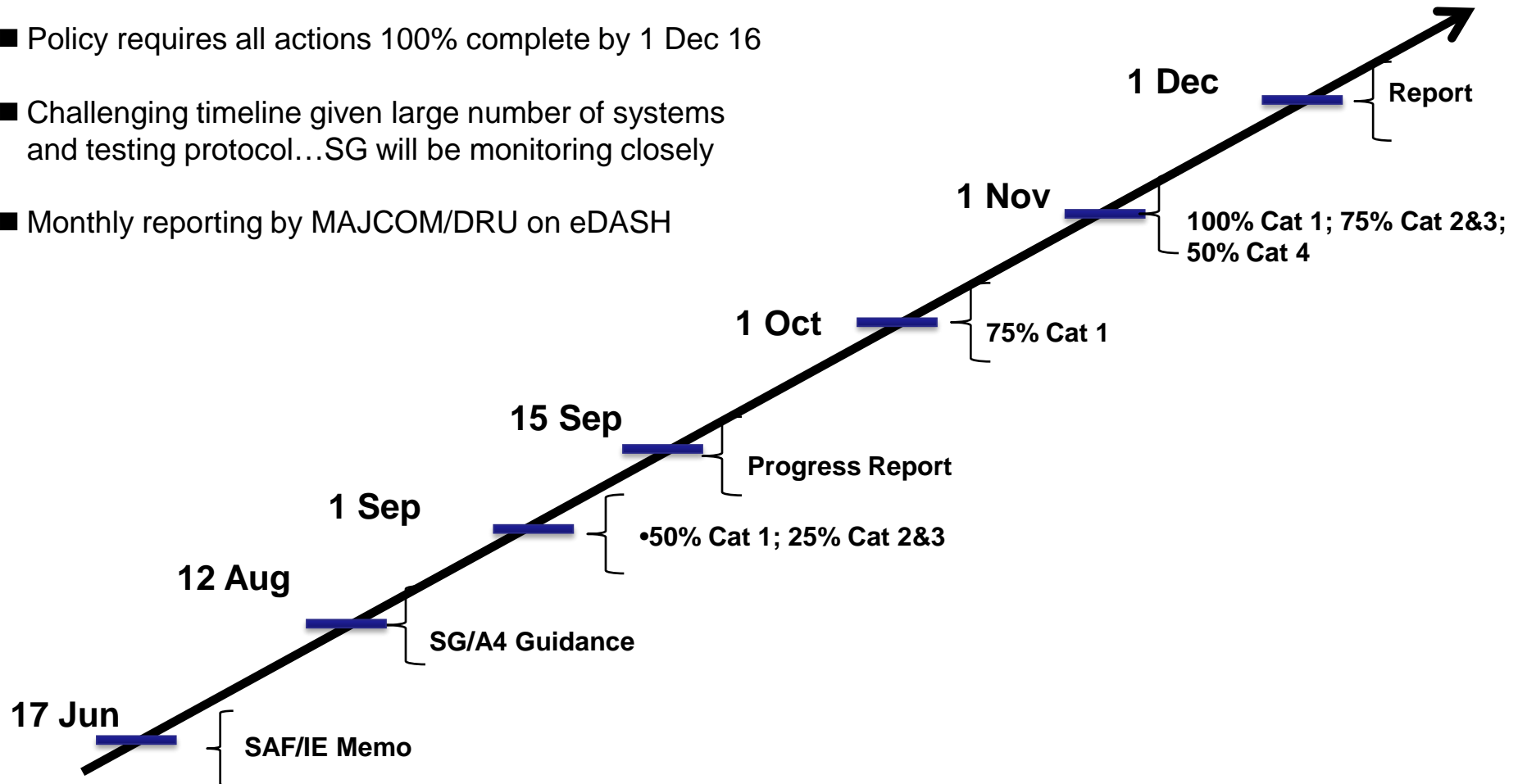
Drinking Water Applicability

- **Implementation guidance establishes categories for water systems to facilitate implementation and internal AF tracking (bases can have multiple systems)**
 - **Cat 1: Public Water Systems (PWS) where the AF is water purveyor (testing required)**
 - **Cat 2: Non-AF PWS in US (assessment required)**
 - **Cat 3: Non-AF PWS outside the US (assessment required)**
 - **Cat 4: Systems where the AF is water purveyor, but the system is not a PWS under the Safe Drinking Water Act (testing required)**
 - Example: Recreational Areas, Family Campgrounds
 - Example: Isolated ranges serving few consumers



Timeline for Drinking Water Testing and Assessments

- Status update to SAF/IEE by 15 Sep 16
- Policy requires all actions 100% complete by 1 Dec 16
- Challenging timeline given large number of systems and testing protocol...SG will be monitoring closely
- Monthly reporting by MAJCOM/DRU on eDASH





Drinking Water Challenges

- **Timeline**

- Lab response times
- End of FY considerations
- For sampling in 1st qtr FY17, anticipate significant increase in expenses vs. last year same quarter; will exceed CRA

- **Unplanned expenses**

- Current DW sampling budget based on regulated contaminants; ability to increase this funding is not possible without policy change
- Current funding policy hierarchy: Federal reqmt -> state reqmt -> local reqmt -> DoD reqmt -> AF reqmt

- **Overseas**

- World events
- Sensitive Host Nation relationships

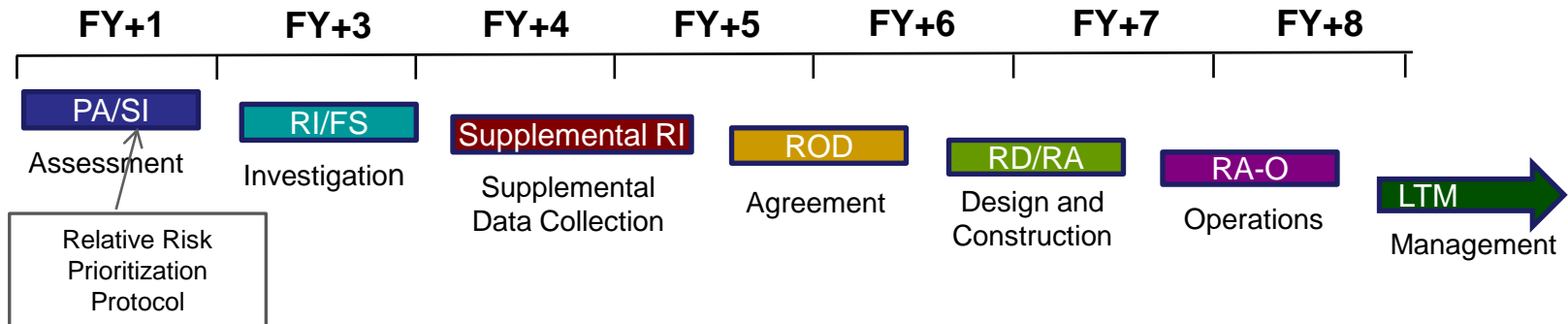


Drinking Water Concerns

- **There are more than 80,000 chemicals currently registered for use in the US; there are approx. 90 regulated drinking water contaminants**
- **We must prioritize resources by focusing on problems that pose the greatest risks to human health**
- **EPA's regulatory process is also based on this principle**
 - **Before promulgating a drinking water standard, EPA must perform a health risk reduction and cost analysis.**
 - **Health Advisories do not incorporate risk-based principles**
- **The public perceives HAs the same as regulated standards**
 - **Media outlets and social media amplify this perception**
 - **Lack of clear info causes panic among DW consumers**



CERCLA Process



Preliminary Assessment/Site Inspection Requirements

- Identify potential sources of contamination
- Conduct records search and site reconnaissance
- Initiate fieldwork to confirm release locations
- Determine pathways and initial extent of contamination
- Conduct relative risk prioritization protocol
- Recommend additional investigation or no further action



Implementation Approach and Rationale

- **AF Guidance on PFCs**
 - Identify potential releases
 - Sample to confirm
 - Delineate to determine potential for off-site migration and/or human exposures
 - Expand SI sampling, if necessary, to confirm exposures (off-base wells)



Implementation Approach and Rationale (cont'd)

- **Take mitigation actions to prevent human exposure**
 - PFCs exceed EPA Health Advisory (HA) or promulgated standard
 - Pathways exist
 - AF mission is a probable source



Preliminary Assessment/ Site Inspection (PA/SI) Prioritization

Initial prioritization criteria

- **Potential risk to drinking water sources**
- **Depth to groundwater**
- **Groundwater flow direction**
- **Proximity to base boundaries**

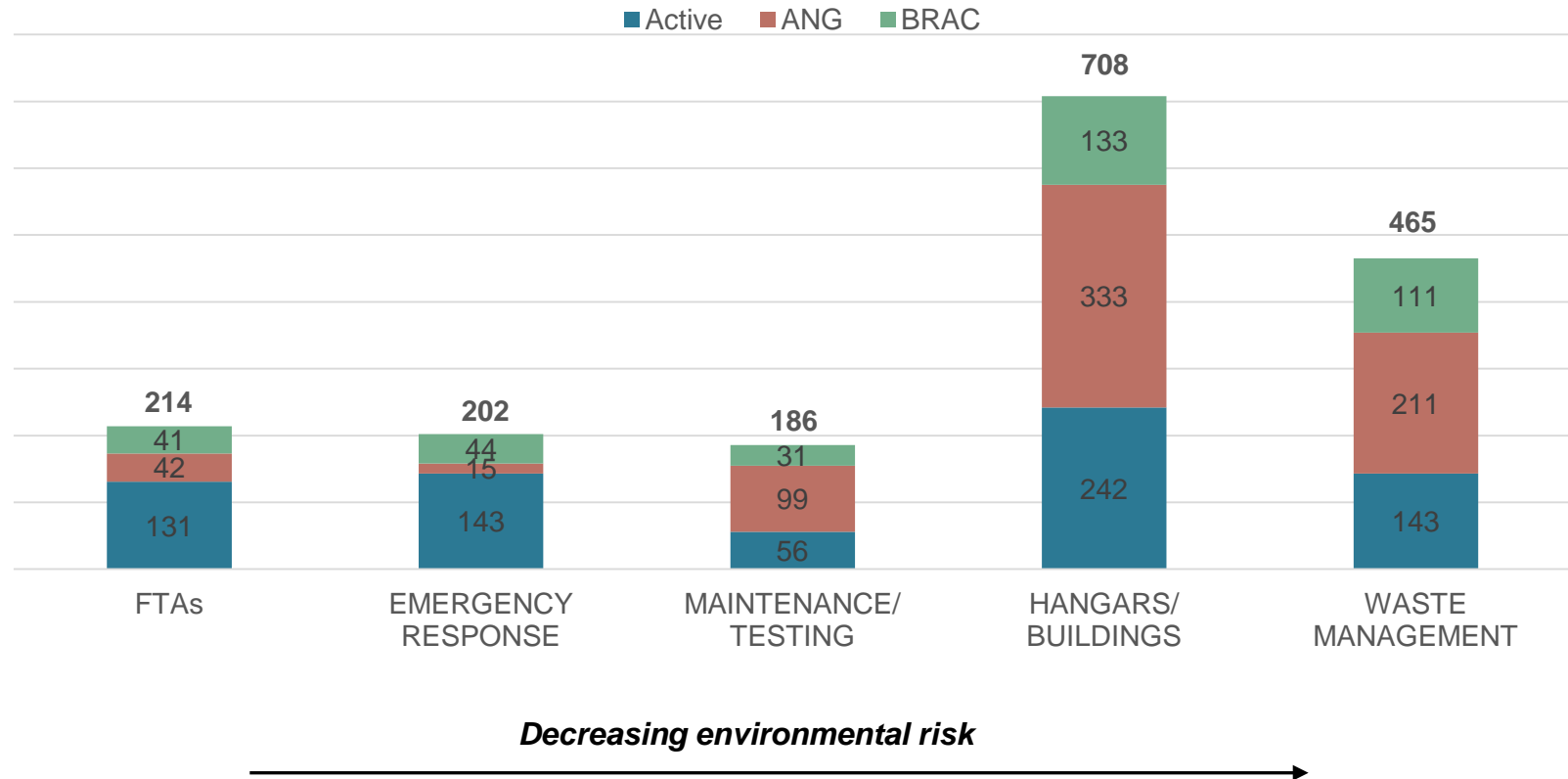
Schedule Adjustments

- **Confirmed presence in drinking water source**
 - **Accelerated investigations at six installations due to potential health risk**
- **Regulatory enforcement**

Complete all PA/SIs by 2020



Site Inspection (SI) Areas by Type



- Potential Release Locations Assessed = 2,869; moved to SI = 1,775
- FTAs and Emergency Response areas represent the highest environmental risks associated with AFFF releases
- SI work will include confirmation and delineation of PFC contamination



Current Mitigation Summary

Active

- [Dover AFB](#) – Bottled water for 1 off-base resident
- [Eielson AFB](#) – Alternate water for 179 residents; 126 pending
- [Ellsworth AFB](#) – Alternate water provisions
- [Joint Base Cape Cod](#) – Bottled water for 16 off-base residents
- [Peterson AFB](#) – Alternate water provisions
- [Wright-Patterson AFB](#) – Shut-off 2 on-base drinking water wells



Current Mitigation Actions Summary (Cont.)

ANG

- [Horsham ANGB](#) – Alternate water provisions for PWSs and private wells
- [Stewart ANGB](#) – Currently collecting samples; sample results are expected in September
- [Francis E. Gabreski ANGB](#) – ANG visiting with Suffolk County Water Authority on 24 August to discuss the Water Authority's needs in providing alternate water



Current Mitigation (cont'd)

BRAC

- Former March AFB – DW Well shut down + 2 home treatment systems
- Former Pease AFB– DW Well shut down + 4 home treatment systems
- Former Plattsburgh AFB – 3 home treatment systems
- Former Wurtsmith AFB – P&T source control at FTA + 1 home treatment + Treatment for existing TCE P&T (surface water discharge)
- Former Chanute AFB – Treat leachate discharge to Wastewater Treatment Plant



Program Challenges

- **Funding**
- **Contract Capacity and Throughput**
- **Regulatory Standards and Engagement**
- **Location**



Telling the Air Force PFC Story



PUBLIC AFFAIRS TOOLBOX

- [AF PFC Public Affairs Guidance](#)
- [AF PFC Communication Strategy](#)
- [Installations' PFC Communication Plan](#)
- [AFCEC Public Website - PFCs](#)

The Scoop on PFCs
(Facts, Talking Points, FAQs)

Base PFC Assessment Schedule

Videos & Graphics

Policy & Reference Information

Customizable Forms, Letters & Templates

Tips, Best Practices & Lessons Learned



For Commanders and PAOs

- Public Affairs Guidance
- Talking Points
- Communications Strategy
- Community Outreach Guidance



For Media and Other Communicators

- Fact Sheets (Air Force, EPA, ATSDR)
- Talking Points
- PFC Web site
- PFC Video



For Communities

- PFC Web Site
- Sample letters (well owners, residents)
- Fact sheets
- Community Outreach tools

PFC Toolkit for informing and educating stakeholders about the issue



What's Ahead

Continue with CERCLA process

- **Funding determines pace of RI/FS**
- **Prioritize results of PA/SI for moving forward with RI/FS**
 - **Potential risk to drinking water sources**
- **Active/ANG – first group installations in FY18**
- **BRAC – first group installations in FY17**
- **Contract mechanisms**
 - **A-E13 primary, also USACE contracts**



Mitigation

- **Two primary types**
 - **Drinking water supplies – private and municipal**
 - AF funding to municipalities
 - AF projects for on-base water supplies
 - AF contracts for installation of whole home treatment and/or funding of connection to municipal water supply
 - **Existing groundwater treatment systems for other contaminants and PFC above the HA**
 - Add PFC treatment to protect reinjection into groundwater
 - Meet regulatory requirements for discharge of water
- **Contract approach driven by urgency**
 - **A-E13, competitive FFP, contract modifications, direct awards**

Questions?

