



USMC Perfluorinated Compound (PFC) Status

August 2016



Background



- **Perfluorinated Compounds (PFCs)**
 - A family of chemicals used in many commercial products.
 - Primary DoD use is in MILSPEC Aqueous Film Forming Foam (AFFF) for firefighting.
 - Has been found as a contaminant in drinking water wells and groundwater at DoD installations and in civilian communities..
- **PFC Health Advisories (HAs):**
 - Not regulatory standards, but can be used to make drinking water and cleanup decisions
 - In May 2016, the Environmental Protection Agency significantly lowered HAs for the PFCs perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA).
- **Increasing Congressional, media, and public interest/concern.**
- **To date, no USMC exceedances of PFC HAs identified.**



Policy Memos



- **Drinking Water (MCICOM GF-5 Lead):**
 - Testing DoD Drinking Water for Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), June 10, 2016, ASD(EI&E).
 - Perfluorinated Compounds (PFCs) Drinking Water System Testing Requirement, June 14, 2016, DASN(E).
- **Cleanup (MCICOM GF-5 Lead):**
 - Perfluorinated Compounds/Perfluoroalkyl Substances (PFC/PFAS)
 - Identification of Potential Areas of Concern (AOCs), June 20, 2016, DASN(E).
- **Operational Management and Use (? Lead):**
 - Aqueous Film Forming Foam (AFFF) Control, Removal, and Disposal, June 17, 2016, DASN(E).



Drinking Water - Sampling



- **Requirement:**
 - Sample finished drinking water for PFCs on all installations by 15 Nov 2016 where sampling has not previously been completed.
 - Sample results must be provided by 31 Dec 2016.
- **Actions Completed to Date:**
 - Reviewed results from sampling under Unregulated Contaminated Monitoring Rule 3 and previous DON policy (21 Oct 2014).
 - Information gathered on the additional systems required to be sampled under the recent policies.
- **Planned Actions:**
 - Installations to sample no later than 15 Nov 2016; installations to submit requests to MCICOM if funding required.
 - Installations acquire written confirmation from the provider that an effluent sample was collected from all treatment plants and/or wells that provide water to the installations
- **Challenges to Implementation:**
 - Potential FY16/FY17 funding challenges for sampling by deadline.



Drinking Water - Detections



- **Requirement:**
 - If samples exceed EPA HA (70 parts per trillion combined for PFOA / PFOS), immediately secure the affected system and/or provide alternative water; promptly notify MCICOM, consumers, and state drinking water officials, as appropriate.
- **Actions Completed to Date:**
 - Reviewed results from previous sampling events to determine if action required.
 - No samples exceeded EPA HA
- **Planned Actions:**
 - Review upcoming additional sample analysis results
 - Take action as necessary based on analysis results
- **Challenges to Full Implementation:**
 - Determining affected consumers to be notified, if necessary
 - Providing alternative water, if necessary



Drinking Water - Monitoring



- **Requirement:**
 - If sample results exceed the Method Reporting Limit (MRL) but are below the HA, installations must institute a quarterly monitoring program to ensure the levels remain below the HA level
 - **Actions Completed to Date:**
 - Reviewed results from previous sampling events to determine if action required
 - One installation has detections above MRL, but below HA – MCB Camp Pendleton
 - **Planned Actions:**
 - Review additional analysis results
 - Determine actions required for applicable installations
 - **Challenges to Full Implementation:**
 - Locating the source of contamination and potentially isolating the source.
-



Cleanup - Potential Areas of Concern (AOCs)



- **Requirement:**
 - DON to identify, prioritize, and evaluate locations where PFCs may have been released to the environment.
 - USMC to validate areas of concern (AOCs)
 - Identify any additional locations and provide those to the Navy for inclusion in the list of sites.
 - **Actions Completed to Date:**
 - Data provided to DON in July/August 2016.
 - **Planned Actions:**
 - No further action required.
 - **Challenges to Full Implementation:**
 - None.
-



Operational Management and Use - AFFF Release Prevention



- **Requirement:**
 - Immediately cease uncontrolled environmental release of AFFF at USMC installations except for emergency responses.
 - Verify and ensure that appropriate controls are in place to prevent an environmental release.
- **Actions Completed to Date:**
 - DLA no longer distributes AFFF containing PFOS from active inventory.
 - Advised Fire Chiefs and ARFF OICs to cease testing and training fires that utilize AFFF.
- **Planned Actions:**
 - LP develops strategy so AFFF containing PFOS can no longer be purchased
 - Conduct inventory of current AFFF stocks.
 - Coordinate with DLA on Qualified Products List (QPL) for AFFF containing PFOA and other PFCs.
- **Challenges to Full Implementation:**
 - System improvements to facilities (i.e. hangars) with AFFF systems and no containment.



Operational Management and Use - Firefighting System Requirements



- **Requirement:**
 - Update and implement USMC firefighting system requirements, as needed, to ensure fire and emergency service vehicles and equipment are tested and certified to prevent AFFF releases.
- **Actions Completed to Date:**
 - Advised Fire Chiefs and ARFF OICs to develop/enforce SoPs that minimize AFFF contamination to the environment except for firefighting operations or where the AFFF can be contained.
- **Planned Actions:**
 - Investigate and procure foam testing equipment for vehicles that does not utilize foam or contains the foam in a closed system.
 - Investigate using less toxic AFFF where feasible.
- **Challenges to Full Implementation:**
 - Funding for new equipment and replacement of existing AFFF



Operational Management and Use - Disposal



- **Requirement:**
 - By the end of FY17, remove and dispose of uninstalled PFOS-containing AFFF in drums and cans from local stored supplies.
 - **Actions Completed to Date:**
 - Advised Fire Chiefs to restrict usage of PFOS containing foam in drums and cans.
 - **Planned Actions:**
 - Conduct inventory of current AFFF stocks to determine scope of AFFF issue.
 - **Challenges to Full Implementation:**
 - Funding for AFFF disposal and replacement depending upon the amount required.
-



Back Up Slides



PFC Testing Conducted to Date



- **Unregulated Contaminant Monitoring Rule 3 (UCMR 3)**
 - EPA regulation that required large water systems (over 10,000 population) and certain smaller systems to test for 21 chemicals, including PFCs
 - Used to gather information to determine which contaminants potentially need future regulations.
 - **Deadline for testing: 31 Dec 2015**
- **Department of the Navy PFC policy:**
 - In addition to following UCMR 3, requires DON installations to test for PFCs where there is an identified or suspected PFC release upgradient and within approximately 1-mile of the drinking water source and at all overseas installations.
- **Results to date: No USMC exceedances of PFC HAs identified.**



Aqueous Film-Forming Foam (AFFF)



- **A Qualified Product List (QPL) contains AFFF that are approved for use by Services (these products may still contain PFOA)**
 - All AFFF containing PFOS has been removed from QPL; however, could still remain in inventory. The AFFF manufactured by 3M prior to 2002 contained PFOS and is no longer available for purchase.
 - GF-5 working with LP and DLA to ensure Marine Corps can no longer purchase and DLA no longer distributes from active inventory (*recommend installations update AULs*)
- **QPL number for the MILSPEC foam is QPL-24385; National Stock Number for AFFF Concentrate is 4210-01-589-7074;**
- **DLA has performed stock screening of inventory at all DLA Depots to ensure that only QPL certified material is available for issue. The following NSNs are on the MIL-F-24385F QPL for 3% and 6% AFFF: 4210-01-139-4972, 4210-01-144-0291, 4210-01-056-8343, 4210-01-056-0883**
- **NAVSEA and Naval Research Lab are currently testing AFFF on QPL to determine levels of PFOA and try to identify most environmentally friendly**
 - Testing is anticipated to be completed by end of first week in August
 - Once testing is complete, all Services will be brought in to assist in identifying a viable substitution