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MARINE CORPS BULLETIN 11000

From: Commandant of the Marine Corps
To: Distribution List

Subj: PERFLUOROOCTANE SULFONATE (PFOS) AND PERFLUOROOCTANOIC
ACID (PFOA) TESTING AND CONTROL AND AQUEOUS FILM FORMING
FOAM (AFFF) MANAGEMENT POLICY AND PROCEDURES

Ref: See enclosure (1)

Encl: (1) References
(2) Aqueous Film Forming Foam (AFFF) Management Policy
and Procedures

1. Situation

a. Per- and Polyfluoroalkyl Substances (PFAS) are a suite of over 1,000 unregulated chemicals that are widely used and can be found in various industrial and consumer products, including Aqueous Film Forming Foam (AFFF). These chemicals have been found in drinking water and groundwater supplies across the country and are of increasing interest to Congress, regulatory agencies and the public. The use of AFFF products for firefighting is the most common Marine Corps activity that could release PFAS into the environment.

b. On 19 May 2016, the Environmental Protection Agency (EPA) issued Lifetime Health Advisories (LHAs) (recommended maximum levels in drinking water) for two PFAS chemicals, Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) of 70 Parts Per Trillion (PPT) individually and 70 PPT total combined as per reference (a). Although these are not regulatory levels, the Department of Defense (DoD) is using the LHAs in making decisions to ensure the health and safety of military personnel and civilian workers and surrounding communities.

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c. As a result of the LHAs and DoD's interest in protecting drinking water quality, the Office of the Secretary of Defense released a policy memorandum that required the testing of finished drinking water for PFOS and PFOA at all installations where DoD is the water purveyor, including both domestic and overseas locations as per reference (b).

d. The Department of the Navy (DON) supplemented the DoD policy with additional policies requiring drinking water system testing at all DON installations as per reference (c); identification and investigation of potential areas of concern where AFFF may have been released as per reference (d); and specifications for AFFF control, removal, and disposal to minimize releases of AFFF to the environment as per reference (e). The Naval Sea Systems Command (NAVSEA) updated the Military Specification (MILSPEC) for AFFF products as per reference (f), which limited the amount of PFOS and PFOA to levels that can currently be quantified in the product. The DON recently published additional policy that requires the removal, disposal, and replacement of uninstalled (i.e., containerized) and installed (e.g., equipment and hangars) AFFF that does not meet the current MILSPEC as per reference (g) by the end of Fiscal Year 2020 (FY-20). This Bulletin is in accordance of references (a) through (n).

2. Mission. This Bulletin provides policy and procedures for Marine Corps enterprise PFOS/PFOA testing and control and AFFF management, including AFFF procurement, removal, replacement, use, and disposal.

3. Execution

a. Commander's Intent and Concept of Operations. The Marine Corps will protect human health and the environment from potential PFOS and PFOA exposure through implementation of this Bulletin.

b. Drinking Water Testing

(1) Installations shall use EPA Method 537 Rev 1.1 or latest approved method to test drinking water samples at a laboratory accredited for this method.

(2) All Marine Corps owned and operated drinking water systems should have been tested for PFOS/PFOA per reference (c). Installation drinking water systems that produce drinking water from on-installation sources shall retest the finished water

upon discovery of a release occurring after the completion of testing required in references (b) and (c), that have occurred within approximately one mile upgradient from a drinking water source. Examples of such releases include accidental AFFF discharges or emergency response actions requiring the use of AFFF (aircraft, vehicle, etc.). PFOS/PFOA release information can be found through the Environmental Restoration, Navy (ERN) Program and installation AFFF spill reports.

(3) If drinking water provided to consumers on a Marine Corps installation exceeds the combined PFOS/PFOA LHA, the installation must immediately notify the chain-of-command and affected personnel and provide alternative drinking water and/or address the route of exposure until these levels can be reduced below the LHA. Finished drinking water shall be retested quarterly for at least four quarters until results are reliably and consistently below the LHA, then sampled annually for two years.

(4) If drinking water provided to consumers on a Marine Corps installation is above the Method Reporting Limit (MRL) but below the PFOS/PFOA LHA, the raw drinking water sources (e.g., individual well(s)) that serve the affected system should be investigated and appropriate corrective actions taken (e.g., regular well monitoring or taking the affected well(s) off-line) to ensure long-term water quality. Finished drinking water shall be retested at least annually for two years or as directed after consultation with Marine Corps Installations Command (MCICOM).

(5) Installations shall continue to implement the above sampling plan as needed or until the EPA establishes drinking water standards/Maximum Contaminant Levels (MCLs) for these chemicals or the ERN Program is able to delineate and/or implement responses to control migration. Variances from the above sampling plan shall only be allowed for special circumstances on a case-by-case basis after consultation with MCICOM. The EPA LHA shall be used for all Marine Corps drinking water actions unless the U.S. State in which the installation is located has a more stringent, enforceable standard.

(6) Installations shall track and report finished PFAS sample result data for all drinking water systems where DoD is the purveyor to MCICOM for entry in the Defense Occupational and Environmental Health Readiness System (DOEHRS) as per reference (i).

c. Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) Sites. Marine Corps installations shall support the Naval Facilities Engineering Command in the identification, assessment and cleanup of PFOS and PFOA sites.

d. Aqueous Film Forming Foam (AFFF) Management Policy and Procedures. (See enclosure (2))

e. Responsibilities

(1) Deputy Commandant, Installations and Logistics (DC I&L)

(a) Ensure that the contents of this Bulletin are incorporated in future revisions to relevant policies and procedures.

(b) Provide guidance/clarifications to current policy as required.

(c) Environmental Compliance Evaluation (ECE) Teams shall inspect for compliance with this Bulletin and provide assistance to installations as necessary.

(2) Deputy Commandant, Aviation (DC A)

(a) Ensure that the contents of this Bulletin are incorporated in future revisions to relevant policies and procedures.

(b) Provide guidance/clarifications to current policy as required.

4. Administration and Logistics

a. Records Management. Records created as a result of this Bulletin shall be managed according to National Archives and Records Administration (NARA) approved dispositions per reference (1) to ensure proper maintenance, use, accessibility and preservation, regardless of format or medium. Records disposition schedules are located on the Department of Navy/Assistant for Administration (DON/AA), Directives and Records Management Division (DRMD) portal page at: <https://portal.secnav.navy.mil/orgs/DUSNM/DONAA/DRM/Records-and-Information-Management/Approved%20Record%20Schedules/Forms/AllItems.aspx>.

Refer to reference (m) for Marine Corps records management policy and procedures.

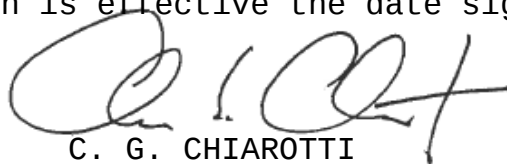
b. Privacy Act. Any misuse or unauthorized disclosure of Personally Identifiable Information (PII) may result in both civil and criminal penalties. The DON recognizes that the privacy of an individual is a personal and fundamental right that shall be respected and protected. The DON's need to collect, use, maintain, or disseminate PII about individuals for purposes of discharging its statutory responsibilities shall be balanced against the individuals' right to be protected against unwarranted invasion of privacy. All collection, use, maintenance, or dissemination of PII shall be in accordance with the Privacy Act of 1974, as amended (reference (j)) and implemented per reference (k).

c. Cancellation Contingency. This Bulletin is cancelled one year from the date of publication or when incorporated into an appropriate Marine Corps Order, whichever occurs first.

5. Command and Signal

a. Command. This Bulletin is applicable to the Marine Corps Total Force.

b. Signal. This Bulletin is effective the date signed.



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References

- (a) EPA Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) Drinking Water Lifetime Health Advisories, 19 May, 2016
- (b) ASD (EI&E) Policy Memo, "Testing DoD Drinking Water for Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)," 10 Jun, 2016
- (c) OASN (EI&E) Policy Memo, "Perfluorinated Compounds (PFCs) Drinking Water System Testing Requirement," 14 Jun, 2016
- (d) OASN (EI&E) Policy Memo, "Perfluorinated Compounds/Perfluoroalkyl Substances (PFC/PFAS) - Identification of Potential Areas of Concern (AOCs)," 20 Jun, 2016
- (e) OASN (EI&E) Policy Memo, "Aqueous Film Forming Foam Control, Removal, and Disposal," 17 Jun, 2016
- (f) NAVSEA MIL-PRF-24385F
- (g) OASN (EI&E) Policy Memo, "Additional Aqueous Film Forming Foam (AFFF) Control, Removal, Disposal Requirements," 6 Mar, 2018
- (h) ASD(Sustainment) Policy for Centralized Management of Per- and Polyfluoroalkyl Substances Drinking Water Data," 22 May, 2019
- (i) NAVAIR 00-80R-14, 1 April, 2012
- (j) 5 U.S.C. 552a
- (k) SECNAVINST 5211.5F
- (l) SECNAV M-5210.1 CH-1
- (m) MCO 5210.11F
- (n) National Defense Authorization Act of 2020

Aqueous Film Forming Foam (AFFF) Management Policy and
Procedures

1. Aqueous Film Forming Foam (AFFF) Product Procurement

a. Organizations shall maintain AFFF on-hand inventory at the minimum level required for mission accomplishment. Organizations shall identify and justify required on hand quantities of AFFF products on their respective Authorized Use List (AUL) through the use of NAVMC Form 11779.

b. All AFFF products procured must be listed on Qualified Products List (QPL) 24385 and meet the maximum permissible PFOS and PFOA concentrations in the current, approved MILSPEC as per reference(f).

(1) Each organization that procures AFFF products is responsible for ensuring that the delivered product meets the requirements of reference (f) to include meeting maximum PFOS and PFOA concentrations. Reference (g) states that manufacturer's material on QPL-24385 with a manufacturing date of December 2016 or later meets the maximum permissible levels of PFOS and PFOA in reference (f). NAVSEA can also review and authorize use of AFFF manufactured prior to December 2016 if it meets the current PFOS and PFOA concentrations specified in reference (f).

(2) Upon receipt and inspection of new AFFF inventory, any AFFF products not meeting the requirements of reference (f) must be returned to the vendor.

c. Newly acquired firefighting vehicles and new facility (e.g., hangar) firefighting systems must be filled and supplied with AFFF products meeting the requirements of reference (f).

d. All procured AFFF products must be tracked in the Hazardous Material/Hazardous Waste (HM/HW) Enterprise Tracking System, including issuing material for equipment, buildings, and apparatus.

2. Uninstalled (Undiluted, Containerized) Aqueous Film Forming Foam (AFFF) Product Disposal and Replacement

a. By the end of FY-20, uninstalled AFFF products that do not meet the requirements of reference (f) must be removed from storage, shall be disposed of according to paragraph 4.d.3., and replaced with MILSPEC-compliant AFFF products.

b. Uninstalled AFFF products that cannot be confirmed as being manufactured after December 2016 (e.g., do not have a manufacture date or were manufactured prior to this date) or specifically authorized by NAVSEA for use are presumed to exceed the maximum permissible PFOS/PFOA limits in reference (f). Organizations shall work with their base environmental office for turn-in for disposal and with base supply staff for procurement of replacement stock, per para 1.

c. Base environmental staff shall coordinate with the Defense Logistics Agency (DLA) for disposal of AFFF products through incineration or other Headquarters Marine Corps (HQMC) approved incineration contract.

d. Replacement of uninstalled AFFF products must occur prior to or concurrently with turn-in of existing uninstalled AFFF products in order to ensure that installations/units maintain minimum ready stock of AFFF products established in reference (i) and base firefighting requirements.

3. Installed (Mobile Equipment and Fixed System) AFFF product removal and rinsing will be performed by Marine Corps wide contract that will be executed regionally.

a. In accordance with reference (g), installed AFFF products shall be removed and replaced with MILSPEC compliant products as per reference (f).

b. Installed AFFF that cannot be confirmed as being manufactured after December 2016 are presumed to exceed the maximum permissible PFOS/PFOA limits in reference (f). No confirmatory laboratory analysis of the installed AFFF products is required.

c. The surfaces of all equipment shall be triple rinsed after removal of AFFF product, utilizing approved methodology by Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC), currently twenty percent (20%) of volume and contact with all surfaces. The rinsate shall be containerized and either treated or properly disposed using DLA or other approved HQMC contract.

d. Any hangar to be demolished before FY-22 is exempt from the requirement to remove, dispose, and replace the installed AFFF product. The AFFF products will be removed and disposed of as part of the decommissioning process for those facilities.

e. All Marine Corps fire suppression equipment or systems that have contained AFFF and are selected for resale, gifting, or will otherwise be reused by a non-DON entity, shall have the AFFF products removed and the equipment/system rinsed and the product/rinsate disposed of as part of the decommissioning process prior to divestiture. Such fire suppression equipment or systems includes any equipment, tools, vehicles, hoses, piping, tanks, reservoirs or hardware that may have been exposed to AFFF containing PFOS/PFOA during the course of operating the equipment or system.

4. Aqueous Film Forming Foam (AFFF) Product Treatment/Disposal

a. Undiluted AFFF products must be incinerated using DLA or other approved HQMC contract.

b. Rinsate or other AFFF-contaminated wastewater that has a concentration of PFOS, PFOA, or a combination of the two less than or equal to 70 PPT may be either discharged to a permitted wastewater treatment system or solidified and landfilled unless otherwise prohibited by state, local, or overseas regulations.

c. Rinsate or other AFFF - contaminated wastewater can be treated prior to disposal/discharge by filtering through Granulated Activated Carbon (GAC), ion exchange, and/or other HQMC approved treatment technology. If being discharged to a wastewater system, concentrations of PFOS/PFOA must be confirmed to be below 70 PPT prior to discharge and be in compliance with regulations and permits.

d. Solid media contaminated during a spill or clean up (e.g., soil, pads, booms, absorbents, GAC, etc.) that has been contaminated with AFFF shall be containerized and incinerated or landfilled using DLA or other HQMC approved contract. All disposal will be conducted pursuant to reference (m).

e. Any equipment, piping, and apparatus that are used to remove AFFF products from systems and are identified as waste may be disposed as non-hazardous waste after completion of the triple-rinsing process unless future guidance or regulations impose more stringent requirements for disposal.

f. Drums should be emptied using the Resource Conservation and Recovery Act (RCRA) standard and then treated as in paragraph 4.e. above. These empty drums may also be repurposed for disposal of compatible hazardous waste.

5. Aqueous Film Forming Foam (AFFF) Management

a. Installations shall update the DoD tenant and non-DoD tenant agreements to discontinue use of all AFFF that does not meet the current approved PFOS/PFOA MILSPEC specifications as per reference (f).

b. MCICOM shall work with regions and installations to coordinate initial:

(1) Removal, rinsing, disposal, and replacement of all installed AFFF products through a Marine Corps wide contract executed on a regional basis to comply with reference (g).

(2) Disposal and replacement of back up stock to be compliant with Naval Air Training and Operating Procedures Standardization (NATOPS) U.S. Navy Aircraft Firefighting and Rescue Manual as per reference (i), and base fire-fighting requirements to comply with references (f) and (g).

(3) Disposal of AFFF contaminated wastewater that is currently being stored for disposal.

c. Installations/units will be responsible for all disposal/procurement thereafter.

6. Aqueous Film Forming Foam (AFFF) Product Use Restriction and Release Procedures

a. This Bulletin applies to all Class B AFFF formulations used aboard Marine Corps Installations. This additional guidance is intended to be consistent with reference (m).

b. AFFF products are to be used for emergency responses only. AFFF products shall not be used for training.

c. Use of AFFF product for emergency response system equipment testing and certification shall be limited to when no suitable alternative method exists. Such equipment testing and certification with AFFF products must be contained, recovered, and disposed of to prevent AFFF releases to the environment.

d. Uncontrolled AFFF releases to the environment are prohibited. AFFF releases (e.g., emergency responses or accidental releases) shall be immediately contained, recovered, and disposed of in coordination with installation environmental

staff to prevent releases to the environment. Accidental releases shall be investigated and corrective actions taken to prevent future accidental releases.

e. Local environmental, fire, and emergency services requirements and procedures, including engineering controls, shall be updated to prevent uncontrolled AFFF releases to the environment.

f. All AFFF uses, releases or spills, regardless of cause or volume, must be reported to the base environmental office and entered into the Environmental Management Portal Environmental Data Repository (EM-Portal EDR) and the Marine Corps Fire Incident Reporting System (MCFIRS) within three working days after the release. This reporting requirement applies to both accidental and emergency response (firefighting) releases from fire suppression systems in hangars and Marine Corps Fire and Emergency Services (F&ES) and Aircraft Rescue and Firefighting (ARFF) fire trucks and incidents that Marine Corps F&ES and ARFF respond to, regardless of incident location (on or off the installation).

7. Environmental Compliance Evaluation (ECE). Installations shall update their ECE protocol to assess compliance with this Bulletin.

APPENDIX A

Glossary of Acronyms and Abbreviations

AFFF	Aqueous Film Forming Foam
AOC	Area of Concern
ARFF	Aircraft Rescue and Firefighting
ASD	Assistant Secretary of Defense
AUL	Authorized Use List
DC A	Deputy Commandant, Aviation
DC I&L	Deputy Commandant, Installations and Logistics
DLA	Defense Logistics Agency
DoD	Department of Defense
DOEHRS	Defense Occupational and Environmental Health Readiness System
DON	Department of the Navy
DON/AA	Department of Navy/Assistant for Administration
DRMD	Directives and Records Management Division
ECE	Environmental Compliance Evaluation
EI&E	Energy, Installations and Environment
EM-Portal EDR	Environmental Management Portal Environmental Data Repository
EPA	Environmental Protection Agency
ERN	Environmental Restoration, Navy
F&ES	Fire and Emergency Services
FY-20	Fiscal Year 2020
GAC	Granulated Activated Carbon
HM/HW	Hazardous Material/Hazardous Waste
HQMC	Headquarters Marine Corps
LHA	Lifetime Health Advisory
MCFIRS	Marine Corps Fire Incident Reporting System
MCICOM	Marine Corps Installations Command

MCL	Maximum Contaminant Levels
MCO	Marine Corps Order
MILSPEC	Military Specification
MRL	Method Reporting Limit
NARA	National Archives and Records Administration
NATOPS	Naval Air Training and Operating Procedures Standardization
NAVAIR	Naval Air Systems Command
NAVFAC EXWC	Naval Facilities Engineering and Expeditionary Warfare Center
NAVMC	Navy Marine Corps
NAVSEA	Naval Sea Systems Command
OASN	Office of the Assistant Secretary of the Navy
PFAS	Per-and Polyfluoroalkyl Substances
PFCs	Perfluorinated Compounds
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PII	Personally Identifiable Information
PPT	Parts Per Trillion
QPL	Qualified Products List
RCRA	Resource Conservation and Recovery Act
SECNAV M	Secretary of the Navy - Manual
SECNAVINST	Secretary of the Navy - Instruction
U.S.C.	United States Code