DEPARTMENT OF THE NAVY
COMMANDER, FLEET ACTIVITIES YOKOSUKA
PSC 473 BOX 1
FPO AP 963 19

5800
Ser N00J/379
8 Jul 22

From: Commander, Fleet Activities Yokosuka
To: (b) (3) (A), (b) (6) USN

Subj: COMMAND INVESTIGATION INTO PRESENCE OF PFAS IN WASTE WATER TREATMENT PLANT ONBOARD FLEET ACTIVITIES YOKOSUKA

Ref: (a) JAGMAN, Chapter II

Encl: (1) (b) (3) (A), (b) (6) Public Works Officer, CFAY, ltr of 6 July 2022

1. This appoints you, per reference (a), to investigate the facts and circumstances surrounding the presence of Perfluoroalkyl and/or Polyfluoroalkyl Substances (PFAS) in the waste water treatment plant onboard Fleet Activities Yokosuka. If you have not already done so, you should read Chapter II of reference (a) in its entirety.

2. During your investigation (b) (3) (A), (b) (6) , CFAY Port Operations Officer, is assigned to assist you as the Investigating Officer.

3. Enclosure (1) is included for your reference and foundation in the investigation. Specifically, investigate the source of the PFAS and its potential for continued presence. Please provide your findings by report, including opinions and recommendations for future procedures and accountability, by 22 July 2022, unless otherwise granted an extension.

4. By virtue of this appointing order, all Commander, Fleet Activities Yokosuka personnel are directed to provide all necessary support to the investigation.

5. You may seek legal advice from the Staff Judge Advocate, (b) (3) (A), (b) (6) at DSN: 315-243-7335, or (b) (3) (A), (b) (6) during the course of your investigation.

(b) (3) (A), (b) (6)

Enclosure (1) Page 1 of 1

DEPARTMENT OF THE NAVY
COMMANDER, FLEET ACTIVITIES YOKOSUKA
PSC 473 BOX 1
FPO AP 96349

5800
Ser N00J/380
8 Jul 22

From: Commander, Fleet Activities Yokosuka
To: [redacted] USN

Subj: COMMAND INVESTIGATION INTO PRESENCE OF PFAS IN WASTE WATER TREATMENT PLANT ONBOARD FLEET ACTIVITIES YOKOSUKA

Ref: (a) JAGMAN, Chapter II

Encl: (1) [redacted] Public Works Officer, CFAY, ltr of 6 July 2022

1. This appoints you, per reference (a), to assist the Investigating Officer (IO), [redacted], in his investigation into the facts and circumstances surrounding the presence of Perfluoroalkyl and/or Polyfluoroalkyl Substances (PFAS) in the waste water treatment plant onboard Fleet Activities Yokosuka. If you have not already done so, you should read Chapter II of reference (a) in its entirety.

2. Enclosure (1) is included for your reference and foundation in the investigation. Specifically, investigate the source of the PFAS and its potential for continued presence. Please provide your findings by report, including opinions and recommendations for future procedures and accountability, by 22 July 2022, unless otherwise granted an extension.

3. By virtue of this appointing order, all Commander, Fleet Activities Yokosuka personnel are directed to provide all necessary support to the investigation.

4. With the IO's concurrence, you may seek legal advice from the Staff Judge Advocate, [redacted] at DSN: 315-243-7335, or [redacted] during the course of your investigation.

[redacted]

Department of Defense Perfluorooctane Sulfonate and Perfluorooctanoic Acid on Military Installations

Report to Congress

April 2020

Office of the Under Secretary of Defense
for Acquisition and Sustainment

The estimated cost of this report or study for the Department of Defense is approximately $14,000 in Fiscal Years 2019 - 2020. This includes $9,850 in expenses and $4,050 in DoD labor.
Generated on 2020Apr22 RefID: 2-80DE234

I. Congressional Reporting Requirement

Senate Report 116-48, page 146, accompanying S. 1790, the Department of Defense (DoD) Authorization Act for Fiscal Year 2020, requests the Secretary of Defense, in coordination with the Commandant of the Coast Guard, to submit to the congressional defense committees a report on all military and Coast Guard installations or facilities whose drinking water supply may exceed the perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) levels recommended in the United States Environmental Protection Agency's (EPA) lifetime health advisories (HA).[1]

II. Background

This report pertains to a national problem involving a wide array of industries and commercial applications, as well as many Federal and state agencies. Therefore, it needs a nation-wide solution. Per- and polyfluoroalkyl substances (PFAS) refers to an entire class of chemicals of which PFOS and PFOA are the most studied and were historically widely-used throughout the United States. These substances are ubiquitous in many industrial and consumer products because they increase a product's resistance to heat, stains, water, and grease.

In the 1970s, DoD began using aqueous film forming foam (AFFF), which contained PFAS, for aircraft fuel firefighting purposes. DoD is one of many users of AFFF, and other major users include commercial airports, the oil and gas industry, and local fire departments. Accordingly, AFFF use or presence is not uniquely attributable to DoD activities. AFFF is a mission-critical tool required for quickly extinguishing petroleum-based fires. Fluorocarbon-based AFFF containing more than a trace amount of PFOS is no longer manufactured or available for purchase in the United States. Legacy stocks of PFOS-based AFFF remain, and currently manufactured and sold AFFF contains PFAS other than PFOS.

To prevent releases to the environment, DoD uses AFFF only to respond to emergency events and no longer uses it for land-based testing and training. The Department treats each of these emergency uses of AFFF as a spill response, to limit environmental releases.

Since 2011, DoD has funded over 100 research projects, with an investment of approximately $100 million to date, addressing characterization, toxicity, and treatment of PFAS, as well as development of new, fluorine-free firefighting agents.

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[1] For additional information on EPA's health advisories for PFOA and PFAS, please see https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos. "Health advisories provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. EPA's health advisory level for PFOA and PFOS offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water." *Id.*

III. PFOS and PFOA Policy Oversight

The Deputy Assistant Secretary of Defense for Environment (DASD(Env)) provides guidance and oversight with respect to the DoD Components' environmental compliance programs. DoD Instruction (DoDI) 4715.06, "Environmental Compliance in the United States," dated August 31, 2018, requires DoD to achieve, maintain, and monitor compliance with applicable environmental requirements, including the Safe Drinking Water Act (SDWA) and its drinking water quality requirements. Therefore, the DoD Components comply with the same federal and state drinking water standards and requirements that apply to a public water system (PWS).[2]

On May 25, 2016, EPA issued SDWA lifetime Health Advisories (HA) recommending that individual or combined levels of PFOS and PFOA in drinking water be at or below 70 parts per trillion (ppt). DoD's priority is to quickly address drinking water that exceeds the HA from DoD activities. Accordingly, though not required by law or regulation, DoD has followed the EPA HA recommendations, to include providing consumers bottled water, alternative drinking water, or targeted drinking water treatment. Additional actions include retesting, customer notifications, communication with state drinking water officials, investigating the source, and an evaluation of options to lower PFOS/PFOA levels over the short and long terms.

IV. DoD Operated Drinking Water Systems with PFOS/PFOA above the HA

The Department is committed to protecting the health of our Service members, their families, and the DoD civilian workforce. In furtherance of its commitment, DoD took proactive actions to address drinking water impacted by releases of PFOS/PFOA from DoD activities. Between June 2016 and August 2017, the DoD Components tested all 524 DoD-owned and -operated drinking water systems worldwide to identify drinking water that exceeded the EPA HA level for PFOS and PFOA. These tests determined that samples from 24 DoD-operated drinking water systems had PFOS/PFOA above the EPA HA level. This information was provided in a March 2018 briefing to Congress.[3]

Where DoD-drinking water was above the EPA HA level, DoD has taken immediate and long-term actions to ensure that no one is drinking water from that source. DoD follows the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) process to fully investigate releases, prioritize responses, and determine appropriate cleanup actions based on risk. For immediate short-term responses, the DoD Components may provide bottled water, install point of use filters or temporary treatment equipment, and blend wells. Longer term solutions may include closing wells, installing new wells, adding permanent PFAS-specific treatment equipment, and connection to a municipal drinking water system.

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[2] The term "DoD Components" for this report refers to the Army, Navy, Marine Corps (USMC), Air Force, and Defense Logistics Agency (DLA).

[3] https://www.denix.osd.mil/derp/home/documents/pfos-pfoa-briefing-to-the-hasc/

Department of the Army

The Army reported PFOS/PFOA above the EPA HA in fourteen DoD-operated drinking water systems at ten installations:

- Belmont Armory
- Camp Carroll
- Camp Red Cloud
- Camp Stanley
- Camp Walker
- El Campo
- Fort Hunter Liggett
- Joint Base Lewis McChord
- Sierra Army Depot
- Soto Cano Air Base

As a follow up to the initial actions, seven installations have completed long-term drinking water solutions, including Belmont Armory, Camp Carroll, Camp Walker, El Campo, Fort Hunter Liggett, Sierra Army Depot, and Soto Cano Air Base. These long-term drinking water solutions included closing wells, installing new wells, and adding permanent PFAS-specific treatment equipment. Joint Base Lewis McChord is in the process of installing long-term drinking solutions for the five separate systems. The two remaining installations, Camp Red Cloud and Camp Stanley, are scheduled for closure and will no longer be providing drinking water.

The Department of the Air Force

The Air Force reported six DoD-operated military drinking water systems with PFOS/PFOA sampling results above the EPA HA:

- Eielson Air Force Base (AFB)
- Horsham Air National Guard Base (ANGB)
- Kunsan Air Base (AB)
- Mountain Home AFB
- New Boston Air Force Station (AFS)
- Wright-Patterson AFB

Both Mountain Home AFB and Horsham ANGB are currently undergoing initial actions. The other four installations, Eielson AFB, New Boston AFS, Wright-Patterson AFB, and Kunsan AB are undergoing long-term solutions to address PFOS/PFOA.

The Department of the Navy

The Navy had six DoD-operated on-base drinking water systems with PFOS/PFOA levels above the EPA HA:

- Naval Air Station (NAS) Oceana Naval Auxiliary Landing Field (NALF) Fentress
- Naval Support Facility (NSF) Diego Garcia I
- NSF Diego Garcia Cantonment
- NSF Diego Garcia Sub Site
- Naval Radio Transmitter Facility (NRTF) Dixon
- MCB Camp Pendleton (South)

Seven of the 35 samples from these six water systems were above the EPA HA for PFOS/PFOA. NSF Diego Garcia I Site and NSF Diego Garcia Sub Site required no further action, as the water systems were already offline and no longer a source of drinking water. NRTF Dixon is providing bottled water and working with regulators to identify the source, as the release has not been linked to the DoD. NAS Oceana NALF Fentress and NSF Diego Garcia Cantonment/Air Ops are currently undergoing long-term drinking water solutions.

At MCB Camp Pendleton, one sample result exceeded the PFOS/PFOA combined HA level. Actions taken included public notification and removing the suspected water sources from service. The affected reservoir was drained and replaced with water from another source. The installation also took three, such as closing wells offline, and resampling confirmed water system levels below the HA. MCB Camp Pendleton continues to monitor the water quality.

Defense Logistics Agency (DLA)

DLA operates one on-base, DoD-operated drinking water system. This system was reported as not having any detectable levels of PFOS and PFOA. All other DLA water systems are owned and operated by local municipalities that adhere to federal, state, and local regulations for PWSs.

United States Coast Guard (USCG)

The USCG is in the process of assessing its risks and vulnerabilities with respect to PFOS and PFOA in drinking water supplies. The USCG is working with the Department of Homeland Security on a strategic, enterprise-wide solution for testing/sampling, providing drinking water alternatives, and operational risk assessments posed by PFOS and PFOA.

V. Notification and Communication

For drinking water systems on installations that test above the EPA HA, DoD has followed the EPA's HA recommended actions to provide prompt notification and ensure that no one consumes drinking water with PFOS/PFOA above the HA. DoD has worked in concert with regulatory agencies and base personnel to provide open and transparent information sharing.

DoD is in regular communication with states, cities, counties, and our federal partners. We have provided updates and participate in forums with multiple partners to share information and approaches to PFOS and PFOA in drinking water, including the Association of State Drinking Water Administrators (ASDWA), National Association of Counties, National League of Cities, Environmental Council of the States (ECOS), National Governors Association, and the Association of State and Territorial Health Officials (ASTHO).

VI. Conclusion

DoD is committed to the health and safety of its military, their families, and civilian personnel, and to proactively taking action to reduce the risks of PFOS and PFOA from DoD activities. As of October 30, 2019, the DoD Components have identified 26 DoD drinking water systems with PFOS/PFOA levels greater than 70 ppt, the EPA's HA. The Department took immediate actions to address these 26 drinking water systems. After cutting off exposure to drinking water above the EPA HA level, DoD is implementing long-term drinking water solutions, such as permanently closing wells, installing new drinking water wells, adding permanent PFAS-specific treatment equipment, and connecting homes to a municipal drinking water system.

DoD has invested in research to develop fluorine-free substitutes for AFFF that meet the military's stringent performance criteria and technologies to quantify and clean up PFOS and PFOA. These combined efforts reinforce DoD's commitment to meeting critical mission requirements while protecting human health.

EPA
United States
Environmental Protection
Agency

FACT SHEET
PFOA & PFOS Drinking Water Health Advisories

Overview

EPA has established health advisories for PFOA and PFOS based on the agency's assessment of the latest peer-reviewed science to provide drinking water system operators, and state, tribal and local officials who have the primary responsibility for overseeing these systems, with information on the health risks of these chemicals, so they can take the appropriate actions to protect their residents. EPA is committed to supporting states and public water systems as they determine the appropriate steps to reduce exposure to PFOA and PFOS in drinking water. As science on health effects of these chemicals evolves, EPA will continue to evaluate new evidence.

Background on PFOA and PFOS

PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). PFOA and PFOS have been the most extensively produced and studied of these chemicals. They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. They are also used for firefighting at airfields and in a number of industrial processes.

Because these chemicals have been used in an array of consumer products, most people have been exposed to them. Between 2000 and 2002, PFOS was voluntarily phased out of production in the U.S. by its primary manufacturer. In 2006, eight major companies voluntarily agreed to phase out their global production of PFOA and PFOA-related chemicals, although there are a limited number of ongoing uses. Scientists have found PFOA and PFOS in the blood of nearly all the people they tested, but these studies show that the levels of PFOA and PFOS in blood have been decreasing. While consumer products and food are a large source of exposure to these chemicals for most people, drinking water can be an additional source in the small percentage of communities where these chemicals have contaminated water supplies. Such contamination is typically localized and associated with a specific facility, for example, an industrial facility where these chemicals were produced or used to manufacture other products or an airfield at which they were used for firefighting.

EPA's 2016 Lifetime Health Advisories

EPA develops health advisories to provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. In 2009, EPA published provisional health advisories for PFOA and PFOS based on the evidence available at that time. The science has evolved since then and EPA is now replacing the 2009 provisional advisories with new, lifetime health advisories.

FACT SHEET
PFOA & PFOS Drinking Water Health Advisories

EPA's 2016 Lifetime Health Advisories, continued

To provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS from drinking water, EPA established the health advisory levels at 70 parts per trillion. When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 parts per trillion health advisory level. This health advisory level offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.

How the Health Advisories were developed

EPA's health advisories are based on the best available peer-reviewed studies of the effects of PFOA and PFOS on laboratory animals (rats and mice) and were also informed by epidemiological studies of human populations that have been exposed to PFASs. These studies indicate that exposure to PFOA and PFOS over certain levels may result in adverse health effects, including developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations), cancer (e.g., testicular, kidney), liver effects (e.g., tissue damage), immune effects (e.g., antibody production and immunity), thyroid effects and other effects (e.g., cholesterol changes).

EPA's health advisory levels were calculated to offer a margin of protection against adverse health effects to the most sensitive populations: fetuses during pregnancy and breastfed infants. The health advisory levels are calculated based on the drinking water intake of lactating women, who drink more water than other people and can pass these chemicals along to nursing infants through breastmilk.

Recommended Actions for Drinking Water Systems

Steps to Assess Contamination

If water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should quickly undertake additional sampling to assess the level, scope and localized source of contamination to inform next steps

Steps to Inform

If water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should promptly notify their State drinking water safety agency (or with EPA in jurisdictions for which EPA is the primary drinking water safety agency) and consult with the relevant agency on the best approach to conduct additional sampling.

Drinking water systems and public health officials should also promptly provide consumers with information about the levels of PFOA and PFOS in their drinking water. This notice should include specific information on the risks to fetuses during pregnancy and breastfed and formula-fed infants from exposure to drinking water with an individual or combined concentration of PFOA and PFOS above EPA's health advisory level of 70 parts per trillion. In addition, the notification should include actions they are taking and identify options that consumers may consider to reduce risk such as seeking an alternative drinking water source, or in the case of parents of formula-fed infants, using formula that does not require adding water.

FACT SHEET
PFOA & PFOS Drinking Water Health Advisories

Recommended Actions for Drinking Water Systems, continued

Steps to Limit Exposure

A number of options are available to drinking water systems to lower concentrations of PFOA and PFOS in their drinking water supply. In some cases, drinking water systems can reduce concentrations of perfluoroalkyl substances, including PFOA and PFOS, by closing contaminated wells or changing rates of blending of water sources. Alternatively, public water systems can treat source water with activated carbon or high pressure membrane systems (e.g., reverse osmosis) to remove PFOA and PFOS from drinking water. These treatment systems are used by some public water systems today, but should be carefully designed and maintained to ensure that they are effective for treating PFOA and PFOS. In some communities, entities have provided bottled water to consumers while steps to reduce or remove PFOA or PFOS from drinking water or to establish a new water supply are completed.

Many home drinking water treatment units are certified by independent accredited third party organizations against American National Standards Institute (ANSI) standards to verify their contaminant removal claims. NSF International (NSF®) has developed a protocol for NSF/ANSI Standards 53 and 58 that establishes minimum requirements for materials, design and construction, and performance of point-of-use (POU) activated carbon drinking water treatment systems and reverse osmosis systems that are designed to reduce PFOA and PFOS in public water supplies. The protocol has been established to certify systems (e.g., home treatment systems) that meet the minimum requirements. The systems are evaluated for contaminant reduction by challenging them with an influent of 1.5±30% µg/L (total of both PFOA and PFOS) and must reduce this concentration by more than 95% to 0.07 µg/L or less (total of both PFOA and PFOS) throughout the manufacturer's stated life of the treatment system. Product certification to this protocol for testing home treatment systems verifies that devices effectively reduces PFOA and PFOS to acceptable levels.

Other Actions Relating to PFOA and PFOS

Between 2000 and 2002, PFOS was voluntarily phased out of production in the U.S. by its primary manufacturer, 3M. EPA also issued regulations to limit future manufacturing, including importation, of PFOS and its precursors, without first having EPA review the new use. A limited set of existing uses for PFOS (fire resistant aviation hydraulic fluids, photography and film products, photomicrolithography process to produce semiconductors, metal finishing and plating baths, component of an etchant) was excluded from these regulations because these uses were ongoing and alternatives were not available.

In 2006, EPA asked eight major companies to commit to working toward the elimination of their production and use of PFOA, and chemicals that degrade to PFOA, from emissions and products by the end of 2015. All eight companies have indicated that they have phased out PFOA, and chemicals that degrade to PFOA, from emissions and products by the end of 2015. Additionally, PFOA is included in EPA's proposed Toxic Substance Control Act's Significant New Use Rule (SNUR) issued in January 2015 which will ensure that EPA has an opportunity to review any efforts to reintroduce the chemical into the marketplace and take action, as necessary, to address potential concerns.

FACT SHEET
PFOA & PFOS Drinking Water Health Advisories

Other Actions Relating to PFOA and PFOS, continued

EPA has not established national primary drinking water regulations for PFOA and PFOS. EPA is evaluating PFOA and PFOS as drinking water contaminants in accordance with the process required by the Safe Drinking Water Act (SDWA). To regulate a contaminant under SDWA, EPA must find that it: (1) may have adverse health effects; (2) occurs frequently (or there is a substantial likelihood that it occurs frequently) at levels of public health concern; and (3) there is a meaningful opportunity for health risk reduction for people served by public water systems.

EPA included PFOA and PFOS among the list of contaminants that water systems are required to monitor under the third Unregulated Contaminant Monitoring Rule (UCMR 3) in 2012. Results of this monitoring effort are updated regularly and can be found on the publicly-available National Contaminant Occurrence Database (NCOD) (https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule#3). In accordance with SDWA, EPA will consider the occurrence data from UCMR 3, along with the peer reviewed health effects assessments supporting the PFOA and PFOS Health Advisories, to make a regulatory determination on whether to initiate the process to develop a national primary drinking water regulation.

In addition, EPA plans to begin a separate effort to determine the range of PFAS for which an Integrated Risk Information System (IRIS) assessment is needed. The IRIS Program identifies and characterizes the health hazards of chemicals found in the environment. IRIS assessments inform the first two steps of the risk assessment process: hazard identification, and dose-response. As indicated in the 2015 IRIS Multi-Year Agenda, the IRIS Program will be working with other EPA offices to determine the range of PFAS compounds and the scope of assessment required to best meet Agency needs. More about this effort can be found at https://www.epa.gov/iris/iris-agenda.

Non-Drinking Water Exposure to PFOA and PFOS

These health advisories only apply to exposure scenarios involving drinking water. They are not appropriate for use, in identifying risk levels for ingestion of food sources, including: fish, meat produced from livestock that consumes contaminated water, or crops irrigated with contaminated water.

The health advisories are based on exposure from drinking water ingestion, not from skin contact or breathing. The advisory values are calculated based on drinking water consumption and household use of drinking water during food preparation (e.g., cooking or to prepare coffee, tea or soup). To develop the advisories, EPA considered non-drinking water sources of exposure to PFOA and PFOS, including: air, food, dust, and consumer products. In January 2016 the Food and Drug Administration amended its regulations to no longer allow PFOA and PFOS to be added in food packaging, which will likely decrease one source of non-drinking water exposure.

Where Can I Learn More?

- EPA's Drinking Water Health Advisories for PFOA and PFOS can be found at: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos
- PFOA and PFOS data collected under EPA's Unregulated Contaminant Monitoring Rule are available: https://www.epa.gov/dwucmr/occurrence-data-unregulated-con taminant-monitoring-rule
- EPA's stewardship program for PFAS related to TSCA: https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/and -polyfluoroalkyl-substances-pfass-under-tsca
- EPA's research activities on PFASs can be found at: http://www.epa.gov/chemical-research/perfluorinated-chemical-pfc-research
- The Agency for Toxic Substances and Disease Registry's Perflourinated Chemicals and Your Health webpage at: http://www.atsdr.cdc.gov/PFC/

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PFOA, PFOS and Other PFAS

CONTACT US <https://epa.gov/pfas/forms/contact-us-about-pfoa-pfos-and-other-pfas>

PFAS Explained

PFAS News

Read the latest news from EPA about PFAS. <https://epa.gov/pfas/press-releases-related-pfas>

What EPA is Doing

Learn what EPA is doing to address PFAS. <https://epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024>

EPA is committed to providing meaningful, understandable, and actionable information on per- and polyfluoroalkyl substances – known as PFAS – to the American public. The information provided here is intended to explain some of the important background information needed to understand the details of specific actions EPA takes to address PFAS, and other emerging events related to PFAS. It covers the following topics:

1. Our current understanding of the human health and environmental risks PFAS <https://epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>
2. Increasing our understanding of the health risks from PFAS and how to address them <https://epa.gov/pfas/increasing-our-understanding-health-risks-pfas-and-how-address-them>
3. Meaningful and achievable action steps that can be taken to reduce risk <https://epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk>

What EPA Has Learned So Far

- PFAS are widely used, long lasting chemicals, components of which break down very slowly over time.
- Because of their widespread use and their persistence in the environment, many PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment.
- PFAS are found in water, air, fish, and soil at locations across the nation and the globe.
- Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals.
- There are thousands of PFAS chemicals, and they are found in many different consumer, commercial, and industrial products. This makes it challenging to study and assess the potential human health and environmental risks.
- Learn more about our current understanding of PFAS. <https://epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>

What We Don't Fully Understand Yet

- EPA's researchers and partners across the country are working hard to answer critical questions about PFAS:
  - How to better and more efficiently detect and measure PFAS in our air, water, soil, and fish and wildlife
  - How much people are exposed to PFAS
  - How harmful PFAS are to people and the environment
  - How to remove PFAS from drinking water
  - How to manage and dispose of PFAS
- This information will help EPA and state, local, and tribal partners make more informed decisions on how best to protect human health and the environment.
- Learn more about how we are increasing our understanding of the health risks of PFAS. <https://epa.gov/pfas/increasing-our-understanding-health-risks-pfas-and-how-address-them>

PFAS Home <https://epa.gov/pfas>

PFAS Explained

Action steps to reduce risk <https://epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk>

EPA's current understanding <https://epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>

Increasing our understanding <https://epa.gov/pfas/increasing-our-understanding-health-risks-pfas-and-how-address-them>

EPA actions to address PFAS <https://epa.gov/pfas/key-epa-actions-address-pfas>

PFAS Strategic Roadmap <https://epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024>

Data and Tools <https://epa.gov/pfas/pfas-resources-data-and-tools>

State Information <https://epa.gov/pfas/us-state-resources-about-pfas>

Contact Us <https://epa.gov/pfas/forms/contact-us-about-pfoa-pfos-and-other-pfas> to ask a question, provide feedback, or report a problem.

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Summary of the Guideline on the Treatment of Wastes Containing Perfluorooctane Sulfonic Acid (PFOS), and Its Salts in Japan

April 2013

Ministry of the Environment of Japan

A. Introduction

1. Japan designated perfluorooctane sulfonic acid (PFOS), its salts, and perfluorooctane sulfonyl fluoride (PFOSF) as Class I Specified Chemical Substances under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture on April 1, 2010, pursuant to the Decision of the Stockholm Convention on Persistent Organic Pollutants on its Fourth Conference of the Parties to add these substances to Annex B. Under the said act, appropriate measures are taken such as developing an approval system for the manufacture and import of these chemical substances, and limiting their use except under certain permitted conditions.

2. The Stockholm Convention prescribes that wastes containing persistent organic pollutants shall be processed for destruction or to irreversibly transform such pollutants so that their hazardous characteristics are no longer detectable, unless the contents of the pollutants in wastes are low enough.

3. To meet this requirement, the Japanese Ministry of the Environment issued in September 2010 the "Technical Guideline for the Environmentally Sound Treatment of PFOS Wastes", which describes the environmentally sound management of wastes containing PFOS and its salts (hereafter referred to as "wastes containing PFOS") and their storage, entrustment of treatment, transport and destruction method, in line with the Waste Management and Public Cleansing Act.

4. This document provides a summary of the "Technical Guideline for the Environmentally Sound Treatment of PFOS Wastes", and as a reference material, introduces an overview of experiments on destruction of wastes containing PFOS, and the calculation method for the emission standards of PFOS and its salts in effluent and residues.

B. Summary of the Technical Guideline for the Environmentally Sound Treatment of PFOS Wastes

1. Backgrounds and Objective

The present technical guideline provides a practical guide concerning the environmentally sound treatment of wastes generated during the manufacture or the use of products containing perfluorooctane sulfonic acid (PFOS) and its salts (hereafter referred to as "wastes containing PFOS"), with the aim of protecting the living condition and improving public health in Japan. This technical guideline is developed in accordance with the decision of the Stockholm Convention on Persistent Organic Pollutants on its Fourth Conference of the Parties in May 2009 to add these substances to Annex B, and in line with the Waste Management and Public Cleansing Act and other related laws in Japan.

2. Scope

This technical guideline applies to wastes (industrial wastes) in solid or liquid forms that are generated during the manufacturing process or the use of products containing PFOS.

3. Storage

3.1 Storage

Wastes containing PFOS should be stored at sites that meet the following criteria:

(1) The sites should be surrounded with a fence,
(2) A signboard that meets the following criteria should be put up at a conspicuous place:
    i. The length of the horizontal and vertical sides of the board should be more than 60 centimeters each,
    ii. The following items must be indicated on the board:
        - The site is for the storage of wastes containing PFOS
        - The type of waste containing PFOS stored at the site
        - The maximum height of wastes containing PFOS piled up at the site
        - The name and contact information of the administrator of the site
        - Other necessary information.
    iii. Appropriate measures should be taken to prevent the scatter, leakage, underground seepage, or the spread of bad odor from the wastes containing PFOS at the site.
(3) The inhabitation of rodents, and the occurrence of mosquitoes, and other pests at the site should be prevented.

(4) Necessary measures, such as setting up partitions, should be taken to avoid contamination of the wastes containing PFOS at the site.

3.2 Storage Container

To store wastes containing PFOS, containers that meet the following criteria should be used.

(1) The container should be sealable.

(2) The container should be easy to store.

(3) The container should be indestructible.

3.3 Labeling

Operators (*1) handling the products containing PFOS such as etching agents for semiconductors, resists, photographic films, fire extinguishers and fire-extinguishing foam, (*2) must comply with the following:

(Technical criteria on specific duties regarding handling of the listed products,
(Storage method, transfer method of the content of product, book and record keeping of the number of stored product, treatment for leakage of the content of product, etc.)

(1) Duty to label listed product in case of transfer or release.

(A label should indicate that the product contains PFOS, the proportion of PFOS content, specific instructions, and contact information of the person in charge of labeling)

*1 Permitted manufacturers, operators using Class I Specified Chemical Substances in business, transporters, storage operators, and others.

*2 Regarding fire extinguishing foams, PFOS is not essential for their manufacture. However, there is a considerable stock of the product containing PFOS, and it is considered difficult to replace these stocks with substitutes within a short period of time because they are used only during disasters. It is therefore necessary to prevent environmental pollution by setting technical criteria on handling and labeling obligation.

4. Monitoring

To entrust the transport or treatment of wastes containing PFOS as industrial wastes, the entruster must issue a control manifest for industrial waste (hereafter referred to as "manifest"), confirm the returned manifest at the completion of transport, intermediate treatment and final disposal at each stage, and keep the returned manifest on file for five years.

5. Transport

The transporter must comply with the following criteria:

(1) Scattering or leakage of the wastes containing PFOS should be prevented during their transport.

(2) Appropriate measures should be taken to prevent adverse effects on the living condition resulting from bad odor, noise, or vibration caused by the transport of wastes containing PFOS.

(2) The transporting vehicle and the container should ensure that no scattering, leakage or bad odor of the wastes containing PFOS will occur.

(4) To avoid mixing with other materials, wastes containing PFOS should be handled separately during the process of collection and transport.

6. Technique for Destruction Treatment

(1) The method of destruction must ensure that PFOS and its salts are completely destroyed. In addition, levels of PFOS and its salts in the effluent and its residues, as well as levels of hydrogen fluoride in the exhaust gas and effluent should not exceed interim emission standards.

(2) Target level of destruction and interim emission standards

1) The destruction level of PFOS and its salts must be over 99.999%.
2) The content of PFOS in the effluent and residues released during the process of destruction shall not exceed the following standards:
    i. Effluent: 2 μg/ℓ,
    ii. Residue: 3 mg/kg.
3) The contents of hydrogen fluoride in the emission gas as well as fluorine and its compounds in the effluent that were released during the process of destruction shall not exceed the following standards. In case stricter standards are set by other codes or related legislations, they would supersede the following standards:
    i. Emission gas: 5mg/m^3N,
    ii. Effluent (pursuant to the Water Pollution Control Law):
        - Public water except for the sea 8mg/l,
        - The sea 15mg/l.

Annex 1

An Overview of the Incineration Experiment I on Wastes containing PFOS and its Salts

1. Objective

The purpose of this experiment was to simulate the condition of liquid PFOS used as fire-extinguishing fluid when treated in commercial incineration facilities for industrial wastes, and to verify the destruction rate of PFOS and its content levels in the flue gas, residues and effluent, as well as the content levels of its by-products.

2. Method

2.1 Commercial waste incineration facility used for the experiment

Fig.1 shows the schematic flow of the commercial waste incineration facility and the sampling points for PFOS.

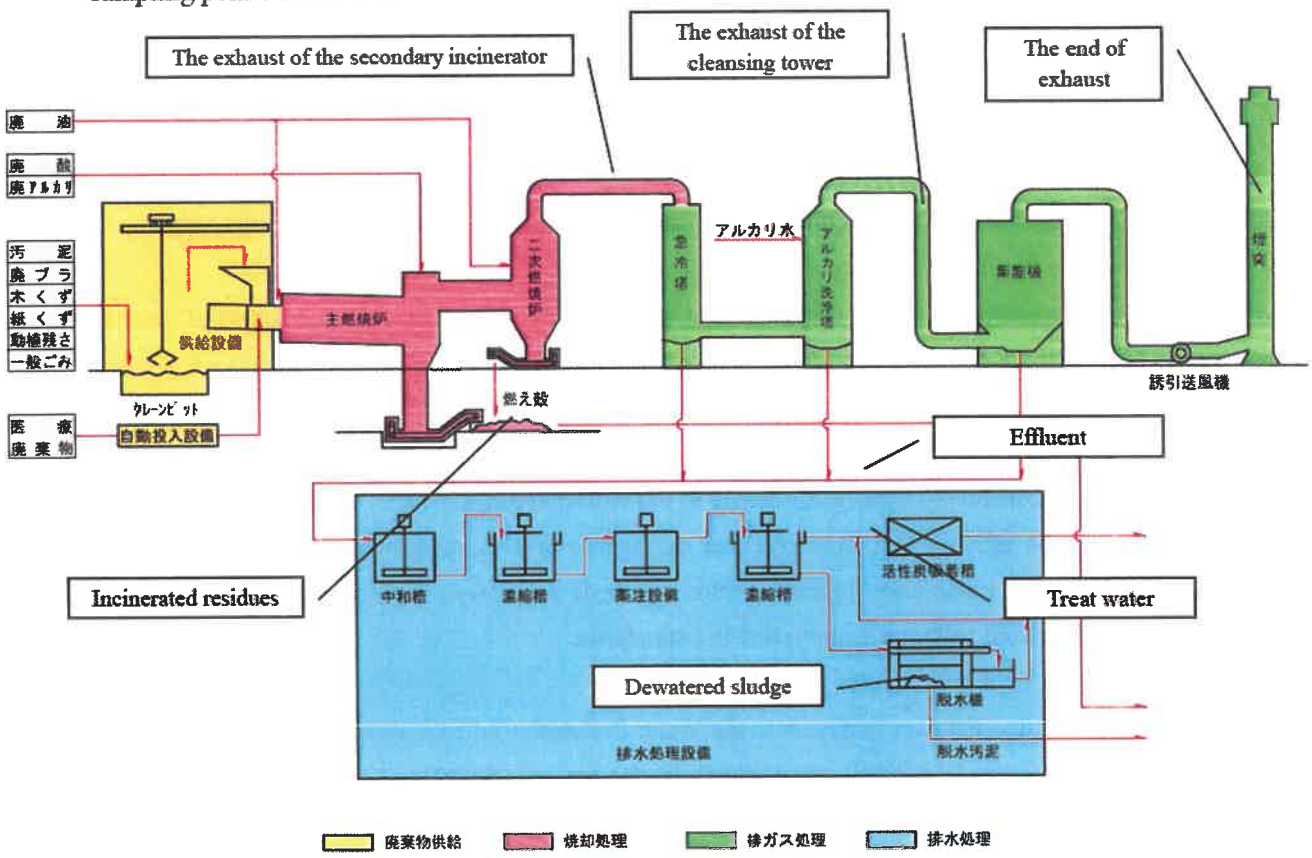

Fig.1 The schematic flow of the incineration facility used for the experiment and the sampling points for PFOS

An overview of the waste incineration facility is described below.

(1) Incinerator

The incinerator consists of a primary furnace (a rotary kiln) and secondary furnace. Incineration temperatures are 1,100 °C in the primary and 900 °C in the secondary furnaces. The combined gas retention time in the primary and secondary furnaces is approximately 8 seconds, and the average retention time for solid materials in the rotary kiln is 1 to 1.5 hours.

(2) Flue gas treatment facility

The flue gas treatment facility includes: the quenching tower that instantly cools down the flue gas from 850-900 °C to 80 °C; the cleansing tower that conducts absorptive treatment of the acidic gas through alkali cyclic water; and the wet-type electric dust collector (a mist Cottrell precipitator) that functions as a dust removal device. After removal of the acidic gas, a portion of the cyclic water is extracted as slurry discharge, and is transferred to the effluent treatment facility.

(3) Effluent treatment facility

The slurry discharge is mixed with those from other incinerators and effluents from other facilities within the site. After heavy metals are fixed using chelate agents and sedimentation separation is conducted using flocculation agents, the effluent and the dehydrated sludge are separated in a dehydrator. The effluent is combined with those from other facilities to be treated at the effluent treatment facility and then released.

2.2 Method of the experiment

This experiment consists of the main incineration test, where the simulated wastes containing PFOS are cast in during the routine waste treatment time, and the blank test, which is incineration without the simulated wastes containing PFOS.

(1) Wastes containing PFOS

The PFOS-containing-simulated-waste used for this experiment is a fire extinguishing foam containing potassium salts of PFOS, which finds application in fire extinguishing equipments among others (hereafter referred to as "fire-extinguishing foam containing PFOS"). The content of PFOS in the simulated waste is approximately 0.67% (the setup value at the time of manufacturing). Presently, a considerable number of fire-extinguishing foams containing PFOS are placed and kept in buildings, and it is expected that these would be discarded after periodic inspections, trainings, disasters, and disposals.

The simulated wastes, 4 kg each, were packed separately in plastic containers, and were continuously cast into the incinerator from the automatic input line for infectious wastes. The input rate per hour was set as 29.4 packs (118kg/h).

(2) Condition of the experiment

Incineration temperatures in the experiment are shown in Table 1.

Table 1 Incineration temperatures during the experiment

Location	Blank test	Main Incineration test
Gas temperature at the exhaust of the primary incinerator	Maximum 1,129°C Average 1,094°C Minimum 1,057°C	Maximum 1,126°C Average 1,088°C Minimum 1,034°C
Gas temperature at the exhaust of the secondary incinerator	Maximum 952°C Average 917°C Minimum 883°C	Maximum 966°C Average 896°C Minimum 832°C
Gas temperature at the exhaust of the cleansing tower	Maximum 80.7°C Average 79.6°C Minimum 78.2°C	Maximum 80.1°C Average 78.9°C Minimum 77.5°C

(3) Items for analysis

The items analyzed at each sampling point are shown in Table 2.

Table 2 Items analyzed at each sampling point

Type of facility	The simulated waste	Other waste	The exhaust of the secondary incinerator	The exhaust of the cleansing tower	The end of exhaust	Incinerated residues	Effluent	Dewatered sludge	Treatment water
Item 1	*	*	*	*	*	*	*	*	*
Item 2			*	*	*				
Item 3	*	*				*		*	
Items for analysis	Item 1: PFOS, PFOA, other related substances of PFOS/PFOA, all fluorine (organic fluorine and inorganic fluorine) Item 2: The amount of gas, the flow rate of gas, the amount of water, the amount of soot and dusts, CO, O_2, Hydrogen fluoride, Fluorocarbons Item 3: The generated amount and input of moisture, ash, and the flammable components during the experiment								

3. Summary of the result

(1) The destruction rate of PFOS

The rate of destruction of PFOS was estimated based on the result of the incineration experiment. The calculation formula for the estimation is as shown below. From the result, the destruction rate was calculated to be more than 99.999%.

Destruction rate = (Total amount of input [*1] – Total amount of emission [*2])/ Total amount of input ×100

*1 The total amount of input (μg): The amount of PFOS in usual waste + the amount of PFOS in waste containing PFOS.

*2 The total amount of emission (μg): The amount of PFOS at the final emission point of flue gas + the amount of PFOS in the residues after destruction + the amount of PFOS in the slurry discharge

*3 The amount for a 5-hour period was used in the estimation. In case the amount was below the minimum determination limit, the minimum determination limit value was applied.

・The destruction rate of PFOS

$$\frac{((73{,}100+4{,}100{,}000{,}000)-(188+316+3{,}950+7.8))\times 100}{(73{,}100+4{,}100{,}000{,}000)}$$

$$= \frac{(4{,}100{,}073{,}100-4{,}461.8)\times 100}{4{,}100{,}073{,}100}$$

$$\fallingdotseq \underline{\mathbf{99.999891\%}}$$

(2) Hydrogen fluoride

It was observed that, in the main test and the blank test, the behaviors of hydrogen fluoride in the flue gas were nearly the same. This result indicates that no effects by the input of the waste containing PFOS occurred. The content of hydrogen fluoride in the final emission of flue gas was at the determination limit (0.5mg/Nm3), which was below the emission standard under the guideline for the destruction treatment of CFC.

The content of fluorine and its compounds in the effluent was 5.1mg/L in the main test, and 6.9mg/L in the blank test. These data showed no significant differences, and were below the emission standard (8mg/L).

(3) Fluorocarbons

In the main test and the blank test, the content of fluoric carbons at the emission point of the second furnace and the cleansing tower, and the final emission point were below the determination limit. It was observed that no significant production of fluoric carbons due to incineration of PFOS occurred.

(4) Chlorinated dioxins

In the main test and the blank test, it was observed that the behaviors of chlorinated dioxins were nearly the same. This indicates that no effects by the input of the waste containing PFOS occurred.

The TEQ of chlorinated dioxins in the flue gas, the effluent and the ashes (residues and dehydration sludge) were below the Japanese emission standard.

Annex 2

Target concentrations of PFOS and its salts in effluent and residues released during the destruction treatment process

The target emission concentration of PFOS released during the process of destruction treatment of waste containing PFOS (hereafter referred to as "emission standard reference guide") was calculated according to the methods described below. Since PFOS is highly soluble in water and no evidence of its transition to flue gas was confirmed in the incineration experiment conducted by the Japanese Ministry of Environment, the emission standard reference guide for flue gas was therefore not studied.

1. Emission standard reference guide for effluents

The impact on human health of the intake of PFOS and its salts, resulting from their seepage into the underground water through treated water and other discharges released from the effluent treatment facility, was taken into account when studying the emission standard reference guide for effluents.

According to the primary environmental risk assessment issued by the Japanese Ministry of the Environment ("The environmental risk assessment on chemical substances", Vol.6, May, 2008), ADI for human health is referred to as 0.03mg/kg/day based on NOAEL for rodents. This value was compared with the standard concentration for drinking water in Germany, and the NOAEL of 0.10μg/kg/day, which is equal to the ADI in the said German standard, was the value adopted as the safe side. Calculations were as follows.

Target concentration in drinking water = ADI ×Body weight (50.0kg) × Pathway allocation for water (0.1) ÷ daily intake of water (2L)

The reference standard for effluent was calculated based on the above value and emission standards under the Water Pollution Control Act. The dilution concentration was set at 10:

$=0.2\mu g/L \times 10$

$=2\mu g/L$

2. Emission standard reference guide for residues

Residues (including incinerated residues and polluted sludge) were regarded as soil, and their impact on human health through food intake and skin absorption was taken into account when studying the emission standard reference guide for residues. As with effluents in section 1, concentrations in residues were calculated, using 0.10μg/kg/day for ADI, as follows.

Target concentrations residues =ADI (0.10μg/kg) ×Body weight (50.0kg) ×Pathway allocation for soil (0.1) ÷(Lifetime average daily intake of soil (108.6mg)+ Lifetime average daily skin contact with soil (463.8mg) ×Absorption rate (0.1)

The basis for each parameter is as follows:

Lifetime average daily food intake of soil = (Daily food intake of soil (children) (200mg/day) ×6 (years) +Daily food intake of soil(Adults)(100mg/day)×64(years))÷Years in a lifetime (70 years)

Lifetime average daily skin contact with soil= Daily skin contact with soil per unit skin area(0.5mg/m^2/day) ×Skin area(children)(2800cm^2) ×Rate for sunny day (0.6) ×Rate for touching the soil outdoors (children, 7/7) ×6(years) + Daily skin contact with soil per unit skin area (0.5mg/m^2/day) Skin area(adult)(5000cm^2) × Rate for sunny day (0.6) ×Rate for touching the soil outdoors (adults, weedends: 2/7) ×64 ÷Years in a lifetime.

Absorption rate: Although it is assumed that absorption of PFOS through the skin is rare, information on the absorption rate is insufficient to date. Therefore, the default value used by the Environmental Protection Agency of the United States was employed in this calculation.

Reference : USEPA: RAGS, Part E, Supplemental Guidance for Dermal Risk Assessment, Interim Guidance, 2001.

3. Verification of the emission standard reference guide

The calculated emission standards were compared to the minimum limit of determination of PFOS, its emission concentration and data measured in the environment. Results of the comparisons revealed that the reference emission levels exceeded the minimum limit of determination, as well as the data measured at the point of PFOS generation source (including the experiment on incineration conducted by the Japanese Ministry of Environment). Meanwhile, the standard concentration for drinking water used in the calculation of effluent was confirmed to be very close to the standards for drinking water in other countries (including tentative standards), and exceeded the data measured in the environment.

Table 1 Comparisons of the emission standard reference guide, the minimum limit of determination and data measurements

Items for comparison	Effluent	Residues
Reference emission standard	2μg/L (Reference for the concentration in drinking water: 0.2μg/L)	3mg/kg
Minimum limit of determination (based on the incineration experiment)	0.0002μg/L	0.5μg/kg
Case examples in other countries	[The US] Interim recommendation on human health impact of PFOS in drinking water: 0.2μg/L [1] [Germany]HRIV HRIV※ : 0.3μg/L (drinking water) [2] [England] Initial audit standard: 0.3μg/L (drinking water) [3]	[Minnesota, the US] [9] Residence area: 2mg/kg Industrial area : 14mg/kg [Technical Guideline on the waste containing POPs] [10] Low POP content: 50ppm
Data taken in Japan (Emission concentration)	Treated water from a semiconductor manufacturing factory: Maximum 1.6μg/L [4] Treated water from a sewage treatment plant: 0.042-0.635μg/L [5] Treated water from a sewage treatment plant: 0.003-0.15μg/L [5] Treated water from a final disposal site: < 0.001-0.0043μg/L (PFOA) [6]	[Result of the incineration experiment] Residues from the destruction: Below the minimum limit of determination (0.1μg/kg) Dehydrated sludge: 5-11μg/kg
Data taken in Japan (Concentration in the environment)	0.0007～0.16μg/L (2002) (Fresh water) [7] 0.0073～0.011μg/L (2005) (Sea water) [8]	Bottom sediment (Fresh water) [11], [12] <0.000096～0.0043mg/kg Bottom sediment (Sea water) [8], [11] <0.000096～0.00035 mg/kg

※HRIV : permanent tolerable, health-related indication value

reference :

1) USEPA: Provisional Health Advisories for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), January 8, 2009
2) Ministry of Health at the Federal Environment Agency: Provisional evaluation of PFT in drinking water with the guide substances perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) as examples, Statement by the Drinking Water Commission (Trinkwasserkommission) of the German, June 21, 2006 (revised July 13, 2006)
3) DRINKING WATER INSPECTORATE: Guidance on the Water Supply (Water Quality) Regulations 20001 specific to PFOS (perfluorooctane sulphonate) and PFOA (perfluorooctanoic acid) concentrations in drinking water, October 2009
4) Japan Electronics and Information Technology Industries Association
5) T. Omata, Y. Takashima, T. Nishino, Y. Sasaki, D. Kitano: Identification of the emission sources of PFCs through an investigation on sewage water and discharged water from facilities. Proceeding for the 18th Conference of Environmental Chemistry in Japan: 544-545., 2009
6) M. Yagi, A. Yamaji, I. Shibutani: The behavior of organic fluorine compounds during the treatment of leachate released from final disposal sites. Proceeding for the 18th Conference of Environmental Chemistry: 558-559., 2009
7) K. Harada, N. Saito, K. Inoue, A. Koizumi: Perfluorooctane Sulfonate Contamination of Drinking Water in the Tama River, Japan: Estimated Effects on Resident Serum Levels. Bull. Environ. Contam. Toxicol. 71:31-36., 2003
8) Environmental Health and Safety Division, Environmental Health Department, the Japanese Ministry of Environment: Survey on chemical substances in the environment in fiscal year 2005, 2007
9) Helen Goeden: Issues and Needs for PFAA Exposure and Health Research: A State Perspective, 2008
10) Basel Convention: Updated general technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (POPs)
11) Environmental Health and Safety Division, Environmental Health Department, The Japanese Ministry of Environment: Survey on chemical substances in the environment in fiscal year 2003, 2005
12) Osaka Prefectural Government, Japan: Survey on the water quality including perfluorooctanoic acid in waters around Kanzaki River in Osaka, 2007

Annex 3

Amount of waste containing PFOS for treatment

Currently, the treatment of wastes containing PFOS is in progress in accordance with the "Technical Note on the Environmentally Sound Treatment of Wastes containing PFOS" (drafted in September 2010, revised in March 2011) in Japan. The Japanese Ministry of Environment has conducted confirmation experiments on destruction treatment at 13 sites to ensure that the level of destruction is adequate and the treatment is carried out in an environmentally sound manner. The amounts of wastes containing PFOS that were treated at these sites until the end of August 2012 are 847.4t.

Assuming that all 847.4t of the wastes containing PFOS that were treated after the release of the said technical note was fire-extinguishing foam, the content level of PFOS and its salts was estimated as 2.72t (content rate: 0.32% *1). This would account for approximately 2% of 134,370kg, which is the total amount of PFOS and its salts in all fire extinguishing foams that are out in the market.

*1 The average content rate of PFOS in the fire-extinguishing foam sold in 2008.
*2 Document No. 2 "Mass flow of the waste containing PFOS (revised)" circulated at the second meeting of the panel for the environmentally sound treatment of waste containing PFOS (the fiscal year 2010)

13.3.5.1 Promptly take necessary measures to prevent the spread of leakage.

13.3.5.2 Endeavor to the maximum extent possible to recover the leaked firefighting foam.

13.3.5.3 Store any recovered firefighting foam, spill-impacted soil, and materials used in the recovery operations that may have become contaminated with firefighting foam, in sealable containers.

13.3.5.4 Dispose of the recovered foam, spill-impacted soil, and other contaminated materials using high-temperature incineration that meets the destruction and removal efficiency of hazardous waste incinerators as outlined in JEGS Paragraph 16.9.4.2.1. Disposal of the spill material in this manner does not change the characterization of the material, i.e., if the spill material does not exhibit a characteristic of a hazardous waste, then disposal of the material per JEGS Paragraph 16.9.4.2.1 does not change its characterization to a hazardous waste. However, if the spill material does exhibit a characteristic of a hazardous waste, then it must be disposed of in accordance with the hazardous waste disposal requirements of JEGS Chapter 16.

13.4 REPORTING

13.4.1 Concurrent with undertaking a spill response, any significant spill must be reported to the FIC immediately.

13.4.2 The FIC must immediately notify the installation commander who will report to the LEC and Service Component Commander and submit a follow-up written report on USFJ Form 50 (Spill Report) when the following situations occur:

13.4.2.1 The spill occurs inside a U.S. exclusive use facility or area and cannot be contained within any required berm or secondary containment;

13.4.2.2 The spill exceeds 416 liters [110 gallons] of POLs;

13.4.2.3 The spill exceeds the reportable quantity for hazardous wastes and substances listed in JEGS Table 16.3;

13.4.2.4 The spill involves a quantity of PFOS and PFOA with a combined concentration in excess of 50 ng/L;

13.4.2.5 A water resource has been polluted;

13.4.2.6 A significant spill occurs outside of a U.S. exclusive use facility or area; or

13.4.2.7 The FIC has determined that the spill is significant.

13.4.3 When a significant spill occurs inside a DoD installation and cannot be contained within the installation boundaries or threatens the local Japanese drinking water resource, the installation commander must immediately notify the appropriate Service Component Commander, LEC, and appropriate local governmental authorities.

13.4.4 If a significant spill is caused by DoD installation personnel or activities outside of the installation property, the person in charge at the scene must immediately notify the authorities listed in Paragraph 13.2.4.5.3. The FIC will perform further notifications of local emergency personnel, as appropriate, and immediately notify the appropriate Service Component Commander, LEC, and appropriate local governmental authorities.

13.4.5 Spill reporting is an installation commander responsibility. Installation commanders will not delegate spill reporting authority to an organization outside of their direct command, such as a tenant unit hosted on the installation. Tenant units will not assume responsibility from the host installation commander for spill reporting to the LEC and local governmental authorities without the approval of the LEC.

13.5 PERSONNEL TRAINING

Installations must provide necessary training and accidental release response drills, in accordance with the plan, to ensure the effectiveness of personnel, equipment, and protective measures. Oil-handling personnel must be identified by job title, responsibilities, or job duties, and trained annually as required by JEGS Paragraph 11.3.

13.6 RECORDKEEPING

Installations must maintain records associated with spill prevention and response. Appropriate records include plans, procedures, inspection results, records of spills and response activation, and reports. Recordkeeping must be consistent with the procedures established by the plan (see Paragraph 13.2.3.11).

13.7 OFF-SITE DISPOSAL OF CONTAMINATED SOIL RESULTING FROM A SPILL

Installations that dispose of contaminated soil off-site using a contaminated soil treatment contractor, must use a contractor that is licensed by the appropriate governmental authority, and must use the appropriate governmental contaminated soil manifest. Installations must handle contaminated soil as follows:

13.7.1 Do not mix contaminated soil with other materials in the process of loading and transportation.

13.7.2 Do not separate rocks, concrete waste, and other materials from contaminated soil in the process of loading and transportation.

13.7.3 Segregate soil excavated from different locations based on their waste characteristics to prevent mixing. This requirement, however, does not apply when the contaminated soil is processed in a facility that is capable of treating soils with different waste characteristics.

13.7.4 Do not unload contaminated soil except at a licensed contaminated soil treatment facility. There are five categories of licensed contaminated soil treatment facilities in Japan:

13.7.4.1 Soil treatment facilities;

13.7.4.2 Cement manufacturing facilities;

UNCLASSIFIED//
ROUTINE
R 131854Z OCT 21 MID200001224877U
FM CNO WASHINGTON DC
TO NAVADMIN
INFO CNO WASHINGTON DC
BT
UNCLAS

NAVADMIN 227/21

MSGID/GENADMIN/CNO WASHINGTON DC/N4/OCT//

SUBJ/AQUEOUS FILM FORMING FOAM (AFFF) USAGE AND SPILL RESPONSE AND REPORTING//

REF/A/DOC/DOD/13JAN20/NOTAL//
REF/B/DOC/ASN/28FEB20/NOTAL//
REF/C/DOC/DOD/18SEP20/NOTAL//
REF/D/DOC/CNIC/22JAN19//
REF/E/DOC/01JAN21//
REF/F/DOC/DOD/11AUG16//
REF/G/DOC/OPNAV/25JUN21//
NARR/REF A IS ASD(SUSTAINMENT) MEMO, AQUEOUS FILM FORMING FOAM (AFFF) USAGE AND SPILL REPORTING.
REF B IS ASN(EI&E) ACTION MEMO, AFFF USAGE AND SPILL REPORTING REQUIREMENTS.
REF C IS ASD(SUSTAINMENT) MEMO, PROHIBITION OF TESTING AND TRAINING WITH FLUORINATED FILM FORMING FOAM.
REF D IS CNICINST 5214.1B, COMMANDERS CRITICAL INFORMATION REQUIREMENTS AND SIGNIFICANT EVENTS REPORTING.
REF E IS THE FISCAL YEAR 2021 NATIONAL DEFENSE AUTHORIZATION ACT.
REF F IS DODM 3025.01, VOL. 2, DEFENSE SUPPORT OF CIVIL AUTHORITIES: DOD INCIDENT RESPONSE.
REF G IS OPNAV-M 5090.1, ENVIRONMENTAL READINESS PROGRAM MANUAL.//
POC/[redacted]/E-
MAIL: [redacted] /TEL: [redacted]//

RMKS/1. This message consolidates policy requirements and highlights implementing instructions necessary for responding to and reporting use and spills (collectively referred to as releases hereinafter) of Aqueous Film Forming Foam (AFFF) ashore, including releases from Navy ships while in port at Navy installations. In July 2019, the Secretary of Defense created a Per- and Polyfluorinated Alkyl Substances (PFAS) Task Force to develop policies and procedures to address releases of these substances, and mitigate the effects of PFAS on military installations and surrounding communities. AFFF is used as a fire-extinguishing agent and vapor suppressant for flammable and combustible liquids and has historically contained PFAS. In January 2020, Assistant Secretary of Defense (ASD)(Sustainment) established policy via reference (a) requiring all AFFF releases to be tracked and reported. Subsequently, the Assistant Secretary of the Navy, Energy, Installations and Environment (ASN(EI&E))issued reference (b) directing Commander, Navy Installations Command (CNIC) to immediately task installation commanders to begin AFFF release reporting. The requirements cited in this NAVADMIN are in addition to, and do not supersede, any other applicable operational or environmental reporting triggered due to an AFFF release.

2. Applicability. AFFF release response and reporting requirements apply to releases that occur at Navy installations, including releases from ships in port that impact surrounding waters. AFFF release response and reporting applies to both unintended/accidental releases at Navy installations, and the use of AFFF pursuant to emergency responses whether on or off installation. Response and reporting procedures described in this NAVADMIN do not apply to routine management of AFFF in conjunction with supply, maintenance, repairs, or other planned events in which the AFFF is contained and not released to

the environment. Note that AFFF use in testing and training is prohibited at most shore locations per direction in reference (c).

3. AFFF Release Response. AFFF, whether in concentrate or mixed solution, is a hazardous material (HAZMAT) and installations will respond to releases accordingly. Every effort must be made to arrest the release, and contain, collect, and properly dispose of the released product. Initial cleanup may include removal of obviously impacted soil and water to the extent practicable. Installation environmental staff will assess the need for, and extent of, subsequent cleanup actions. Following an accidental or unintended release onboard a Navy installation, the installation will initiate a root cause analysis to identify underlying reason(s) for the release (if not known at the time of the initial release report).

4. AFFF Release Reporting.

a. Management of AFFF Release Reporting. CNIC has overall responsibility for AFFF Release Reporting ashore. In this capacity, CNIC will receive initial reports of AFFF releases and maintain the master list of Navys AFFF Release Reports. CNIC will transmit an annual AFFF release report and reports of significant releases to the Office of the Deputy Assistant Secretary of Defense for Environment and Energy Resilience (ODASD(E&ER)) via the chain of command, and facilitate all other reporting described below.

b. Initial Release Reports. Initial AFFF release reports will be made immediately upon discovery to the installation Command Duty Officer (CDO), then promptly relayed to the CNIC Regional Operations Center (ROC) to meet the requirements of reference (d). This includes releases by installation activities, ships in port, and tenant organizations. For off-installation mutual aid responses, and any other off-installation (Fire and Emergency Services (F&ES)) incident responses, the initial report will be made to the CDO of the nearest Navy installation. Initial reports will provide the following in as much detail as is available:

(1) Date and time of release

(2) Location and physical address of the release

(3) Amount of concentrate (gallons)

(4) Amount of mixed foam (approximate volume of AFFF concentrate and water, in gallons)

(5) Type of AFFF (% concentrate and manufacturer)

(6) Cause of the release (e.g. fire response, fuel spill, accidental/unintended release). If accidental or unintended, describe the immediate cause and circumstances, if known

(7) Summary of AFFF usage or spill (general description of the events surrounding the release, its extent, and actions taken for containment and cleanup)

(8) For releases onboard the installation: Name and contact information for installation environmental staff notified of the release

(9) For releases off-installation: Name and contact information for the off-installation representative notified of the release

(10) The name of the incident commander or public official who requested AFFF use (if applicable), and

(11) The name and contact information of the individual making the initial report.

c. Tracking and Follow-on Reporting. Upon receipt of an initial release report relayed by an installation, the ROC will generate the Category II-9 Commanders Critical Information Requirements (CCIR) report in accordance with reference (d), and applicable local and regional CCIR instructions. The CCIR report will include the same information as the initial release report described in subparagraph 4b. Thereafter, CNIC headquarters (HQ) will track the release response, and prepare, maintain, and submit release reports to ODASD(E&ER) per references (a) and (b). CNIC HQ will send the release reports via the email address [redacted] and will include copies to [redacted] and to ensure the chain of command remains informed. Timing and content of reports will vary as follows:

(1) 24-hour Reporting Requirement for Significant Releases. A

release of more than 10 gallons of AFFF concentrate, or more than 300 gallons of AFFF mixed foam, or any other situation that may receive media attention, constitutes a significant release. Significant releases must be reported to ODASD(E&ER) within 24 hours of the initial release per references (a) and (b). In addition, to comply with Section 318 of reference (e), installations will prepare and submit an Action Plan (or Final Action Report if all follow-up actions are complete) to CNIC HQ no later than 30 days after the initial release notification. CNIC HQ will forward the Action Plan or Final Action Report to ODASD(E&ER) within 45 days of the initial release report. The Action Plan or Final Report will include a description of actions taken to arrest and clean up the release, and a description of any coordination with relevant local and State environmental protection agencies. Note that Action Plans and/or Final Action Reports are not required for mutual aid responses.

(2) Annual Release Reporting. All AFFF releases must be reported to ODASD(E&ER) in a consolidated report annually. This includes significant releases already reported and all other releases reported that did not trigger the 24-hour reporting threshold. CNIC HQ will provide the consolidated report to ODASD(E&ER) by 15 November each year via OPNAV N4I.

(3) Additional Requirement for Off-Installation Releases. When Navy F&ES is asked to use AFFF for fire suppression to protect the public in accordance with mutual aid agreements, the Installation Commanding Officer (ICO) will notify the off-installation entity that AFFF was used per their request. The same notification requirement applies if the requestor does not have a mutual aid agreement and has asked for immediate response under reference (f). Notifications will be made no later than 15 days following the end of the Navys participation in the emergency response.

5. Additional Guidance for Releases of AFFF from Ships in Port.

a. If AFFF is released into surrounding waters, the ship will:

(1) Make an initial report of the release to the installation CDO per subparagraph 4b. The installation will support the ship with release response as needed.

(2) If in a U.S. port, submit appropriate Uniform National Discharge Standards (UNDS) non-compliance and Hazardous Substance Release reports in accordance with reference (g), appendix C.

b. Ships in port that spill or use AFFF on or inside the ship and the AFFF is not released into surrounding waters will:

(1) Ensure all AFFF is appropriately cleaned up and disposed of as HAZMAT.

(2) If AFFF entered the bilge, inform installation Port Operations and environmental office to ensure AFFF impacted bilge water is handled and processed appropriately. The ship will follow installation directions when offloading AFFF impacted bilge water to shore.

(3) UNDS non-compliance and Hazardous Substance Release reporting is not required if the AFFF is not released into surrounding waters.

c. If AFFF is spilled or used on or in the ship and some AFFF is released into surrounding waters, only the amount released into surrounding waters must be reported.

6. Actions. Echelon II commands will ensure that personnel who use or encounter AFFF are aware of the initial reporting requirements in paragraph 4.b of this NAVADMIN. CNIC will establish policies and procedures necessary to implement and facilitate the reporting requirements of this NAVADMIN, to include guidance for conducting root cause analyses cited in paragraph 3. ICOs will incorporate AFFF release response and reporting into local HAZMAT release response instructions and standard operating procedures.

7. Released by [redacted] .//

BT
#0001
NNNN
UNCLASSIFIED//

6 July 2022

From: (b) (3) (A), (b) (6), Public Works Officer, CFA Yokosuka
To: Commander, Fleet Activities Yokosuka

Subj: (b) (5)

(b) (5)

Recommendations. (b) (3) (A), (b) (6), (b) (5)

D

04 Jan 23

SUMMARY OF INTERVIEW ICO (b) (3) (A), (b) (6)

Date: 28 Nov 23
Time: 1000-1100
Location: Commander Fleet Activities Yokosuka, Community Resource Building, Room 224.

I, (b) (3) (A), (b) (6) certify that the following is a true and accurate summary of the interview conducted between me and (b) (3) (A), (b) (6) at Fleet Activities, Yokosuka on 28 Nov 22.

1. (b) (3) (A), (b) (6) stated that he has only general knowledge of the Waste Water Treatment Plant (WWTP) and its Operation.

2. (b) (3) (A), (b) (6) confirmed that the only shore based AFFF Sources would be:

(b) (3) (A), (b) (6), (b) (5)

3. (b) (3) (A), (b) (6) confirmed that he has seen black oily waste in the WWTP between June 29th and May 18th, 2022. HE was unable to recall the exact date and the oily waste was seen in the WWTP holding tanks A and C.

4. (b) (3) (A), (b) (6) did not have any knowledge of how AFFF or oily waste could have entered the WWTP System or how long specifically it could have been present prior to its initial detection in March 2022.

(b) (3) (A), (b) (6)
FSCM/FMFS Division Head

(b) (3) (A), (b) (6)

B

19 Jan 23

SUMMARY OF INTERVIEW ICO (b) (3) (A), (b) (6)

Date: 21 Nov 23
Time: 1300-1400
Location: Commander Fleet Activities Yokosuka, (b) (3) (A), (b) (6), (b) (5)

I, (b) (3) (A), (b) (6) certify that the following is a true and accurate summary of the interview conducted between me and (b) (3) (A), (b) (6) at Fleet Activities, Yokosuka on 21 Nov 22.

1. (b) (3) (A), (b) (6) is the (b) (3) (A), (b) (6), (b) (5) Manager, located on Commander Fleet Activates Yokosuka.

2. A small AFFF Tank is located immediately outside of the (b) (3) (A), (b) (6), (b) (5) and adjacent to the building.

3. Approximately 7 feet from the AFFF tank is an access cover to the drain system of the Waste Water Treatment Plant (WWTP).

4. In March of 2022, Japanese Contracting Company, C1, was conducting maintenance on the AFFF tank and ruptured the bladder contained within.

5. (b) (3) (A), (b) (6) was not informed, therefore unsure if any of the AFFF solution was exposed to the environment due to the rupture.

6. (b) (3) (A), (b) (6) was able to confirm that the AFFF system has not been used recently for any purpose at the (b) (3) (A), (b) (6), (b) (5)

(b) (3) (A), (b) (6)

(b) (3) (A), (b) (6)

(b) (3) (A), (b) (6)

C

04 Jan 23

SUMMARY OF INTERVIEW ICO [redacted]

Date: 21 Nov 23
Time: 1300-1400
Location: Commander Fleet Activities Yokosuka, [redacted]

I, [redacted] certify that the following is a true and accurate summary of the interview conducted between me and [redacted] at Fleet Activities, Yokosuka on 21 Nov 22.

1. [redacted] is in charge of Backflow Prevention Program but does not know the details on of the Waste Water Treatment Plant (WWTP) operation.

2. [redacted] views his role as protecting the drinking water on the base.

3. [redacted] discussed the cross connection between the WWTP and Potable Water (PW) system on base. Cross connected exists that has two in-line check valves and a relief valve.

4. [redacted] opinion based on his training and experience is that the possibility that PFOS/PFOA coming from Potable Water system into the plant is virtually nonexistent.

5. [redacted] was unavailable to sign this summary due to a regularly scheduled PCS transfer.

[redacted]

[redacted]

E

04 Jan 23

SUMMARY OF INTERVIEW ICO (b) (3) (A), (b) (6)

Date: 28 Nov 23
Time: 1000-1100
Location: Commander Fleet Activities Yokosuka, (b) (3) (A), (b) (6), (b) (5)

I, (b) (3) (A), (b) (6) certify that the following is a true and accurate summary of the interview conducted between me and (b) (3) (A), (b) (6) at Fleet Activities, Yokosuka on 21 Nov 22.

1. (b) (3) (A), (b) (6) stated that he has no new information about the presence of PFAS/PFOA in the WWTP since last interviewed in July, 2022.

2. (b) (3) (A), (b) (6) stated that excessive foam was first detected in March 25, 2022.

3. The first was drawn around March 30th, 2022 by contractor without USGOV knowledge due to excessive foaming.

4. Initially tested for Mineral Oils which came back negative. This prompted further testing for PFOA/PFAS which returned positive.

5. USGOV Sampled on April 8th, 2022 which came back positive for PFOS/PFOA. USGOV sampled at Influent and Effluent lines for Plant A and C and occasionally they sample the holding tanks for each plant.

6. In July of 2022 excessive foaming was detected in a lift station indicating contamination within the waste water drainage system. The source was unknown and not determined.

7. More details on testing frequency and results are in the Microsoft teams group.

(b) (3) (A), (b) (6)

(b) (3) (A), (b) (6)

30 Jul 2022

MEMORANDUM

From: [redacted], PWO, CFAY

Subj: TIMELINE OF EVENTS IRT PFAS IN WWTP

19 Feb: Facility Support Contractor (FSC) who operates and maintains the Waste Water Treatment Plant (WWTP) observed excessive foaming at nitrification tanks in Plant A.
25 Mar: FSC observed excessive foaming, as well as oily smell and hard to break bubbles. FSC analyzed for mineral oils (PWD aware). Start of excessive scum and oil balls in Plant C which required daily extra cleaning and other operational mitigations.
28 Mar: FSC observed excessive foaming
30 Mar: FSC observed excessive foaming
3 Apr: FSC observed excessive foaming
4 Apr: FSC observed excessive foaming
5 Apr: FSC observed excessive foaming.
7 Apr: FSC observed excessive foaming.
8 Apr: FSC observed excessive foaming. FSC analyzed lift stations B1, B4 and Holding Tank for oils (PWD aware).
11 Apr: FSC observed excessive foaming.
12 Apr: FSC observed excessive foaming.
13 Apr: FSC conducts PFAS sample; does not notify the Public Works Department (PWD)
17 Apr – 16 May: FSC conducts recurring annual lift station cleaning, removing mineral oils, oily waste, and scum from all lift stations and holding tanks.
2 May: FSC received PFAS sample results.
4 May: PWD received FSC condition report indicating ongoing excessive foaming. FSC provided results from PFAS sampling conducted 13 Apr without PWD notification or permission; samples analyzed locally via non-EPA approved methods at influent and within nitrification tank.
9 May: NAVFAC samples influent and effluent of Plants A and C
12 May: FSC observes and reports excessive foaming
1 Jun: FSC used vacuum truck to remove excessive oil balls from Plant C
2-3 Jun: PWD samples for mineral and animal oils in at influent and effluent of Plants A and C, as well as lift stations
27 Jun: NAVFAC receives preliminary laboratory results for 9 May sampling event
28 Jun: CNRJ N45 notifies USFJ of sampling results; USFJ provides informal notification to the Government of Japan.
29 Jun: NAVFAC receives final laboratory results for 9 May sampling event
6 Jul: NAVFAC samples influent and effluent of Plants A and C
14 Jul: NAVFAC receives final laboratory results for 6 July sampling event.

15 Jul: FSC observes and reports excessive foaming. Investigation in B-line lift stations discovers no anomalies, including visual observation for foam and an informal "shake test" to see if manual agitation could produce bubbles. No suspected sources identified.
29 Jul: CNRJ decision to commence WWTP PFAS treatment by Government-furnished Granular Activated Carbon (GAC) filters and construction/service contractors

From: [redacted]
To: [redacted]
Cc:
Subject: FW: CCIR CNRJ-7 CNIC II-9 HAZMAT Release, PFAS/PFOA In Excess of JEGS limit (6/28)
Date: Thursday, July 7, 2022 3:55:44 PM

[redacted]:

[redacted] is going to serve as the IO and please have your Port Ops serve as the assistant. I don't know what any of the stuff listed below means or whether it could help narrow the scope of the investigation but this was the initial report.

V/r
[redacted]

-----Original Message-----
From: [redacted]
Sent: Tuesday, June 28, 2022 5:14 PM
To: [redacted]
Cc: [redacted] CFAY [redacted] CNFJ [redacted] CNFJ [redacted] RLSO WESTPAC [redacted] CFAY [redacted] CNFJ.SDO [redacted] CNRJ [redacted] CNFJ [redacted] CNFJ [redacted] NAVFAC [redacted] CFAY [redacted] NAVFAC [redacted] CNFJ [redacted] PRY DPWO [redacted] CNFJ [redacted] CFAY [redacted]
Subject: CCIR CNRJ-7 CNIC II-9 HAZMAT Release, PFAS/PFOA In Excess of JEGS limit (6/28)

[redacted],

BLUF: Wastewater discharges into Japan waters from CFAY's Wastewater Treatment Plant (WWTP) exceeds the JEGS PFAS/PFOA-limit of 50 ppt for both Plant A and Plant C. Water samples were collected on 9 May and results were delivered on 27 June. CFAY PWD Environmental Division is working together with NAVFAC FE and USFJ to investigate source of PFAS contamination and reporting requirements to Government of Japan. Additional samples are being collected to determine if contamination represents a transient condition or steady state levels of PFAS/PFOA.

DETAILS:
1. CCIR. CNRJ-7 CNIC II-9 Hazmat Release Into The Environment (PFAS/PFOA)
2. Installation/Location. CFAY Wastewater Treatment Plant (WWTP)
3. Type of Incident. PFAS/PFOA release in excess of 50 ppt
4. Date/Time of Incident. 9 May 22

5. Incident Description.
- On 27Jun22, PWD received results from PFAS sampling conducted 9 May22 indicating exceedances at the two effluent points, but not at the influent into the plants. (See results, below)
- On 24Jun22, Region EV conducted site visit of WWTP Plant A and Plant C with PWD EV. No signs of abnormal foaming.
- On 21Jun22, PWO, DPWO and P-ICO conducted site visit of WWTP. No signs of abnormal foaming.
- On 9May22, NAVFAC Far East Environmental Lab collected PFAS samples at both the inlet and outlet for both Plant A and Plant C.
- On 6May22, DPWO and Production Officer conducted site visit of WWTP with no signs of abnormal foaming. Sampling locations identified in coordination with Region EV.
- On 5May22, PWD was notified of KTR sampling indicating exceedance of PFOS and PFOA from points within Plant A. PWD does not concur with KTR's sampling points and directs resampling by GOV by approved methods and at appropriate locations.
- On 13April22, WWTP O&M Contractor investigated unusual foam development. As one of several measures, KTR collected samples of overflowing nitrification tank foam and wastewater fluid from various points within WWTP Plant A. PWD/Government was not aware of the KTR's sampling event.

Sampling Results, 9May22:

Wastewater Treatment Plant A	PFOS (ppt)	PFOA (ppt)	Total PFAS (ppt)
Inlet	19	ND	19
Outlet	100	12	112
[Exceedance]			

Wastewater Treatment Plant C	PFOS (ppt)	PFOA (ppt)	Total PFAS (ppt)
Inlet	ND	ND	ND
Outlet	30	27	57
[Exceedance]			

ACTIONS:
6. Action Taken
* CFAY PWD will notify CNRJ/USFJ of exceedance discharge to bay
* CFAY will report by UNIT SITREP for HAZMAT release
* Notify WWTP KTR that non-recurring sampling requires PWD notification prior to conducting
* Resample to confirm PFAS concentration after other symptoms of abnormal operations subsided. Since May22, unusual foaming and peaking nitrate levels have reduced to normal.
* Establish process and procedures in case of reoccurrence of unusual foaming, to include urgent PWD notification and upstream source investigation
* Coordinate alternatives to recirculate wastewater through WWTP with existing treatment processes to reduce effluent concentrations prior to discharge. Confirm abilities of Granular Activated Carbon (GAC) filter to impact PFAS concentration in effluent and any ability to increase this.
* PAO notified
7. ETR. 4 May
8. Mission Impact. None
9. Media Interest. Possible once information is released to GoJ

V/r,

[redacted](b) (6)

[redacted]

CFA Yokosuka WWTP Sampling Locations & Results Schematic

Drawing as of 22 Jul 2022
Data as of 22 Jul 2022
N.D. = Non-Detect