

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE – SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

MEMORANDUM

DATE: 8/22/2019

SUBJ: Request for a Removal Action at the Loring AFB NPL Site,
Limestone, Aroostook County, Maine - **Action Memorandum**

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I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the proposed removal action at the former Loring Air Force Base (AFB) National Priorities List (NPL) Site (the Site), located in Building 7210 of the Loring Development Authority (LDA) in Limestone, Aroostook County, Maine. Pollutants present in various sized containers at the Site, if not addressed by implementing the response actions selected in this Action Memorandum, will continue to pose a threat to human health and the environment. This site is listed as an NPL Site, and as such, the United States Environmental Protection Agency (EPA) has a heightened responsibility to ensure the protection of human health and the environment.

Based on the site-specific circumstances at this Federal Facility Superfund Site, EPA determined that a removal action is necessary to abate and protect against the threat of contamination of groundwater supplies due to per- and polyfluoroalkyl substances (PFAS), specifically the emerging contaminants perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). EPA's preventative action, as outlined in this memorandum, is consistent with Congress' delegation of removal authority under CERCLA section 104, which authorizes a removal when there is a "release or a *substantial threat of release* into the environment of any pollutant or contaminant *which may* present an imminent and substantial danger to the public health or welfare." 42 U.S.C. § 9604(a)(1)(B) (emphasis added). A release need not actually occur to

trigger authority to act. As is demonstrated below, the complex interactions between USAF, MEDEP, and EPA at this NPL site, the abandoned status of the containers of AFFF, and implications resulting from the formal dispute process under CERCLA result in a unique situation that presents a substantial threat of release which may present an imminent and substantial endangerment to groundwater, soil, and ultimately public health, and will continue until necessary action is taken.

Presently, there are no nationally significant or precedent-setting issues associated with this Site, however, due to the national interest in PFAS, EPA Region I has coordinated the response planning with the EPA Office of Emergency Management. There has been no use of the OSC's \$200,000 warrant authority.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID# : ME9570024522
SITE ID# : 01F4
CATEGORY : Time-Critical Removal Action

A. Site Description

1. Removal site evaluation

On June 10, 2019, the Maine Department of Environmental Protection (MEDEP) Federal Facilities Program initiated a formal dispute relating to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) response at the former Loring AFB in Limestone, Maine, in which MEDEP requested that the United States Air Force (USAF) remove approximately 5000 gallons of obsolete and abandoned Aqueous Film Forming Foam (AFFF) concentrate from the former base. MEDEP expressed its concern about the threat posed by containers of AFFF and insisted that proactive action to remove the threat of potential release of AFFF from the base while the product is containerized was necessary to protect human health and the environment.

On July 11, 2019, the SEMD Emergency Planning and Response Branch (EPRB) management coordinated with the EPA Region I Remedial Program Loring Team to discuss the June 10, 2019 formal dispute by MEDEP and identify possible EPA actions to address the threat posed by AFFF. On July 15, 2019, EPRB conducted a consultation with the EPA Headquarters per the OSWER Directive 9360.0-19 *Guidance on Non-NPL Removal Actions Involving Nationally Significant or Precedent-Setting Issues*.

On July 17, 2019, the EPA Federal On-Scene Coordinator (OSC) mobilized to the Site to conduct a preliminary assessment and site investigation. The OSC coordinated with the LDA Facilities Manager to enter Building 7210 and inspect the abandoned, obsolete AFFF drums,

totes and containers.¹ The OSC observed approximately 5000 gallons of AFFF in various types of containers stored in Building 7120, all of which was determined to be abandoned and lacked any secondary containment mechanism. The containers are solely contained by yellow caution tape.

The containers are stored directly on the unsealed concrete floor, with no physical barrier to protect the containers from vehicular traffic (which includes several fork lifts, delivery trucks and private vehicles) throughout the day. Access to the drums remains unrestricted, as the warehouse is publicly accessible. Delivery vehicles and forklifts operate near the containers, which were not protected from vehicle collisions. The floor slopes slightly from east (where the containers are located) to the west where the main overhead garage door is located. The distance from the containers to the garage door is approximately 20 feet. The LDA uses salt on the roads in the winter time, which is transported into the warehouse from vehicles and may result in corrosion of the steel drums whilst being located on the concrete floor. Building 7210 is currently heated as long as the truck parts distributor leases the building. However, the LDA's current fiscal constraints force annual considerations on the number of buildings they are able to heat over a given winter period throughout the indefinite future, and there is no guarantee that the LDA can consistently heat the building to prevent the drums from freezing and potentially bursting.

The roof is intact and there are no floor drains. In the winter, the area adjacent to the containers is used for leasing winter storage of RVs. The five-million-gallon water tower for the LDA potable water is located approximately 200 feet from the warehouse garage door. The circa-1960 underground water distribution pipes are within 20-50 feet of the warehouse garage door. Private drinking water wells are located approximately 12,000 feet to the south, and the Limestone Municipal wells are approximately 18,000 feet to the south west of Building 7210. The geology consists of fractured limestone, which constitutes a major potential aquifer drinking water resource. In the event of a release, the determination of fate and transport of contaminated plumes is complicated due to challenges in characterizing the flow system and the potential for small aperture fractures, which restrict flow and create dead end fractures that may become contaminant sinks. Because water enters the carbonate-rock aquifers rapidly through large openings, any contaminants in the water can rapidly enter and spread through the aquifers.

The conditions of the containers and at Building 7210 cannot guarantee that a release of AFFF will not occur, and, therefore, as long as the containers remain, they pose a substantial threat to groundwater and other media in and around the Site. *See below.*

¹ Specifically, the OSC observed AFFF stored in the following containers: fifty-seven 55-gallon drums, four 25-gallon drums, nine 30-gallon drums, three 275-gallon totes, one 1000-gallon tank trailer, and 100 gallons within three different fire trucks.

On July 22, 2019, the OSC conducted a formal Site Review Meeting, which garnered unanimous support by the EPA site case team to initiate a removal action.

2. Physical location

The former AFB is located in Aroostook County, in northern Maine. The former base occupies 8,704 acres in the lower Aroostook River Basin. It lies approximately two miles northwest of the town of Limestone, eight miles northeast of Caribou, and five miles west of the Canadian border of New Brunswick. The townships of Caswell and Connor border the base on the north and northwest, respectively. Land surrounding the base is primarily rural and agricultural. To the north and east of the Site is the Aroostook National Wildlife Refuge, to the south is the Aroostook Band of Micmac Trust Land, and to the west is agricultural and residential land.

3. Site characteristics

In April 1947, the U.S. Army initiated a directive authorizing land acquisition and construction of Limestone Army Air Field. The base was one of the first to be designed and built to accommodate high-speed aircraft, which required the storage and handling of hazardous materials. The base was in operation from 1952 until the base's closure in 1994. EPA added the Site to the National Priorities List in 1990 due to contamination from waste oils, fuels cleaned from aircraft and vehicles, spent solvents, polychlorinated biphenyl (PCBs), pesticides and three on-site landfills. Under CERCLA § 120, a Federal Facility Agreement (FFA) between EPA Region 1, the MEDEP, and the U.S. Air Force was signed in January 1991 and amended in 1995. The Site is being addressed through federal actions; both MEDEP and EPA each have assigned roles for overseeing the USAF's cleanup at the former base's approximately 9,000 acres.

The former Loring AFB was placed on the U.S. Congress Base Closure List (1991) as part of the Base Realignment and Closure program (BRAC) and was closed in September 1994. After closure, the Air Force transferred numerous portions of the property to the LDA, as well as to other organizations. Within six years after the closure, the population of Limestone dropped 76% from approximately 10,000 people to 2,000 people. Currently, the day population within one mile of the Site is 1,816 people.

Within one mile of the Site's perimeter, there is one Wastewater Treatment Plant, one public school, 19 waterbodies, six well and spring drinking water locations, one intake and reservoir, and three National Pollutant Discharge Elimination System (NPDES) locations. Tributaries on or near the Site discharge into the Aroostook River. Limestone and Caribou are partially served by public water supplies, while Caswell and Connor rely on private wells. Limestone has designated Durepo Reservoir as a secondary water supply – and it is regularly used as a source of water. Some crops, mainly potatoes, may be irrigated with groundwater.

Based on information in EPA's EJSCREEN environmental justice screening tool, the population within one mile of the Site is within the 91st percentile in the USA for Superfund proximity, the

61st percentile for low income populations, and 48th percentile for linguistically isolated populations.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

The approximately 5,000 gallons of abandoned, obsolete AFFF stored in containers on the former Loring AFB pose a threat of release which has the potential to result in an imminent and substantial threat to human health and the environment. The AFFF contains PFOA and PFOS, which are pollutants or contaminants under section 104(a)(1)(B) of CERCLA.² Actions to be performed to control and dispose of pollutants or contaminants, like PFOA and PFOS, are consistent with CERCLA and the National Contingency Plan (NCP). The containers are abandoned, and the threat that PFOA and PFOS stored within the containers could migrate to groundwater and/or soil pose a substantial risk to public health and the environment. The EPA lifetime drinking water health advisory levels for combined concentrations of PFOA and PFOS are 70 parts per trillion (ppt). A spill of 5,000 gallons has the potential to cause contamination of surface and groundwater at levels significantly higher than the EPA's health advisory and such that the contamination would persist indefinitely.

As stated above, in and around 2000, 2001, and 2004, the Air Force transferred several parcels of real property and personal property to the LDA. After the transfers, the LDA discovered that the Air Force had abandoned approximately 5000 gallons of containerized AFFF on the transferred property. In the early 2000s, approximately half of the AFFF was distributed to area Rural Fire Departments (RFDs), but the AFFF was not used by the area RFDs. Much of the AFFF was stored in corroding drums and was transferred to other drums and/or containers, which included containers in poor condition in unsecured locations. The location and condition of these drums and/or containers presented an imminent and substantial endangerment to human health and the environment due to the risks of AFFF leaks into the drinking water supplies of the communities around the former Loring AFB.

In October 2018, MEDEP became aware that 24 abandoned, obsolete containers of AFFF were stockpiled at and remained on LDA property (formerly Loring AFB). The AFFF became obsolete with a change in military specifications in early 1990 while the USAF was operating the base. The AFFF was abandoned in containers in an onsite building, Building 8413 at 71 Snowbarn Road, which is located on a portion of the site that was transferred to the LDA. At such time, MEDEP investigated the potential threat posed by the AFFF and also learned of the conditions of the offsite drums and/or containers mentioned above. Given the likely past

² CERCLA § 101(33) defines "*pollutant or contaminant*" to mean "any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring. It does not include petroleum, natural gas, crude oil, or any derivative thereof." 42 U.S.C. § 9601(33).

releases (*see* MEDEP's Appendices in support of its Dispute Statement) and threat of future release of AFFF, MEDEP began discussions with the Air Force and EPA about removal and disposal of the AFFF containers. The drums originate from the Air Force during active military operations at the Loring AFB and have been abandoned at the Site for over 15 years. Because the Air Force and LDA have been unable or unwilling to take steps to affirmatively address the threat posed by the AFFF, MEDEP took several affirmative steps to initiate a removal action and begin the disposal process for the AFFF that was discovered on-site in October 2018, as well as the AFFF that was distributed to the area RFDs. *See* discussion of MEDEP actions below.

Despite MEDEP's attempts to secure the AFFF, the drums remain in an abandoned status with no entity willingly taking ownership or responsibility for their disposal. The CERCLA definition of "release" includes in relevant part "... the abandonment of barrels, containers, and other closed receptacles containing any pollutant or contaminant." 42 U.S.C. § 9601(22). This alone establishes an ongoing threat that will continue indefinitely until the AFFF is disposed of. Additionally, as identified during the July 17, 2019 site visit, the current status of the containers and the warehouse in which the AFFF is stored presents a substantial threat of release (e.g., the active warehouse is publicly accessible, forklifts operate in close proximity to the containers, no barriers protect the drums sitting on the concrete floor, lack of guarantee that the building will be heated indefinitely, and proximity to the water tower and other groundwater sources).

5. NPL status

Loring AFB was listed on the National Priorities List update on February 21, 1990, 55 Federal Reg. 6154 and is therefore subject to the special provisions for Federal Facility NPL sites in CERCLA Section 120, 42 U.S.C. 9620. Removal and remedial decisions have been made for 54 sites identified on the former base: all Superfund design and construction activities have been completed, and operation and maintenance and long-term monitoring activities are being conducted by the USAF. The USAF conducted a preliminary assessment to identify areas on the former base where firefighting foams were historically stored and used that contain chemical compounds in the PFAS family like PFOA and PFOS. Future PFAS studies at the Site are planned.

B. Other Actions to Date

1. Previous actions

Upon discovery that the containers of AFFF were still on-site, MEDEP and the other parties entered informal negotiations to implement a CERCLA removal of the AFFF. Between mid-October 2018 and mid-May of 2019, reasonable efforts at the Project Manager and immediate supervisor level were made to informally resolve this dispute. However, these informal negotiations failed to result in a removal operation. To initiate the formal dispute resolution process, first a formal request to undertake a removal was necessary. Therefore, on May 9, 2019

MEDEP project manager sent a letter to the USAF project manager formally requesting that the USAF conduct a removal of approximately 4,000 gallons of AFFF at and from the former Loring AFB. On May 15, 2019, the USAF issued a formal denial of MEDEP's removal request. In its denial letter, the USAF stated the AFFF is no longer USAF property as it was transferred to the LDA of Maine.

After receiving this denial, MEDEP took the following actions:

- Initiated negotiations with the Air Force, LDA, EPA, and MEDEP to implement a CERCLA removal action to address the AFFF at the former base;
- After failing to reach agreement in the negotiations, MEDEP initiated a formal dispute under the FFA to require the Air Force conduct a removal action under CERCLA;
- Overpacked five leaking or damaged drums that remained on the former base (on LDA property);
- Reached out to the area RFDs to assess and secure all drums and containers of AFFF that came from former Loring AFB;
- From the area RFDs, MEDEP overpacked seven 55-gallon drums, transferring product from two totes and fifty-four 5-gallon containers;
- Returned all AFFF from the area RFDs to the former Loring AFB to be stored in a heated building with the other 24 drums.

C. State and Local Authorities' Roles

1. State and local actions to date

MEDEP initiated removal actions to collect approximately half (i. e. 2000 gallons) of the AFFF containers, which were provided to local fire departments during the fall of 2018. These containers were taken to Building 7210 and are currently stored with the original stockpile of AFFF containers. *See* actions listed above in Part II (B).

Additionally, under the terms of the FFA, MEDEP initiated a formal dispute to address the AFFF containers at the former Loring Air Force Base. The dispute resolution process engages officials from MEDEP, USAF and EPA, all parties to the FFA, and requires agreement upon any resolution prior to termination of the dispute. The issue of disposing of the AFFF containers was progressing through this dispute resolution process. For the site-specific technical reasons enumerated in this Action Memo, EPA determined that implementing a Time-Critical Removal Action is warranted. Having made such determination, EPA notified MEDEP and USAF, and the dispute was deemed terminated.

2. Potential for continued State/local response

MEDEP initiated the removal action necessary to abate the threat posed by the 4000 gallons of AFFF through its recovery of containers of AFFF located off-site and overpacking of several corroding drums; however, MEDEP has indicated that it will not take any further action. The LDA does not have the financial capability to dispose of or abate the threat posed by the AFFF containers.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

PFOS and PFOA are pollutants under CERCLA and have been identified as an extremely mobile compound in groundwater and has been documented to have contaminated numerous water supplies.

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; [§300.415(b)(2)(i)];

According to the EPA, there is evidence that exposure to PFOA and PFOS can lead to adverse health outcomes in humans. If humans, or animals, ingest PFOS, PFOA and/or other types of PFAS chemical compounds (by eating or drinking food or water than contain PFAS), the PFAS are absorbed, and can accumulate in the body. PFAS stay in the human body for long periods of time. As a result, as people get exposed to PFAS from different sources over time, the level of PFAS in their bodies may increase to the point where they suffer from adverse health effects.

Studies indicate that PFOA and PFOS can cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animal studies. The most consistent findings from human epidemiology studies are increased cholesterol levels among exposed populations, with more limited findings related to infant birth weights, effects on the immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS).³

Actual or potential contamination of drinking water supplies or sensitive ecosystems [§300.415(b)(2)(ii)];

To provide Americans, including the most sensitive populations, with a margin of protection from a life-time of exposure to PFOA and PFOS from drinking water, EPA established the health advisory levels at 70 parts per trillion (ppt). When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 ppt

³ United States Environmental Agency, "Basic Information on PFAS," // <https://www.epa.gov/pfas/basic-information-pfas#health>, (December 6, 2018).

health advisory level, which 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.⁴

Data extracted from the Air Force Administrative Record validates the risk of increased contamination of drinking water supplies or sensitive ecosystems. Contamination discovered in 2018 confirmed the presence of PFOA and PFOS concentrations combined at 5,861 ppt in the Loring Air Force Base Site on-base groundwater monitoring wells.⁵

The obsolete, abandoned, and corroding containers present an imminent and substantial threat to drinking water supplies and sensitive ecosystems. As described in *Section A. Site Description*, the containers are publicly accessible and are at risk of perforation or spillage due to the proximity of the containers to the operational heavy equipment and lack of barriers or secondary containment within the building. The abandoned containers will remain at risk of spillage indefinitely, until a removal is conducted. If a spill or perforation were to occur, the containerized AFFF risks contaminating both the private drinking wells and/or groundwater well for the Town of Limestone via soil and groundwater contamination. Private drinking water wells and the Town of Limestone groundwater well are within 12,000 feet and 18,000 feet from Building 7210 where the AFFF is currently stored, respectively. Additionally, the half-million-gallon water tank and associated distribution pipes are located approximately 200 feet North of Building 7210.

There is a need to prioritize potential environmental concerns for sensitive populations and ecosystems. The Aroostook Band of Micmacs utilize a wide variety of fish and wildlife resources near the Site for food, clothing, and ceremonial activities. The release of the AFFF into the environment presents an imminent and substantial threat to the Aroostook Band of Micmacs' tribal activities identified above.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release [§300.415(b)(2)(iii)];

Markings on the original containers indicate that the AFFF was manufactured in the 1980s, before February 20, 1990. On February 20, 1990, revision D of Military Specification Mil-F-24385 included more stringent fire performance requirements, which rendered the stockpiled AFFF unsuitable to the USAF for its intended use. At that time, the AFFF became obsolete and a waste to the USAF. These drums sat in this location for over a decade before the USAF the parcels upon which they were located were transferred to the LDA. The AFFF has never been used in the approximate 30 years since the Military Specifications changed. Ultimately, these facts support a finding that the containers were abandoned and constitute a “release”, pursuant to CERCLA section 101, which includes in relevant part “. . . the abandonment of barrels,

⁴ EPA Office of Water. (2016). *Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA)* (EPA 822-R-16-005). Washington, DC 20460.

⁵ Maureen Sullivan, Deputy Assistant Secretary of Defense. “Addressing Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)”, 4-0A57E2B, March 2018.

containers, and other closed receptacles containing any pollutant or contaminant.” 42 U.S.C. § 9601(22).

The AFFF is currently stored in containers at the former Loring AFB. AFFF contains PFAS, including PFOA and PFOS, which are persistent, toxic at low concentrations, and meet the definition of “pollutant or contaminant” under section 101 of CERCLA. The AFFF at the former base and area fire departments is stored in deteriorating containers in locations in which the structural integrity of the drums may be compromised at any given time due to the conditions, operations, and location within the building. The AFFF endangers public health, welfare, or the environment at and near Loring AFB because of an actual or threatened release of pollutant or contaminant at or from Loring AFB. Further, recovery and disposal of the AFFF at this time by the AF will be far less extensive and expensive than after the AFFF discharges and contaminates the environment.

The availability of other appropriate Federal or State response mechanisms to respond to the release [§300.415(b)(2)(vii)];

Both the LDA and MEDEP lack the monetary resources to respond to the release. MEDEP has already expended resources to begin this removal action. The USAF issued a formal denial of MEDEP’s removal request.

Other situations or factors that may pose threats to public health or welfare or the environment [§300.415(b)(2)(viii)];

PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations are some of the contributors of PFAS releases into the air, soil and water. The EPA continues to partner with other federal agencies, states, tribes and local communities to protect human health and, where necessary and appropriate, to limit human exposure to potentially harmful levels of PFOS or PFOA in the environment. The EPA is leading the national effort to understand PFAS and reduce PFAS risks to public through implementation of the *EPA’s Per- and Polyfluoroalkyl Substances (PFAS) Action Plan*.

As described in Section B. Other Actions to Date, the dispute resolution process engages officials from MEDEP, USAF and EPA, the parties to the FFA, and requires agreement upon any resolution prior to termination of the dispute. Disputes between federal, state and local entities have several stages and may continue for a significant amount of time before achieving a resolution. The probability that the drums become compromised and result in another release rises each day the drums remain unattended to in the warehouse. EPA has determined that the lengthy timeline associated with completing the dispute resolution process under the FFA results in an increased threat to human health and the environment that is not sustainable and warrants this removal action.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of pollutants and contaminants from this Site may present an imminent and substantial endangerment to public health, or welfare, or the environment if not addressed by implementing the response action selected in this Action Memorandum. In accordance with OSWER Directive 9360.0-34 (August 19, 1993), an endangerment determination is made based on appropriate Superfund policy or guidance, among other sources. The basis for the determination here is outlined and discussed in Sections II and III above.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The proposed removal action includes removing and disposing of approximately 4,000 gallons of obsolete and abandoned AFFF concentrate containing PFOS and PFOA. After the removal action is complete, any remaining cleanup activities related to the AFFF located at the Site will continue to be addressed under the remedial program.

A. Proposed Actions

1. Proposed action description

1. Conduct a site walk with environmental remediation contractor to assess the layout of the site and determine required equipment and personnel;
2. Develop and implement a site-specific Health and Safety Plan;
3. Develop a site-specific work plan providing estimates of materials, time and costs;
4. Provide site security as necessary based on conditions;
5. Evaluate if any sampling of the contents of the various containers is necessary to determine disposal options;
6. Mobilize personnel and equipment;
7. Perform air monitoring as needed;
8. Evaluate and overpack if necessary, any containers that do not meet DOT shipping requirements;
9. Remove and containerize for shipping the AFFF located in the three fire trucks;
10. Transport and dispose for all the AFFF liquid and containers which have or may have contained AFFF to a CERCLA-approved off-site disposal and/or recycling facility in a safe and cost-effective manner;
11. Repair response-related damage, if necessary;
12. Demobilize resources.

2. Community relations

A Community Relations Plan has been developed and implemented throughout the NPL remedial process. The EPA will remain involved with the local community during the removal action through press releases, fact sheets, and public meetings, as necessary. The OSC will receive assistance from the EPA Remedial Project Manager and Community Involvement

Coordinator (CIC) to assist with all public relations activities. EPA will work closely with the state, town, tribal government, local businesses, and the community.

The EPA Policy for the Administration of Environmental Programs on Indian Reservations, signed in 1984, remains a cornerstone for EPA's Indian Program. Additionally, the EPA Policy on Consultation and Coordination with Indian Tribes (2011) establishes the process of meaningful communication and coordination between EPA and tribal officials prior to EPA taking actions or implementing decisions that may affect tribes. EPA will continue to implement such policies and coordinate through the designated tribal representatives and EPA tribal coordinators.

3. Contribution to remedial performance

Routine groundwater quality monitoring by the USAF ensures groundwater contaminant plumes are not migrating and the expected reductions in contaminant concentrations are occurring. The USAF has conducted a preliminary assessment to identify areas on the former base where firefighting foams were historically stored and used, specifically the emerging contaminants PFOS and PFOA. USAF sampling of public and private drinking water supplies near the former base have confirmed these chemicals have not negatively impacted these sources currently. Groundwater, surface water, soil and sediment samples collected on the former base as part of initial site investigation activities have identified the presence of these chemicals. Future PFAS studies are planned. The cleanup proposed in this Action Memorandum is designed to mitigate the threats to human health and the environment posed by the PFAS-containing AFFF stored on the Site by removing the drums and containers found on the Site. The removal actions taken at this Site will be consistent with and not impede any future responses.

4. Description of innovative technologies and sustainable approaches

In accordance with the December 23, 2013 Memorandum, updated August 2, 2016, issued by Office of Land and Emergency Management as well as the Region 1 Clean and Greener Policy for Contaminated Sites, greener cleanup practices should be considered for all cleanup projects. Greener cleanup is the practice of incorporating practices that minimize the environmental impacts of cleanup actions and maximize environmental and human benefit. Alternative technologies and sustainable approaches will be considered and incorporated, as appropriate, throughout the implementation of the removal action.

5. Applicable or relevant and appropriate requirements (ARARs) or To Be Considered (TBCs) guidance or criteria

This section outlines the applicable or relevant and appropriate requirements (ARARs) as well as other sources to be considered (TBCs) for this removal action. As set forth in the NCP, "[i]n addition to applicable or relevant and appropriate requirements, the lead and support agencies may, as appropriate, identify other advisories, criteria, or guidance to be considered for a

particular release. The 'to be considered' (TBC) category consists of advisories, criteria, or guidance that were developed by EPA, other federal agencies, or states that may be useful in developing CERCLA remedies." 40 CFR § 300.400(g)(3).

Federal TBCs:

Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA), EPA May 2016.

This Health Advisory issues a lifetime drinking water health advisory for PFOA of 0.07 micrograms per liter. If PFOA is found in drinking water, EPA removal activities will be managed to meet this Health Advisory.

Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS), EPA May 2016.

This Health Advisory issues a lifetime drinking water health advisory for PFOS of 0.07 micrograms per liter. If PFOS is found in drinking water, EPA removal activities will be managed to meet this Health Advisory.

State TBCs:

Chemicals of High Concern Triennial Update Documentation, Maine Center for Disease Control and Prevention (July 21, 2015), available at

<https://www.maine.gov/dep/safechem/highconcern/documents/3%20Year%20CHC%202015%20Update%20Documentation%20FINAL%20%2007.21.15.pdf>.

Every three years, Maine identifies Chemicals of High Concern, pursuant to Maine Revised Statute Title 38, §1693-A. PFOS was identified in 2015 as a Chemical of High Concern.

State ARARs:

Maine:

The OSC will coordinate with State officials to identify additional State ARARs and TBCs, if any. In accordance with the National Contingency Plan and EPA Guidance Documents, the OSC will determine the applicability and practicability of complying with each ARAR (or TBC) that is identified in a timely manner.

6. Project schedule

EPA plans to initiate this Time Critical Removal Action during the Fall of 2019. The removal action is estimated to take no longer than one week to mobilize, re package (if necessary), transport the AFFF to a disposal facility and demobilize from the Site.

B. Estimated Costs

COST CATEGORY		CEILING
<i>REGIONAL REMOVAL ALLOWANCE COSTS:</i>		
ERRS Contractor		\$150,000.00
Interagency Agreement		\$0,000.00
<i>OTHER EXTRAMURAL COSTS NOT FUNDED FROM THE REGIONAL ALLOWANCE:</i>		
START Contractor		\$30,000.00
Extramural Subtotal		\$0.00
Extramural Contingency	10%	\$18,000.00
TOTAL, REMOVAL ACTION CEILING		\$198,000.00

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will increase public health risks due to the potential for the PFOA and PFOS to contaminate the groundwater and other media and adversely impact the private and public drinking water wells.

VII. OUTSTANDING POLICY ISSUES

There are no precedent-setting policy issues associated with this Site. However, because of the national interest in PFOS and PFOA, EPA Region I has coordinated response planning with EPA's Office of Emergency Management.

VIII. ENFORCEMENT ... For Internal Distribution Only

See attached Confidential Enforcement Strategy.

The total EPA costs for this removal action that will be eligible for cost recovery are estimated to be \$198,000.00 (extramural costs) + \$50,000.00 (EPA intramural costs) = \$248,000.00 X 1.4957 (regional indirect rate) = **\$370,933.60**⁶.

⁶Direct Costs include direct extramural costs \$198,000.00 and direct intramural costs \$248,000.00. Indirect costs are calculated by using regional indirect rate in effect at time cost estimate is prepared and is expressed as a percentage of the direct costs 49.57% x \$248,000.00, consistent with EPA's full cost accounting methodology effective October 01, 2018. These estimates do not include pre-judgment interest, do not consider other enforcement costs, including Department of Justice costs, and may be adjusted during a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

IX. RECOMMENDATION

This decision document represents the selected removal action, commenced by MEDEP, for the Loring NPL Site in Limestone, Maine developed in accordance with CERCLA, as amended, and is not inconsistent with the National Contingency Plan. The basis for this decision will be documented in the administrative record to be established for the Site.

Conditions at the Site meet the NCP Section 300.415 (b) (2) criteria for a removal action due to the following:

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants [§300.415(b)(2)(i)];

Actual or potential contamination of drinking water supplies or sensitive ecosystems [§300.415(b)(2)(ii)];

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release [§300.415(b)(2)(iii)];

The availability of other appropriate Federal or State response mechanisms to respond to the release [§300.415(b)(2)(vii)];

Other situations or factors that may pose threats to public health or welfare or the environment [§300.415(b)(2)(viii)];

I recommend that you approve the proposed removal action. The total extramural removal action project ceiling if approved will be \$198,000.00.

APPROVAL:  _____

DATE: 8/22/19

DISAPPROVAL: _____

DATE: _____