

From: [Christopher Grossman](#)
To: [Jordan, Brian D CIV OSD OUSD A-S \(USA\)](#)
Cc: [Frey, Bryan M CIV USARMY HODA ASA IEE \(USA\)](#); [Fragoso, Lino L CIV USN \(USA\)](#); [Pfannenstein, Adam G Maj USAF AFMRA \(USA\)](#); [Gianni Nelson](#); [Duane White](#); [Travis Jones \(He/Him\)](#)
Subject: RE: RE: NRC-DoD MOU Annual Inventory
Date: Tuesday, May 7, 2024 10:12:00 AM

Brian,

I am writing to respond to your February 12 and 22, 2024 emails providing the annual inventory of DoD sites to NRC per the MOU. NRC staff has reviewed the list and prioritized activities for FY 2024 and plans to stay-informed or monitor, per the MOU, the following sites:

Stay-Informed	Monitoring
Navy	
Alameda Naval Air Station (CA)	Long Beach Naval Station (CA)
Brunswick Naval Air Station (ME)	Mare Island Naval Shipyard (CA)
Marine Corps Base Camp LeJeune (NC)	North Island Naval Air Station (CA)
Hunters Point Shipyard (CA)	Naval Station Treasure Island (CA)
Naval Weapons Station Yorktown (VA)	
Army	
Sharpe Army Depot (CA)	Dugway Proving Grounds (UT)
Air Force	
McClellan Air Force Base (CA)	Kelly (Lackland) Air Force Base (TX)
Elmendorf Air Force Base (AK)	Hill Air Force Base (UT)

During teleconferences regarding the status of sites on the annual inventory on July 12, August 8, August 9, and August 16, 2023, the U.S. Navy inquired about the continued inclusion of certain sites on future annual inventories as part of NRC's involvement under the Memorandum of Understanding (MOU) Between the U.S. Nuclear Regulatory Commission and U.S. Department of Defense for Coordination on CERCLA Response Actions at DoD Sites with Radioactive Materials. During the teleconferences, the status of Navy's actions at several Navy installations, including Naval Station San Diego, Naval Air Weapons Station China Lake, Marine Corps Base Camp LeJeune and Naval Weapons Station Yorktown, and the former Mare Island Naval Shipyard, were discussed.

The purpose of the MOU is to minimize dual regulation and duplicative regulatory requirements while ensuring consideration of necessary standards for health, safety, and the environment. The MOU applies to response actions conducted by DoD under CERCLA/DERP to address a confirmed release of radioactive material that is or may be subject to regulation under the Atomic Energy Act (AEA). The Navy inquired about the need to include these installations on the MOU annual inventory because either radioactive material has not yet been confirmed in portions of the installation or previously confirmed radioactive material has been remediated and is no longer anticipated at the installation (or installation restoration sites). Details on NRC's proposed path forward are provided

below for each specific installation.

Naval Station San Diego (Monitoring Site) – Remove from Inventory

The Navy has historically conducted and plans to continue conducting dredging operations to maintain shipping lanes. While recent dredging operations have not confirmed low-level radioactive objects (LLRO), some dredging operations prior to fiscal year (FY) 2020 confirmed LLROs. LLROs confirmed during dredging operations are subject to NRC's regulatory authority. During the teleconference, the Navy inquired about the need to list future dredging operations on the annual inventory for the MOU.

Because the dredging of shipping lanes is not intrinsically a response action under CERCLA/DERP, NRC does not expect DoD to provide notification in the annual inventory in advance of dredge operations. However, should dredge operations confirm LLROs requiring a response action by the DoD, the NRC expects the DoD to provide notification in accordance with Paragraph 14 of the MOU. Per the MOU, and to ensure effective NRC involvement, this notification should be done in a timely manner, rather than being included on the next annual inventory, particularly if DoD's response actions will begin before the next scheduled annual inventory.

The Navy also inquired about the possibility of handling LLROs discovered in future dredge operations under a general license permitted by 10 CFR 31.12. The general license permitted by 10 CFR 31.12(a)(4) only applies to luminous products containing radium-226 and is limited to less than 100 items at a location. Further, the Navy would need to comply with 10 CFR 31.12(c) (i.e., demonstrate that LLROs are intact, the surrounding sediment is not contaminated radiologically, etc.). Finally, the exemptions provided in 10 CFR 31.12(b) would not apply to the DoD because the Navy is specifically licensed under its NRC Master Material License.

Naval Air Weapons Station China Lake (Monitoring Site) – Remove from Inventory

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The Navy conducted remedial investigations while monitoring for radioactivity at Installation Restoration Site 28. During the investigations, the Navy identified 30 areas of elevated anomalies. However, the Navy did not identify the source of the elevated anomalies. Further the Navy does not currently plan to pursue radiological material as a contaminant of concern. Rather, the Navy currently plans to avoid the elevated anomalies as it pursues remedial actions for non-radiological contamination under CERCLA.

The MOU applies to response actions conducted by DoD under CERCLA, to address a *confirmed* release of a radioactive material that is or may be subject to regulation under the AEA. Given the source of the elevated anomalies has not been confirmed, it is unknown whether the material may be subject to the AEA. Once the source of the anomalies is confirmed, the Navy should notify the NRC whether it intends to include the installation on the annual inventory and the basis for its disposition prior to pursuing any remedial actions under CERCLA or DERP for radiological material. Per the MOU, and to ensure effective NRC involvement, this notification should be done in a timely manner, rather than the annual inventory, particularly if response actions will begin before the next scheduled annual inventory.

Marine Corps Base Camp LeJeune (Stay-Informed Site) – Maintain on Inventory

The Navy conducted remedial investigations while monitoring for radioactivity at Installation Restoration Site 82. During the investigations, the Navy identified elevated radioactivity in materials excavated from test pits during the remedial investigation. During screening of the excavated material, the Navy identified radium-226, including commodities and contaminated soils, which were disposed of off-site. Also, the Navy elected to avoid several test pits with elevated radioactivity, which was not the primary focus of the remedial investigation. Further, the remedial investigation report provided by the Navy does not indicate whether the test pit walls and floors were characterized to determine whether radioactive material remains. While the Navy disposed of the confirmed radioactive material from the excavated material, the site's history as a hazardous waste disposal area, record of elevated radioactivity in several areas of the site, and the confirmation of radioactive material subject to the AEA in areas more thoroughly characterized, the Navy should consider further assessments to provide reasonable assurance that the elevated areas do not contain residual radioactive material which would lead to a dose exceeding the criteria at 10 CFR 20.1402 for unrestricted release or 10 CFR 20.1403(b) for restricted release. Therefore, the Navy should continue to include Installation Restoration Site 82 on the annual inventory until the Navy can demonstrate there is reasonable assurance that the dose criterion in either 10 CFR 20.1402 for unrestricted use or 20.1403(b) for restricted use can be met.

Naval Weapons Station Yorktown (Stay-Informed Site) – Maintain on Inventory

The Navy conducted a non-time critical removal action (NTCRA) at Installation Restoration Site 24, which included the excavation of impacted soil and debris from six discontinuous disposal areas and three isolated hot spot areas. The NTCRA was focused on removal of hazardous material, rather than radiological material. During the NTCRA, the Navy's contractor discovered the presence of low-level radioactive material present in some of the former disposal areas. As a result of the discovery, the Navy's contractor initiated radiological characterization of munitions materials documented as safe (MDAS) to determine whether the MDAS was radiologically impacted. The Navy also conducted radiological characterization of residual waste soil that had been placed in drums and a waste soil stockpile. During the characterization of the materials, the Navy determined that Ra-226 and Th-232 were present. While the Navy disposed of the confirmed radioactive material from the excavated material, the site's history as a hazardous waste disposal area, the confirmation of radioactive material subject to the AEA in disposed materials removed during excavation activities, and the apparent lack of radiological characterization of the disposal areas, the Navy should consider further assessments to provide reasonable assurance that the elevated areas do not contain residual radioactive material which would lead to a dose exceeding the criteria at 10 CFR 20.1402 for unrestricted release or 10 CFR 20.1403(b) for restricted release. Therefore, the Navy should continue to include Site 24 on the annual inventory until the Navy can demonstrate there is reasonable assurance that the dose criterion in either 10 CFR 20.1402 for unrestricted use or 20.1403(b) for restricted use can be met.

Former Mare Island Naval Shipyard (Monitoring Site) UXO-7 (Maintain on Inventory) and UXO-13 (Remove from Inventory)

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The Navy conducted investigations and cleanup at two sites primarily focused on munitions and explosives of concerns: UXO-7 and UXO-13. At UXO-7, the Navy identified two radiological items in a former disposal area for munitions in the South Shore Area Shoreline portion of the site, which was historically used for storage, loading, and unloading of munitions onto U.S. Navy ships. Both items were removed and disposed of offsite. No other radiological items have been identified at the site to date. While the Navy disposed of the identified radiological items, given the site's history as a hazardous waste disposal area, the confirmation of radioactive material subject to the AEA associated with former disposal areas, and the current status of the site in the CERCLA/DERP process, the Navy should continue to include UXO-7 on the annual inventory until the Navy can demonstrate there is reasonable assurance that the dose criterion in either 10 CFR 20.1402 for unrestricted use or 20.1403(b) for restricted use can be met. The Navy should ensure that NRC receives future documentation in a timely manner per Paragraph 16 of the MOU so that the NRC can be involved in ensuring that any remedy will demonstrate that NRC's applicable dose criterion is met.

At UXO-13 (a former paint waste debris area), the Navy identified radiological items during a time critical removal action and subsequent investigations for hazardous wastes. Specifically, the Navy identified, removed, and disposed of approximately 1,200 radiological items containing radium-226 (Ra-226), mostly from 0.5 to 1.0 feet below ground surface. -The California Department of Public Health (CDPH) recommended radiological unrestricted release for Survey Units (SU)-1 through SU-9A at the Paint Waste Area (PWA), where the radiological items were found. The Navy did not identify additional radiological items during the subsequent scoping surveys for SU-9 through SU-12, which surround the other survey units where radiological items were identified. The Navy determined that the nature and extent of radiological items in the PWA are fully characterized, and no further action is required for radiological impact. Given California's concurrence on unrestricted release of SU-1 through SU-8 and SU-9a and a lack of confirmation of radiological items in SU-9 through SU-12, NRC does not expect DoD to provide future notification in the annual inventory. However, should the Navy confirm during remedial actions for the PWA the presence of additional radiological items, the NRC expects the DoD to provide notification in accordance with the MOU. Per the MOU, and to ensure effective NRC involvement, this notification should be done in a timely manner, rather than the annual inventory, particularly if response actions will begin before the next scheduled annual inventory. The Navy should also ensure that NRC receives future documentation in a timely manner per Paragraph 16 of the MOU so that the NRC can be involved in ensuring that any remedy would demonstrate that NRC's dose criterion would be met, as envisioned by the MOU.

If you have any questions, don't hesitate to contact me.

Christopher Grossman
Low-Level Waste and Projects Branch
Division of Decommissioning, Uranium Recovery, and Waste Programs
Office of Nuclear Material Safety and Safeguards,
U.S. Nuclear Regulatory Commission

From: Jordan, Brian D CIV OSD OUSD A-S (USA) <brian.d.jordan6.civ@mail.mil>
Sent: Monday, February 12, 2024 10:59 AM
To: Christopher Grossman <Christopher.Grossman@nrc.gov>
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Subject: [External_Sender] RE: NRC-DoD MOU Annual Inventory

Christopher,
I have the inventory from Army and Air Force that I will send over today. I have not seen data from the Navy yet.
I am reaching out to see where they are with their inventory. Hope to get to you by the end of the week.
Thanks,
Brian

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From: Christopher Grossman <Christopher.Grossman@nrc.gov>
Sent: Monday, February 12, 2024 10:11 AM
To: Jordan, Brian D CIV OSD OUSD A-S (USA) <brian.d.jordan6.civ@mail.mil>
Cc: Frey, Bryan M CIV USARMY HQDA ASA IEE (USA) <bryan.m.frey.civ@army.mil>; Fragoso, Lino L CIV USN (USA) <lino.l.fragoso2.civ@us.navy.mil>; Hale, Alan C Lt Col USAF AFMSA (USA) <alan.c.hale.mil@mail.mil>; Pfannenstein, Adam G Maj USAF AFMRA (USA) <adam.g.pfannenstein.mil@health.mil>; Gianni Nelson <Gianni.Nelson@nrc.gov>
Subject: RE: NRC-DoD MOU Annual Inventory

Brian,

I am reaching out again regarding the annual DoD inventory for the Memorandum of Understanding between DoD and the U.S. Nuclear Regulatory Commission. I wanted to confirm whether it was submitted as I hadn't seen it to date.

Chris

From: Christopher Grossman
Sent: Monday, February 5, 2024 3:32 PM
To: Jordan, Brian D CIV OSD OUSD A-S (USA) <brian.d.jordan6.civ@mail.mil>

Subject: RE: NRC-DoD MOU Annual Inventory

Brian,

Following up on my earlier email regarding the annual DoD inventory. Not sure if you've had a chance to submit it yet, but I haven't seen anything. Writing to make sure I didn't miss it.

Chris

From: Christopher Grossman

Sent: Friday, January 12, 2024 2:25 PM

To: Jordan, Brian D CIV OSD OUSD A-S (USA) <brian.d.jordan6.civ@mail.mil>

Subject: NRC-DoD MOU Annual Inventory

Brian,

I hope you had a pleasant holiday season. I am writing to inquire whether you had submitted the annual inventory of DoD sites undergoing remediation under CERCLA/DERP in accordance with the NRC – DoD Memorandum of Understanding. I have not received anything for FY 2024 and wanted to make sure I didn't miss it if you had submitted it.

Thanks

Chris