

**From:** [Christopher Grossman](#)  
**To:** [Jordan, Brian D CIV OSD OUSD A-S \(USA\)](#)  
**Cc:** [Steve Koenick](#); [Gianni Nelson](#)  
**Subject:** RE: FW: DoD/NRC MOU Yearly Inventory Submission  
**Date:** Wednesday, February 8, 2023 2:05:00 PM

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Brian,

I am writing to respond to your December 6, 2022 email providing the annual inventory of DoD sites to NRC per the MOU. NRC staff has reviewed the list and prioritized activities for FY 2023 and plans to stay-informed or monitor, per the MOU, the following sites:

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

Staff noted that several sites from the previous inventory were not included in your annual inventory. The NRC appreciates your colleagues' responses to our questions on this year's inventory and helped us better understand the changes from the prior year's inventory. As we discussed, NRC staff will maintain these installations and associated sites: Marine Corps Base Camp LeJeune, Naval Air Weapons Station China Lake, and Naval Weapons Station Yorktown on the annual inventory until adequate has been provided to justify their removal from the annual inventory.

Further, it came to NRC staff's attention during discussion with Navy personnel on the three aforementioned sites that while North Island Naval Air Station was included in this year's annual inventory, certain sites (i.e., Solid Waste Management Unit 53 and B341) listed in last year's annual inventory at North Island were not included in this annual inventory. Similar to the three sites discussed in the previous paragraph, NRC staff will maintain these sites at North Island on the inventory until adequate has been provided to justify their removal from the annual inventory.

Additionally, last year Dr. Fragoso revised the DoD's inventory to include Naval Outlying Landing Field Imperial Beach following NRC staff questions. However, he also indicated that no work would

commence until FY24 or FY25. As a result, last year NRC staff elected not to include it on the FY2022 list of monitoring sites but committed to re-evaluate its involvement annually. Based on discussions with Navy personnel, NRC staff's understanding is that work is still not anticipated before FY24 or FY 25. Therefore, NRC staff will again elect not to include it on the FY2023 list of monitoring sites, but will re-evaluate next year.

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

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**From:** Jordan, Brian D CIV OSD OUSD A-S (USA) <brian.d.jordan6.civ@mail.mil>  
**Sent:** Monday, January 23, 2023 12:10 PM  
**To:** Christopher Grossman <Christopher.Grossman@nrc.gov>  
**Subject:** [External\_Sender] FW: DoD/NRC MOU Yearly Inventory Submission

Chris,  
Here are the responses from the Navy on the questions concerning the NRC inventory.  
Thanks,  
Brian

Brian Jordan  
OASD(Energy, Installations and Environment)  
ODASD(Environment & Energy Resilience)  
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Internal Deliberative – Do Not Release

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**From:** Fragoso, Lino L CIV USN (USA) <[lino.l.fragoso2.civ@us.navy.mil](mailto:lino.l.fragoso2.civ@us.navy.mil)>  
**Sent:** Wednesday, January 18, 2023 1:24 PM  
**To:** Jordan, Brian D CIV OSD OUSD A-S (USA) <[brian.d.jordan6.civ@mail.mil](mailto:brian.d.jordan6.civ@mail.mil)>  
**Subject:** RE: DoD/NRC MOU Yearly Inventory Submission

Brian, I finally received all of the input from the field.

1. **Camp Lejeune** – IR-82 - In previous discussions with site personnel, the Navy reported work was previously done to remove radioactive material and impacted soils, and that groundwater

sampling and a historical radiological assessment were currently underway.

The Navy finalized the Camp Lejeune HRA in November 2022 which includes IR Site 82. IR Site 82 is an area with 103 dials/compasses found during a CERCLA investigation in 2018. In November 2020, the Navy disposed of the commodities and associated investigation-derived waste as LLRW. The Camp Lejeune team conducted groundwater sampling to verify the dials/compasses did not contaminate a nearby groundwater pump and treatment system. The draft groundwater report indicated background levels of the radionuclides of concern (Ra-226, Ra-228, Th-228, Th-230, Th-232, U-234, U-235/6, U-238, Sr-90 & Cs-137) and not any contamination from the dials. The groundwater report will be finalized and provided to EPA and NCDEQ by end of January 2023.

2. **China Lake NAWS – IRP Site 28** – In previous discussions with site personnel, the Navy reported that multiple radiological anomalies were identified and at least one instrument gauge discovered associated with the anomalies during the remedial investigation of slit trenches/depressions that were used historically as ad-hoc dump sites.

A contractor installing soil borings and groundwater monitoring wells at various locations on NAWS China Lake performed “avoidance monitoring” before drilling. As many of the borings and wells were being placed in areas where radiological anomalies may exist, such as in landfills and trench units, the sites were surveyed for “elevated rad measurements” prior to drilling for the safety of their staff. One instrument gauge was discovered and properly disposed of.

3. **Yorktown NWS – Site 24** – In previous discussions with site personnel, the Navy reported a NTCRA was started in 2016 for non-radiological material that resulted in identification of radiological material that were being stored onsite in a restricted area used at the time for training that was backfilled and was awaiting radiological surveys for clearance.

NTCRA started in 2016 but halted with the discovery of MEC items. The NTCRA started again in 2017. In 2018 the contractor shipped the MDAS to facility where it was rejected for a failed RAD screening. The contractor conducted a rad survey to determine 20 tons of MDAS as RAD impacted and placed in the items in a CONEX Box. In April 2021, the contractor sampled soil stockpiles and 27 drums containing waste soil and determined all soil results to be non-LLRW. The drums and stockpile have been properly disposed of offsite. In June 2022, the Navy properly disposed all LLRW via JMC Rock Island.

Lino L. Fragoso, Ph.D.  
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Cell: (540) 273-5220

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**From:** Fragoso, Lino L CIV USN (USA)

**Sent:** Friday, January 13, 2023 8:23 AM

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

**Subject:** RE: DoD/NRC MOU Yearly Inventory Submission

Brian, below is an update on China Lake. Lino

**China Lake NAWS – IRP Site 28** – In previous discussions with site personnel, the Navy reported that multiple radiological anomalies were identified and at least one instrument gauge discovered associated with the anomalies during the remedial investigation of ~~historic storage/disposal sites~~ ~~trenches/depressions~~ that were used historically as ad-hoc dump sites. A contractor installing soil borings and groundwater monitoring wells at various locations on NAWS China Lake was performing “avoidance monitoring” before drilling the wells. As many of the borings and wells were being placed in storage facilities/landfills/trench units across the base (including on active ranges) where the contractor’s experience on Navy property suggested that radiological anomalies may exist, the intended drilling well sites were surveyed prior to drilling for the safety of their staff. The anomalies were not intended to be remediated – the contractor only planned to avoid any areas with “elevated rad measurements” for drilling the borings and wells. ~~I do not know for certain if the drilling/well installations have all been completed.~~ Jacobs did use the rig for some of the locations for soil sampling. For the shallow sampling, they only did hand auger. We did scan even where we hand augered to ensure folks were not walking over rad.

Lino L. Fragoso, Ph.D.

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**From:** Fragoso, Lino L CIV USN (USA)

**Sent:** Tuesday, January 10, 2023 8:34 AM

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

**Cc:** Hurff, Stephen CIV USN COMNAVFACENGCOM DC (USA) <[stephen.hurff2.civ@us.navy.mil](mailto:stephen.hurff2.civ@us.navy.mil)>;

Walker, Amy M CIV USN ASSTSECNAV EIE DC (USA) <[amy.m.walker24.civ@us.navy.mil](mailto:amy.m.walker24.civ@us.navy.mil)>; Peace,

Christina (Restin) Lt Col USAF AFMRA (USA) <[christina.peace.mil@health.mil](mailto:christina.peace.mil@health.mil)>

**Subject:** RE: DoD/NRC MOU Yearly Inventory Submission

**Brian, below are the responses, so far, on the questions from the NRC. Sorry for the delay. Lino**

1. **Camp LeJeune – IR-82** - In previous discussions with site personnel, the Navy reported work was previously done to remove radioactive material and impacted soils, and that groundwater sampling and a historical radiological assessment were currently underway. The Camp LeJeune HRA was finalized in November 2022 and includes discussion on IR Site 82. The site was an area where 103 dials/compasses were found during a CERCLA investigation in 2018. The commodities and associated investigation-derived waste was disposed of as LLRW in

November 2020. As there is a groundwater pump and treatment system operating at the site, the Camp Lejeune team opted to conduct groundwater sampling to ensure that the dials/compasses did not impact the groundwater. The draft report outlining the results of that sampling indicates that there were only background levels of the radionuclides of concern (Ra-226, Ra-228, Th-228, Th-230, Th-232, U-234, U-235/6, U-238, Sr-90 & Cs-137). This report will be finalized and provided to EPA and NCDEQ by end of January 2023.

2. **China Lake NAWS – IRP Site 28** – In previous discussions with site personnel, the Navy reported that multiple radiological anomalies were identified and at least one instrument gauge discovered associated with the anomalies during the remedial investigation of slit trenches/depressions that were used historically as ad-hoc dump sites. A contractor installing groundwater monitoring wells at various locations on NAWS China Lake was performing “avoidance monitoring” before drilling the wells. As many of the wells were being placed in landfills/trench units across the base (including on active ranges) where the contractor’s experience on Navy property suggested that radiological anomalies may exist, the intended well sites were surveyed prior to drilling for the safety of their staff. The anomalies were not intended to be remediated – the contractor only planned to avoid any areas with “elevated rad measurements” for drilling the wells. I do not know for certain if the drilling/well installations have all been completed.
  
3. **Yorktown NWS – Site 24** – In previous discussions with site personnel, the Navy reported a NTCRA was started in 2016 for non-radiological material that resulted in identification of radiological material that were being stored onsite in a restricted area used at the time for training that was backfilled and was awaiting radiological surveys for clearance. The 27 drums containing waste soil that was stored at Site 24 was sampled and determined to be non-LLRW in April 2021. The remaining LLRW (components w/Ra-226) were disposed of via JMC Rock Island.

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**From:** Jordan, Brian D CIV OSD OUSD A-S (USA) <[brian.d.jordan6.civ@mail.mil](mailto:brian.d.jordan6.civ@mail.mil)>  
**Sent:** Monday, January 9, 2023 11:36 AM  
**To:** Fragoso, Lino L CIV USN (USA) <[lino.l.fragoso2.civ@us.navy.mil](mailto:lino.l.fragoso2.civ@us.navy.mil)>  
**Cc:** Hurff, Stephen CIV USN COMNAVFACENGCOM DC (USA) <[stephen.hurff2.civ@us.navy.mil](mailto:stephen.hurff2.civ@us.navy.mil)>; Walker, Amy M CIV USN ASSTSECNAV EIE DC (USA) <[amy.m.walker24.civ@us.navy.mil](mailto:amy.m.walker24.civ@us.navy.mil)>; Peace, Christina (Restin) Lt Col USAF AFMRA (USA) <[christina.peace.mil@health.mil](mailto:christina.peace.mil@health.mil)>  
**Subject:** RE: DoD/NRC MOU Yearly Inventory Submission

Lino,

NRC reached out today for an update on when we might be able to respond to these questions. I understand the holidays have impacted the response for these questions.

Thanks,

Brian

Brian Jordan

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**From:** Jordan, Brian D CIV OSD OUSD A-S (USA)

**Sent:** Thursday, December 22, 2022 9:57 AM

**To:** [lino.l.fragoso2.civ@us.navy.mil](mailto:lino.l.fragoso2.civ@us.navy.mil)

**Cc:** Hurff, Stephen CIV USN COMNAVFACENGCOM DC (USA) <[stephen.hurff2.civ@us.navy.mil](mailto:stephen.hurff2.civ@us.navy.mil)>;

Walker, Amy M CIV USN ASSTSECNAV EIE DC (USA) <[amy.m.walker24.civ@us.navy.mil](mailto:amy.m.walker24.civ@us.navy.mil)>;

[christina.peace.mil@health.mil](mailto:christina.peace.mil@health.mil)

**Subject:** FW: DoD/NRC MOU Yearly Inventory Submission

Lino,

Please provide updates or explanations for the three sites that NRC has identified in their review of the NRC inventory.

1. **Camp LeJeune** – IR-82 - In previous discussions with site personnel, the Navy reported work was previously done to remove radioactive material and impacted soils, and that groundwater sampling and a historical radiological assessment were currently underway.
2. **China Lake NAWS – IRP Site 28** – In previous discussions with site personnel, the Navy reported that multiple radiological anomalies were identified and at least one instrument gauge discovered associated with the anomalies during the remedial investigation of slit trenches/depressions that were used historically as ad-hoc dump sites.
3. **Yorktown NWS – Site 24** – In previous discussions with site personnel, the Navy reported a NTCRA was started in 2016 for non-radiological material that resulted in identification of radiological material that were being stored onsite in a restricted area used at the time for training that was backfilled and was awaiting radiological surveys for clearance.

Thanks,

Brian

Brian Jordan

OASD(Energy, Installations and Environment)

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**From:** Christopher Grossman <[Christopher.Grossman@nrc.gov](mailto:Christopher.Grossman@nrc.gov)>  
**Sent:** Thursday, December 22, 2022 8:50 AM  
**To:** Jordan, Brian D CIV OSD OUSD A-S (USA) <[brian.d.jordan6.civ@mail.mil](mailto:brian.d.jordan6.civ@mail.mil)>  
**Cc:** Gianni Nelson <[Gianni.Nelson@nrc.gov](mailto:Gianni.Nelson@nrc.gov)>  
**Subject:** [Non-DoD Source] RE: DoD/NRC MOU Yearly Inventory Submission

Brian,

NRC staff have looked over the inventory you provided on December 6, 2022 and have a few questions related to sites that were previously on the inventory for FY2022, but are no longer included in this annual update for FY2023:

1. **Camp LeJeune** – IR-82 - In previous discussions with site personnel, the Navy reported work was previously done to remove radioactive material and impacted soils, and that groundwater sampling and a historical radiological assessment were currently underway.
2. **China Lake NAWs – IRP Site 28** – In previous discussions with site personnel, the Navy reported that multiple radiological anomalies were identified and at least one instrument gauge discovered associated with the anomalies during the remedial investigation of slit trenches/depressions that were used historically as ad-hoc dump sites.
3. **Yorktown NWS – Site 24** – In previous discussions with site personnel, the Navy reported a NTCRA was started in 2016 for non-radiological material that resulted in identification of radiological material that were being stored onsite in a restricted area used at the time for training that was backfilled and was awaiting radiological surveys for clearance.

It is not clear why the Camp LeJeune, China Lake, and Yorktown sites are removed from the inventory beginning this year. Could you please provide a basis for the removal of these sites from the annual inventory for FY2023?

I hope you and your family have a Happy Holiday season and New Year!

Thanks,  
Chris

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**From:** Christopher Grossman  
**Sent:** Tuesday, December 6, 2022 10:27 AM  
**To:** Jordan, Brian D CIV OSD OUSD A-S (USA) <[brian.d.jordan6.civ@mail.mil](mailto:brian.d.jordan6.civ@mail.mil)>  
**Subject:** RE: DoD/NRC MOU Yearly Inventory Submission

Brian,

Thank you for the annual submission. We will be taking a look at it in the coming days and will respond with the list of sites NRC staff plans to be involved at over the current fiscal year.

Chris

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

**Sent:** Tuesday, December 6, 2022 10:13 AM

**To:** Christopher Grossman <[Christopher.Grossman@nrc.gov](mailto:Christopher.Grossman@nrc.gov)>

**Subject:** [External\_Sender] DoD/NRC MOU Yearly Inventory Submission

Mr. Grossman,

I have attached the annual submission of the DoD radiological cleanup sites currently being characterized or remediated.

Please give me a call (703-409-8657) if you would like to discuss any of information supplied in this inventory.

Thanks,

Brian

Brian Jordan

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