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## **CERCLA Cleanup 2019.12.13 Letter to EPA on its November Comments to the Draft FYR Addendum for Soil**

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December 13, 2019

Via e-mail and U.S. mail

John Chesnutt  
Manager, Pacific Islands and Federal Facilities Section  
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U.S. Environmental Protection Agency, Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Re: Hunters Point Naval Shipyard – Greenaction’s Comments  
Regarding EPA’s November 15, 2019 Letter Reviewing Navy’s  
Draft Addendum (Radiological Remediation Goals for Soil)

Dear Mr. Chesnutt:

We submit this letter on behalf of Greenaction for Health and Environmental Justice (“Greenaction”) regarding your November 15, 2019 letter to the Navy (“EPA’s Review Letter”), in which EPA reviewed the Navy’s draft Addendum evaluating radiological remediation goals for soil (“Draft Addendum”).

For the reasons stated in EPA’s Review Letter, we agree that the Navy’s soil radiological remediation goals are not protective of human health for long-term protectiveness. EPA’s Review Letter at 2. We also support EPA’s recommendation that “the Navy modify the work plan for the Parcel G retesting to clarify how any risks exceeding  $10^{-4}$  and the contribution from background will be addressed.” *Id.* at 3. In this letter, we address several remaining concerns that we have with the approach outlined in EPA’s Review Letter.

A. The Navy Should Have Considered the Risk Posed by Consumption of Homegrown Produce.

The purpose of a five-year review is to evaluate the implementation of a remedy to determine whether the remedy is or will be protective of human health. Comprehensive Five-Year Review Guidance, at 1-1, §1.1, EPA 540-R-01-007 (June 2001). EPA emphasized that point in its comments regarding the Navy’s draft fourth five-year review: “protectiveness determinations require an updated review of the remedial goals in the ROD to determine whether the remedy, upon completion, will be protective of human health.” Letter from Lily Lee, EPA’s RPM, to Derek Robinson, Navy’s BRAC Environmental Coordinator, dated May 25, 2019, at 2, ¶4. EPA noted that generally  $1 \times 10^{-4}$  excess cancer risk is an upper bound for risk management decisions for a radiological cleanup. *Id.* at 4, ¶11. In order to achieve this level of risk with the current remedial goal, EPA stated that certain restrictions may be necessary

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such as prohibiting growing produce in native soil or a clean cover. *Id.* EPA recommended that the Navy’s “technical memorandum assess and show the concentrations that would be associated with  $1 \times 10^{-4}$  excess cancer risk *in an unrestricted scenario.*” *Id.* (emphasis added).

Instead of responding to EPA’s recommendation to show the concentrations associated with a  $1 \times 10^{-4}$  risk in an unrestricted scenario, the Navy deliberately chose to understate the risk by excluding the risk associated with the consumption of homegrown produce from the Navy’s risk calculations in the Draft Addendum. The Navy based its approach on the unsupported assumption that “deed restrictions will be implemented to restrict the growth of plants in HPNS soils that are intended for consumption.” See “Hunters Point Naval Shipyard - Estimated Excess Cancer Risks and Dose Equivalent Rates from Resident Exposures to Radionuclide-Containing Soils Report,” August 7, 2019 (hereafter “Battelle Report”) at 6; see also Navy’s “Facts About Durable Covers and Protecting Health at Hunters Point,” August 26, 2019, at FAQ (“When HPNS parcels are transferred and developed, gardening and other intrusive activities into the durable cover will be prohibited in a binding land use control legal covenant”).

In fact, the Institutional Controls selected for parcels at HPNS do not support the Navy’s assumption. Instead, the Institutional Controls for Parcel G and some other HPNS parcels expressly *permit* residents to grow plants for human consumption in raised beds. See Parcel G Explanation of Significant Differences at 8 (April 18, 2017) (“Plants for human consumption may be grown if they are planted in raised beds (above the CERCLA-approved cover).”)

EPA’s November 15, 2019 letter does not discuss the Navy’s failure to show the concentrations of radionuclides of concern that would be associated with  $1 \times 10^{-4}$  excess cancer risk *in an unrestricted scenario.* Although EPA properly observed that the Navy had assumed no exposure from consumption of homegrown produce, EPA stated this assumption would be appropriate if Institutional Controls are implemented and successfully enforced. EPA’s Review Letter, Enclosure, comment #5.

The Navy’s risk assessment in the Draft Addendum should be based on *current* Institutional Controls, which permit consumption of homegrown produce. Consistent with EPA’s July 2019 recommendation, the Navy should have calculated the excess cancer risk associated with this unrestricted scenario. According to the PRG Calculator, if the Navy had included produce consumption as a risk pathway, it would have resulted in a total excess cancer risk of  $1.52 \times 10^{-3}$  from both Radium-226 and Thorium-232.<sup>1</sup> In effect, EPA’s Review Letter allows the Navy to take credit for

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<sup>1</sup> United States Environmental Protection Agency: Preliminary Remediation Goals for Radionuclide Contaminants at Superfund Sites (date accessed 8-31-19). See

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Institutional Controls that are **not** currently in place, which permits the Navy to understate -- by a factor of 10 -- the excess cancer risk resulting from exposure to the current remediation goals for Radium-226 and Thorium-232.

In its Review Letter, EPA states that it expects future Covenants to Restrict Use of Property ("CRUPs") to limit homegrown produce to "raised beds with impermeable bottoms and sides to prevent contact with and uptake of any residual contaminants in the underlying soil." EPA's Review Letter, Enclosure, comment #5. In light of EPA's position that this type of CRUP is needed to restrict future use of the Site (*id.*), we request EPA to respond to the following questions:

1. The California Department of Toxic Substances Control ("DTSC") would be responsible for filing and enforcing the CRUP. Has DTSC expressed its support in writing for this type of CRUP (i.e., raised beds with impermeable bottoms and sides) at HPNS?
2. Has a similar CRUP been used at any Superfund Site that contains a radionuclide of concern such as Radium-226 that has a half-life of 1,600 years?<sup>2</sup>
3. As a practical matter, how does DTSC intend to enforce this CRUP against future HPNS residents?

**B. The Current Remediation Goal for Radium-226 Has No Basis and Must Be Revised.**

In its Review Letter, EPA correctly determined that the Navy did not present a total risk estimate for Radium-226. EPA stated: "Consistent with Site RODs, the radium-226 remediation goal (1.0 picocurie per gram [1.0 pCi/g]) is applied as an incremental concentration above background. For example, if the background radium-226 concentration is 0.5 pCi/g, the allowable level of radium-226 in soil would be 1.5 pCi/g." EPA's Review Letter at 3.

EPA's Review Letter did not address the dubious origin of the remediation goal for Radium-226. On April 21, 2006, the Navy submitted an Action

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[https://epa-prgs.ornl.gov/cgi-bin/radionuclides/rprg\\_search](https://epa-prgs.ornl.gov/cgi-bin/radionuclides/rprg_search). Note: this risk calculation is based on the same inputs as the Battelle Report at page 9 except that the risk calculation includes the consumption of homegrown produce.

<sup>2</sup> In comments regarding the Navy's Draft Work Plan, Radiological Survey and Sampling, EPA aptly noted: "the main ROC at the site is RA-226, which has a half-life of 1600 years and as such will not have decreased significantly due to decay since the site operations began." Letter from John Chesnutt, EPA's Federal Facilities Section manager, to George Brooks, Navy, dated March 26, 2019, Att. 1.1 at 3, ¶4.e.

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Memorandum for the Navy's Final Basewide Radiological Removal Action.<sup>3</sup> According to the Action Memorandum, the cleanup goal for Radium-226 contamination in soils was derived "per agreement with EPA." 2006 Action Memorandum at 14. This same cleanup goal was adopted without any supporting analysis as the remediation goal for Radium-226 in RODs for HPNS parcels and was also used in the Battelle Report. See, e.g., Parcel G ROD at 31, Table 5 (Remediation Goals for Radionuclides), footnote c (remediation goal for Radium-226 "is 1 pCi/g above background per agreement with EPA"); Battelle Report at 3, Table 1, n.2 (current soil remediation goal for Radium-226 "is 1.0 pCi/g above background based on an agreement with the EPA").

In determining remediation goals for radionuclide contamination in soil, the National Contingency Plan ("NCP") provides that the lead agency should use the  $10^{-6}$  risk level "as the point of departure." 40 C.F.R. § 300.430(e)(2)(i)(A)(2). Neither the Navy nor EPA has provided any additional information regarding the basis for the "agreement" underlying the remediation goal for Radium-226 in the HPNS RODs or demonstrated that this remediation goal is protective of human health. Neither the Navy nor EPA has shown the public how this remediation goal was originally established in 2006 or explained why this remediation goal was subsequently adopted without any supporting analysis in RODs for HPNS parcels.

Significantly, if Navy had properly assessed the risk from consumption of homegrown produce, the exposure to Radium-226 would represent an excess cancer risk of  $5.48 \times 10^{-4}$ , which is not protective of human health. This risk is particularly significant because Radium-226 is a primary radionuclide of concern at HPNS. See Parcel E ROD (December 2013) at 2-16. Moreover, EPA's current residential preliminary remediation goal of 0.0018 pCi/g for Radium-226 in soil is approximately 897 times more protective than the Navy's current remediation goal of 1.633 pCi/g. See D. Hirsch, "Hunters Point Shipyard Cleanup Used Outdated and Non-Protective Cleanup Standards," at 5. Under these circumstances, we request EPA to conclude that the Navy's current remediation goal for Radium-226 is not protective of human health and must be revised.

**C. EPA Must Require the Navy to Use Detection Methods for Retesting that Can Achieve Appropriate Detection Limits and Data Quality Objectives.**

In its Review Letter, EPA allows the Navy to defer any decision about the need to modify the remediation goals or make other changes to the RODs' remedies until retesting is complete and health risks can be assessed using actual Site data. EPA's Review Letter at 3. Given that the Navy's current standards are not protective of human health, EPA's guidance recommends that the remediation goals should be

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<sup>3</sup> Tetra Tech EC, Inc. prepared the 2006 Action Memorandum for the Navy.

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revised now to reflect EPA's more protective preliminary remediation goals. See Comprehensive Five-Year Review Guidance at G-4, Exhibit G-1: Evaluating Changes in Standards.

Because the Navy's current remediation goals are not protective of human health, deferring a decision on remediation goals and remedies until after retesting is complete is both ill-advised and contrary to EPA's guidance. If EPA nevertheless chooses this path, EPA must ensure that the Navy's future investigation can achieve detection limits and data quality objectives for the retesting project. See, e.g., Letter from Lily Lee, EPA's RPM, to Derek Robinson, Navy's BRAC Environmental Coordinator, dated May 25, 2019, at 6, ¶14 ("The results of the final addenda will inform the testing sensitivity and the cleanup thresholds for the radiological rework."); Letter from Angeles Herrera, EPA's Assistant Director, to Lawrence Lansdale, Navy's Environmental Director, dated August 14, 2018, General Comments, ¶10 (requiring scanning to be completed with a detector capable of achieving the project's detection limit). Given that the EPA's current preliminary goal for Radium-226 in soil (0.0018 pCi/g) is approximately 897 times more stringent than the Navy's current remediation goal, EPA must require the Navy to use detectors with a proper level of testing sensitivity for the Navy's retesting.

**D. The Navy's Public Response to EPA's Review Letter Repeats an Unfounded Assertion.**

In its Review Letter, EPA noted the Navy's claim in its Draft Addendum that the soil remediation goals are protective for all future land uses at HPNS, including residential. EPA's Review Letter at 2. EPA recognized that the Navy's evaluation makes some conservative assumptions that may not reflect actual Site conditions. *Id.*<sup>4</sup> However, EPA concluded that it "cannot verify that the [Navy's] soil remediation goals are protective of human health for long-term protectiveness." *Id.*

Eleven days later, the Navy posted its response to EPA's Review Letter on the "Timely Topics" section of the Navy's HPNS webpage. Without any acknowledgement of EPA's conclusion, the Navy simply asserted: "As stated in an August 8 Timely Topics post, the remedial goals for soil are protective and consistent with federal law (CERCLA)." See [https://www.bracpmo.navy.mil/brac\\_bases/california/former\\_shipyard\\_hunters\\_point/timely\\_topics.html](https://www.bracpmo.navy.mil/brac_bases/california/former_shipyard_hunters_point/timely_topics.html).

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<sup>4</sup> The Navy's evaluation was not conservative. In fact, the evaluation does not reflect "current site conditions" because it failed to account for the risk posed by the consumption of homegrown produce, thereby understating the cancer risk by a factor of ten.

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On August 8, 2019, the Navy's own calculations in the Draft Addendum showed that the combined risk of exposure to Radium-226 and Thorium-232 exceeded the upper bound lifetime cancer risk to an individual of  $1 \times 10^{-4}$  established under the NCP to protect human health. Despite that fact and contrary to the conclusion in EPA's Review Letter, the Navy repeated the same unfounded assertion about its remediation goals on November 26. This misstatement does not accurately characterize the long-term protectiveness of the Navy's remediation goals for soil, and does not address EPA's and the public's legitimate concerns with the Navy's remediation goals at HPNS.

Thank you for your consideration of our comments in this letter. If you have any questions, you can reach me at (415) 442-6675 or by email at [rmullaney@ggu.edu](mailto:rmullaney@ggu.edu).

Sincerely,



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