UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION IX
75 Hawthorne Street
San Francisco, CA

December 28, 2018

George ("Pat") Brooks
US Department of the Navy
33000 Nixie Way, Building 50
San Diego, California 92147

Dear Mr. Brooks:

Thank you for providing for review the *Building Radiation Survey Data Initial Evaluation Report* ("Report"), Former Hunter's Point Naval Shipyard (HPNS), March 2018. The U.S. Environmental Protection Agency (EPA), the California Department of Toxic Substances Control (DTSC), and the California Department of Public Health (CDPH) have independently reviewed this report in detail with a technical team including national experts in health physics, geology, and statistics, and EPA's comments are attached.

In summary, we agree with the Navy's statements in the report that "former worker allegations describing improper data collection and manipulation could be verified . . . . The overall conclusion of this initial building radiation survey evaluation is that the surveys have been falsified and cannot be used to support a recommendation for unrestricted radiological release for HPNS radiologically-impacted buildings. . . . Because some types of data manipulation are difficult or impossible to identify, this report cannot verify that additional portions of the database have not been manipulated." The data analyzed demonstrate a pattern of practices that appear to show deliberate falsification, failure to perform the work in a manner required to ensure Record of Decision (ROD) requirements were met, or both.

We look forward to working with the Navy to finalizing the Work Plan to begin retesting component of the radiological assessment effort as soon as possible. If you would like to discuss any of these comments, please contact me at 415-947-4187 or lee.lily@epa.gov. You may also contact John Chesnutt, Manager of the Pacific Islands and Federal Facilities Section, at 415-972-3005 or chesnutt.john@epa.gov.

Sincerely,

Lily Lee, Remedial Project Manager

Attachment

Cc: Juanita Bacey, DTSC
Matthew Wright, CDPH
Tina Low, RWQCB
Amy Brownell, SFDPH

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EPA Review of the Draft Building Radiation Survey Initial Evaluation, Former Hunter's Point Naval Shipyard, San Francisco, California, March 2018
EPA Comments dated December 2018

GENERAL COMMENTS

1. EPA agrees with the Navy's statements in the *Draft Building Radiation Survey Initial Evaluation*, Former Hunter's Point Naval Shipyard, San Francisco, California, March 2018, ("Report") that "former worker allegations describing improper data collection and manipulation could be verified . . . . The overall conclusion of this initial building radiation survey evaluation is that the surveys have been falsified and cannot be used to support a recommendation for unrestricted radiological release for HPNS radiologically-impacted buildings. . . . Because some types of data manipulation are difficult or impossible to identify, this report cannot verify that additional portions of the database have not been manipulated." The data analyzed demonstrate a pattern of practices that appear to show deliberate falsification, failure to perform the work in a manner required to ensure Record of Decision (ROD) requirements were met, or both.

2. The Section 5.3 (Data Distribution Comparison Results) conclusion that the testing of data populations using the two-sample K-S test is inconclusive appears to be erroneous because it does not consider the results from the duplication query outlined in Section 6 of the Report. The data distribution comparison includes the results of a two-sample K-S test for comparing gross beta data from survey units with initial and re-survey results to help identify if the allegation that the detector may have been stationary during the initial scan in Class 2 and 3 survey units is true. Text on page 5-3 that the null hypothesis that the data distribution is the same for the initial and re-scan survey results is not rejected for Class 2 Survey Unit 33 walls of Building 146. The Report concludes that based on this analysis, the initial scan data came from the same distribution as the verification data, indicating that the survey instrument was in motion during the initial survey. In addition, this section concludes that the results of the K-S test are inconclusive because the K-S test demonstrates the initial and re-survey gross beta scan data from the Class 2 survey unit 33 are from the same distribution whereas the K-S test for the Class 1 SU in Building 271 results in the rejection of the null hypothesis, indicating the initial and re-survey data are not from the same distribution. However, it is noted that in Section 6.3 (Data Duplication Query Results) in Table 6-1 – Summary Statistics and Duplicated Results that based on the duplication query, Building 146 data were found to be duplicated, with a total of 354 duplicated results. Table 6-1 does not indicate which survey units were included in the duplication query. It is also noted that for Building 271, where the data distribution test indicates the distributions from the initial and re-survey data are not the same, no duplicated results were identified. Please revise the Report to evaluate whether the duplicated results identified for Building 146 included gross beta results from Survey Unit 33. If so, revise the Report to include analysis of at least one other survey unit for data distribution comparison where the results were not identified as being duplicated.

SPECIFIC COMMENTS

1. **Executive Summary:** The text states "additional inconsistencies and anomalies were noted but not investigated fully because the initial evaluation provided ample evidence that the building radiation surveys had been manipulated." EPA agrees with this Navy statement that more evaluation is not necessary to conclude already that previous data are not reliable. That being said, for background context, please describe the "additional inconsistencies and anomalies"

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referenced in the Executive Summary. Section 1, Introduction, is a potential location for this information. Please add other observations of potential data concerns, such as the following:

a. Elevated levels found in Buildings 271 and 406: When portions of Buildings 271 and 406 were rescanned, locations that exceeded the ROD Remedial Goals for buildings surfaces were found in 2016, even though previous Tetra Tech EC Inc. reports had not shown any exceedances.

b. Missing static results: At a November, 2016, phone call and a December 5, 2016, in-person meeting with the Navy, EPA noted that the radiological Work Plan for buildings required that if scan results exceeded certain threshold levels at any locations, then those locations should be marked, and beta static scans should be collected as followup. EPA's data review of Survey Unit 7 of Building 271 found that although reported results from the Final Status Survey Report showed many locations above these thresholds, no evidence of the beta static scans were observed.

Please describe any other observations of these or other forms of concerns.

2. **Section 3, Applicable Buildings, p. 3-1:** For clarity to the reader, please add further background information about Building 322 such as the following: The Navy conducted a Historical Radiological Assessment (HRA) in 2004, as well as multiple investigations, to identify potentially radiologically-impacted areas of Hunters Point Naval Shipyard for further follow-up. Building 322 only had radiological uses prior to its 1959 relocation from then-Parcel D to Parcel A, following a clearance survey by the Navy. After its relocation to Parcel A, Building 322 was used as a North Gate Pass Office and the HRA did not identify any radiological use of the building while it was located on Parcel A. This building was demolished and removed in 2004. Following the removal, an EPA health physicist conducted independent hand scans of the area using two types of scanners to confirm that the former building site was clean. EPA can provide documentation of these scans. Please also add any similar background information about this or any other buildings to help the reader better understand the nature of potential exposure to any current residents or workers.

3. **Section 6, Table 6.2, footnote 3, p. 6-6**: This footnote states the following: "Only these 400 ABSC ceiling results for Survey Unit 26 appear in the FSSR. The previous 250 ABSC wall results for Survey Unit 26 are not in the FSSR but were used (with the 400 ABSC ceiling results) in the TtEC-submitted paper, Technical Paper Discussing Alpha Scan Speed at Hunters Point Naval Shipyard (HPNS) under Basewide Radiological Removal Action, June 26, 2014." Please clarify if this means that potential falsification occurred during 2014.

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