Draft 5 Yr Review - General comments – Rad

1. The Draft Fourth Five-Year Review, Hunters Point Naval Shipyard, San Francisco, California, July 2018 (the FYR) does not adequately discuss the Tetra Tech EC Inc. potential contractor manipulation and/or falsification of radiological data at Hunters Point. Some of the fraudulent activity has been confirmed through enforcement actions. The interviews in Appendix B of agencies and 17 community residents show that this issue dominates concerns. They show this issue has significantly undermined trust in the Navy and the developer, and stakeholders are frustrated at the Navy delays and want more communication and transparency. This document should address the issue up front beginning with the Executive Summary and throughout the entire document wherever relevant. Below are examples:
    a. Executive Summary: This section should briefly explain the events of the last five years, the current status, and the future plans. Later sections of this document can refer to this explanation. Please include the Navy's commitment that no further transfers of property will occur until the Navy retests all locations where Tetra Tech EC Inc. performed previous suspect radiological work and conducts any necessary cleanup to protect public health and meet ROD requirements.
    b. Section 1, Introduction: This section should expand on the Executive Summary to give more details. Later sections of this document can refer to this explanation.
    c. Section 3.1, Basis for Taking Action: This section should does not include radiological contamination at all. Please add an explanation for the basis for taking action about radiological contamination, including the history of radiological activities on the site, the fraudulent activity confirmed by enforcement actions and the Tetra Tech EC Inc. Internal Investigation resampling that found five locations needed additional remediation, allegations by former workers, and the radiological data evaluation done by the Navy and regulatory agencies.
    d. Section 3.2 Response Actions: This section should include the recent actions taken to address community concerns about health impacts (e.g. review of water, air, and perimeter scan monitoring data and the rework that Tetra Tech EC Inc. did in its Internal Investigation. Please note in the text of this section that all prior TTEC radiological data has been called into question and the Navy has stated openly that they can no longer rely on it. Therefore, it cannot support any conclusions on protectiveness or completeness of the remedy, and we will not have any conclusions on long-term protectiveness or completeness until new data is taken.
    e. Section 4, Progress Since Last Review: Please summarize the findings related to Tetra Tech EC Inc. prior work. To the extent this topic duplicates information already provided in earlier sections, the text can make referrals to those earlier sections.
    f. According to the last paragraph of Section 5.2, "The Navy has completed an extensive review of the radiological remediation documents and data…and has identified the areas where resurveying for radionuclides is required to address all issues discovered;" however, the FYR does not identify the areas that require resurveying. The recommendation in Section 7.0 does indicate that Parcels B-1,

B-2, C, D-2, G, E, UC-1, UC-2, and UC-3 are affected, but the text does not discuss the extent of rework that will be necessary.

g. It is unclear how the radiological data issue has impacted the protectiveness determinations for each parcel, because the protectiveness determinations included in the subsections of Section 8.0 are not consistent with the guidelines outlined in the EPA document Clarifying the Use of Protectiveness Determinations for Comprehensive Environmental Response, Compensation, and Liability Active Five Year Reviews, OSWER 9200.2-111 (the Protectiveness Guidance), dated September 2012. Please revise the FYR to clarify the extent of radiological rework.

h. Please also revise the protectiveness determinations for each parcel in the subsections of Section 8.0 to clarify the impact of the radiological data issue on protectiveness and to use language consistent with the Protectiveness Guidance.

2. Section 6.2.2, Changes in Toxicity and Other Contaminant Characteristics: EPA Guidance calls for evaluation of the significance of changes in toxicity values and other contaminant characteristics when conducting a Five-Year Review.[1] The EPA's Preliminary Remediation Goal (PRG) Calculators for soil, the Building PRG Calculator for buildings, and the Surface PRG Calculator for surfaces, "which are used to develop risk-based PRGs for radionuclides, are recommended by EPA for Superfund remedial radiation risk assessments."[2] Here is a link to lists, by date, of the changes in these calculators over the past 5 years: [HYPERLINK "https://epa-prgs.ornl.gov/radionuclides/whatsnew.html"]. EPA has therefore previously commented that the fourth FYR should include updated risk evaluations for existing remediation goals (RGs) using the current versions of the EPA's PRG Calculators, but this is not addressed in the FYR. For example, risk should be calculated for soil, buildings, piers, and bollards. Please revise the FYR to include the results of updated risk evaluations for existing RGs using the current versions of the EPA's PRG calculators. In performing the new evaluation please also keep in mind the following:

a. Excerpts from EPA Guidance:

i. "cleanup levels not based on an ARAR should be based on the carcinogenic risk range (generally 10^-4 to 10^-6, with 10^-6 as the point of departure and 1 x 10^-6 used for PRGs."[3]

ii. "Consistent with existing Agency guidance for the CERCLA remedial program, . . . EPA generally uses 1 x 10^-4 in making risk management decisions."[4]

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[1] Appendix G, in particular the flowchart Exhibit G-4, "Evaluating Changes in Toxicity and Other Contaminant Characteristics," which shows the process you should use to evaluate the significance of changes in toxicity values and other contaminant characteristics when conducting a five-year review. Appendix G, Exhibit G-5, "Hypothetical Scenario for a Change in Toxicity," and Exhibit G-6, "Decision Process for a Hypothetical Change in Toxicity," provide an example of the evaluation process when there are changes in toxicity and other characteristics. *Comprehensive Five Year Review Guidance*, OSWER No. 9355.7-038-P, June, 2001, [HYPERLINK "https://semspub.epa.gov/work/HQ/128607.pdf"]

[2] "Radiation Risk Assessment at CERCLA Sites," OSWER Directive 9200.4-40, EPA 540-R-012-13, June 2014, Q1, p. 17.

[3] Id., Q33, p. 27, and OSWER Directive 9200.4-18 (U.S. EPA 1997a).

[4] Id., Q34, p. 27.

b. Buildings PRG Calculator Users Guide:[5]

   i. The default value for removable factor [$FTSS_h$ (fraction transferred surface to skin – hard surface)] is 50%. Users who want to use a lower value should do a site-specific study.

   ii. The default value for the dissipation factor [(dissipation rate constant) yr^{-1}] is 0. Users who want to use a higher value should do a site-specific study. For example, the *Users Guide* cites a site-specific study of the World Trade Center, which used 0.38. However, this situation is very different from buildings at the Hunters Point Naval Shipyard, so this would not be an applicable dissipation factor.

   iii. Applying a radon emanation factor may not be appropriate. Radon gas in a building can accumulate without implementation of radon reduction approaches. EPA's Office of Air and Radiation wrote, "Some natural ventilation occurs in all homes. . . . However, once windows, doors and vents are closed, radon concentrations most often return to previous values within about 12 hours. Natural ventilation in any type of home should normally be regarded as only a temporary radon reduction approach because of the following disadvantages: loss of conditioned air and related discomfort; greatly increased costs of conditioning additional outside air; and security concerns."[6]

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[5] https://epa-bprg.ornl.gov/bprg_users_guide.html

[6] 2016 Consumers Guide to Radon Reduction, EPA 402/K-10/005, 2016, https://www.epa.gov/sites/production/files/2016-12/documents/2016_consumers_guide_to_radon_reduction.pdf