Hunters Pt Radiation Q&A from Dan Hirsch Meeting 4/12/2016

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Key messages

A. The bottom line is protecting public health and the environment. EPA ensured the original cleanup requirements would be protective.

B. Throughout the years, EPA's scientists have reviewed cleanup reports as they have received them and have continued to confirm that even with updates in science, the Navy cleanups do not leave behind any levels of radionuclides that are not protective. As an added extra precaution, EPA evaluates all cleanup reports on individual sections of the Shipyard using the current version of the EPA's risk model (called the "PRG Calculator") to ensure the Navy has met the EPA cleanup requirements to protect public health and the environment before determining that any Parcel is considered suitable for transfer.

C. In addition, we have reviewed the previous parcel-wide cleanup reports from the past using the current version of the EPA risk model, and we confirmed that all those cleanups are protective using EPA criteria.

Specific Questions from Dan Hirsch and others

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1. Q. Does the Navy agree under CERCLA Fed Facility on NPL must be cleaned up consistent w/guidelines, rules, criteria of EPA? (See Section 120(a)(2) of CERCLA requires all Fed Facilities)
   The Navy IS consistent with CERCLA. EPA used the EPA risk model to confirm that they were protective based on the most current information at the time, and EPA is checking each cleanup report using the current version of the EPA risk model before we approve a cleanup is complete.
2. Re 2006 release criteria, which have not since been updated,
   a. Q. Only the soil criteria reference EPA PRG's. What about Surfaces?
      A.EPA did not create its Building PRG Calculator and Surface PRG calculator until after 2006. In addition, see key messages.

   b. Q. Don't buildings fall under CERCLA too?
      A.Buildings fall under the Superfund law if they have contamination that has a threat of release to the environment. Conditions vary by building across different circumstances.

   c. Q. Note b states "These limits are based on 25 mrem/yr," but EPA would have required at most 15 mrem/yr at the time and 12/ mrem/yr now.
      A. The Navy documents are required to list the applicable, relevant, and appropriate requirements of all regulatory agencies. The documents therefore contain language about 25 mrem/yr because the Navy has to show that it independently meets that requirement. The documents also show that in addition,

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the Navy also meets the requirements for EPA. [Furthermore, mrem/year is a measure of dose, not risk. For Superfund sites, EPA looks at risk of excess cancer, not at dose.] Prior to 2014, EPA guidance would require a risk assessment and PRGs at 10^-6 if a dose limit of greater than 15 mrem/yr was selected, since June 2014 that value is greater than 12 mrem/yr. EPA reviewed the original criteria and confirmed it met EPA's requirements independently of meeting requirements of any other agency.

d. Q.Where is documentation that these criteria met EPA appropriate standards in 2006?
A.We have requested this information from the Superfund Records Center, but regardless of the original criteria, however, see key messages.

e. Q.Why haven't they been updated to become more conservative to be consistent with updates to EPA approaches nationwide?
A. The original release criteria were already protective to a level clean enough as if residents had yards and were eating food grown in soil. In reality, as extra layers of precaution, the Navy is required to install a protective cover for chemical purposes, which blocks some exposure, and ban growing of food except in raised beds. So the cleanup standards were already more protective than they need to be. Since that time EPA's scientists frequently evaluated all sections of cleanups throughout the years to ensure they would protect human health and the environment. When you brought this issue to our attention, as an added precaution we checked the all the previous parcel-wide cleanup reports using the current version of the EPA risk model and confirmed that the cleanups are protective.

f. Q. For example, the standard for Plutonium-239 (previously 2.59 pCi/g Residential soil) should now be 2 orders of magnitude lower now.
A.The original release criteria were already protective, so when we checked the current version of the EPA for Plutonium-239 is still protective using the current version of the PRG Calculator. In addition, Plutonium-239 is extremely rare at Hunters Point Naval Shipyard. But if it were found anywhere, then EPA would use the current version of the EPA risk model to check to ensure that the cleanup removed any levels of any radionuclide necessary to be protective.

g. Q.Cite 40 year old AEC Reg Guidance, which cannot be used
A.We defer to the Navy to answer this question, since this is not an EPA requirement.

h. Q.Cite 1991 EPA PRG, which is too old [Not sure I heard this right, because I'm not sure what he was referring to]
A.Which citation are you referring to? Refer to key messages.

3. Q. EPA is supposed to approve the original cleanup standard using EPA approaches and update them routinely. EPA should not be evaluating afterwards.
A. what I can do is assure you that every cleanup report the Navy submits goes through

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EPA's review using the current version of EPA's radiation risk model.

4. EPA's analysis of Navy SUPR

   a. Q. Based on mean, but for suburban residential, you are generally not supposed to average.
      A.The actual exposure from radionuclides is based on looking at concentrations from multiple locations across an area, not from just a single point. Therefore, EPA is using the standard approach in the "Multi-Agency Radiation Survey and Site Investigation Manual" (MARSSIM). This is an approach that multiple agencies, including EPA, have agreed to.

   b. Q. EPA is not supposed to be using net above background. It is supposed to use the full reading, not just incremental.
      A.The environment at Hunters Point and in many places of the rest of the world contains some levels of naturally occurring radiation, called "background" levels. The Navy is responsible for cleaning up levels above these. So what is relevant for cleanup is the level above background.

   c. Q. One has wrong conversion factor.
      A.Can you specify which you are referring to?

5. Because the cleanup standards were not strict enough, radioactive material that is at 24 mrem/yr could have been considered "protective" and these people could be at risk:
   a. Q. future residents could be living on top of radioactive material that should have been removed.
      A. All unprotective levels of radiation need to be removed before EPA will approve that a cleanup is complete. The Navy documents are required to list the applicable, relevant, and appropriate requirements of all regulatory agencies. The documents therefore contain language about 25 mrem/yr because the Navy has to show that it independently meets that requirement. The documents also show that in addition, the Navy also meets the requirements for EPA. [Furthermore, mrem/year is a measure of dose, not risk. For Superfund sites, EPA looks at risk of excess cancer, not at dose.]

   b. Q.Neighborhood residents could be exposed to dust from excavation that was not properly controlled because it was considered protective because it was below release criteria.
      A.The original release criteria are still protective. See key messages. In addition, the Navy follows a strict dust control plan, which includes many requirements, e.g. spray down dust, clean up roads, shake dust off truck tires, and monitor the air. Finally, the Air District's has a full time inspector for this neighborhood who visits the Navy daily at unannounced times. EPA and other agencies also conduct both announced and unannounced inspections.

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c. Q. Neighborhood residents could be exposed to dust from trucks transporting waste that was not properly controlled because it was considered protective because it was below release criteria.
A.The original release criteria are still protective. See key messages. In addition, as an extra layer of protection, trucks must drive through radiation mortal monitors both before they leave the Navy base and as they enter landfills. Alarms go off if levels of radiation are too high. When these go off, then the trucks are scanned by hand. In addition, trucks are required to be covered going in and out of the Shipyard. The Navy requires that a truck driver cannot get their manifests, which are documents they need before they can deliver their loads, unless a monitor verifies first verifies the truck is covered.

d. Q.Waste going to landfills could be at unprotective levels and expose residents of Kettleman City and Buttonwillow, which are EJ Communities
A.See answer to previous question. In addition to requirements in the Superfund cleanup, landfills have their own independent permits under multiple agencies' regulations that control the levels of contamination they would be permitted to accept and waste handling practices to protect public health and the environment. The Navy manages the disposal and the State and local agencies regulate landfills. Please contact them for more information.

e. Q.Where is documentation of sampling results for soil that is transported? Could some of it have had levels of less than 25 mrem/year but above 12 or 15 mrem/yr?
A.We defer to the Navy to explain where to find documentation of the sampling results.

6. Q. Containment (Durable covers) and Institutional control (restrictions on planting vegetables in soil) should not be the solution to radiological waste. Instead, all unprotective levels should be removed.
A.Those are requirements that apply to non-radioactive forms of contamination. For radionuclides, the Navy must remove radioactive materials to the level so they would be clean enough to grow vegetables and would not need a cover to be protective. Both the EPA and the Navy use models that estimate risk as if future residents could be growing vegetables to eat themselves and as if the soil has no protective cover.

7. Tetra Tech
   a. Q.Why are they still doing work at Hunters Pt when they are proven to have falsified samples? Shouldn't the Navy fire Tetra Tech? Or at least suspend their work during an investigation period?
   A. The Navy is the lead agency responsible for the investigation and cleanup of the Hunters Point Naval Shipyard (HPNS). EPA and its state regulatory agency partners oversee and enforce Navy compliance with the Comprehensive Environmental Response Compensation and Liability Act (commonly called the Superfund law) to ensure the cleanup at HPNS protects human health and the environment. The Navy manages its contractors. We defer to the Navy to answer

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questions about its contracting practices

b. Q.If Navy won't fire/suspend Tetra Tech, why won't EPA do it?
A.See answer to previous question.

c. Q.How much of the radiological work at Hunters Point was done by Tetra Tech?
A.We defer to the Navy to answer this.

d. Q. How can we trust any results from Tetra Tech?
A. In 2012, the Navy's internal quality control review of work by its contractor, Tetra Tech, discovered discrepancies from the results they would have expected in some HPNS soil samples taken after removal actions. Subsequently, Tetra Tech conducted an internal investigation, resampled the areas of concern, and excavated soil that had levels of contamination above health-based cleanup goals. The Navy hired an independent contractor to oversee work of Tetra Tech and other contractors at HPNS. Tetra Tech summarized their actions in a report to the Navy dated April 2014. EPA—along with California Department of Public Health (CDPH) and the California Department of Toxic Substances Control (DTSC)—reviewed the sampling results in the April 2014 report carefully.

e. Q.Who did the resampling? If it was Tetra Tech, then how can we trust the resampling?
A.Though Tetra Tech did the resampling, Navy staff physically watched them do the work.

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f. Q. Has EPA taken its own independent samples?
A. No, but EPA will continue to closely review information about any new allegations that come to light and to monitor the actions of the Navy and other agencies with regard to work by Tetra Tech to inform any further EPA action.

g. Residents are scared that they are being exposed to radiation now because Tetra Tech falsified samples.
   i. Q.People living on Parcel A
      A.Parcel A was a residential area that never had industrial use. The Navy removed radioactive material that was naturally occurring in sandblast grit and fire brick. The Navy demolished and removed Building 322. Before EPA agreed the cleanup there was complete, EPA's Health Physicist did an independent survey of the former Building 322 footprint by hand. In addition, EPA sent its own scanner van to drive around Parcel A and other parts of Hunters Point Shipyard to verify no unprotective levels of radiation were present above the surface.
   ii. Q. People in the surrounding community that could be breathing dust from excavation or trucks?
      A.See answers to 5b & 5c above. In addition, routine health and protectivety protection practices for workers include requirements to scan hands and feet and vehicles before they would leave any site with potential radiation

contamination.

iii. Q.Unprotective levels of radiation could be left behind, and groundwater could carry it into the bay.

A.Groundwater monitoring does not show unprotective levels of radionuclides at wells near the San Francisco Bay. In addition, Radium-226, the most common radionuclide at Hunters Point, does not move easily unless water is more acidic than the levels present at Hunters Point Naval Shipyard.

h. Q. How could an EPA staff person say that the Navy would hire Tetra Tech again in the future and that "Tetra Tech is a good company?"

A.That statement does not reflect the views of EPA. It was inappropriate for any government representative to express a personal opinion about any company. We look at the facts we receive and conduct our reviews based on those.

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