

**PARCEL A-1 RESIDENTIAL UNIT OPTIONAL WINDOW DUST SURVEY:  
INTERNAL PROCEDURES**

January 31, 2019

**Purpose**

This procedure describes the sampling method to obtain dust samples from Parcel A-1 residential homes in order to perform a radiological assessment for alpha and beta radiation.

**Location**

Survey area will be any residential unit within the location referred to on page 7 of the Department's "Hunters Point Shipyard, Parcel A-1, Health and Safety Survey".

**Survey Scope**

The Department will, upon request by a resident, through the sign up process coordinated with the Hunters Point Shipyard (HPS) Homeowners Association (HOA), conduct one-time window dust sampling within the interested party's residential unit. The dust sampling will be done by gathering three wipes of dust within the residential unit window sills. Survey results will be recorded and provided to the resident via a report. The results will be placed in a sealed envelope, in order to ensure privacy for the resident, and provided to the HPS HOA coordinator. The Final Dust Sampling Report will contain a summary of results and any trends will be noted. Individual residents' survey information will not be included in the final report to maintain privacy. The Final Dust Sampling Report will be publically posted on CDPH's website.

**Survey Actions & Analysis**

The following survey actions will be performed, as conditions necessitate:

- Equipment operational checks conducted before initiating sample evaluation and per the CDPH Radiological Health Branch (RHB) Radiological Assessment Unit (RAU) standard operating procedure (SOP).
- A comparison count rate for an unused dust wipe measured at the temporary lab on-site at Parcel A-1 will be determined using the RAU SOP for the Ludlum Model 3030p Sample Counter.
- All wipes taken will be individually placed in glassine envelopes and then the envelopes will be placed in a plastic bag along with Attachment A. Each building will have its own Request for Sample Analysis, chain of custody (COC) form (Attachment B), for that batch. Each batch will be brought to the counting area expeditiously.
- Dust survey wipes will be counted in the on-site lab using the Ludlum Model 3030p Sample Counter.
- Survey results will be recorded and provided to authorizing resident via a report. The initial results will be placed in a sealed envelope, labeled with the

requester's name, and provided to the HPS HOA. The Final Dust Scanning Report will contain a summary of general results and the number of units exceeding trigger values, if any. Any other trends will be noted but no location-specific information to ensure resident privacy.

To provide for a conservative safety margin, the trigger value for further action will be any reading above the minimum detectable activity (MDA) of the counting instrument (Ludlum 3030p) for the primary alpha and beta isotopes, strontium-90 and plutonium-239, respectively. In the event that a radiation measurement exceeds the MDA, the following investigation confirming the measurements will be performed before initiating the Notification Plan:

1. A measurement that exceeds the trigger value will be confirmed – Allow the wipe to rest for 30 minutes and perform a recount; record data on Attachment A.
2. Upon completion of recount, if the wipe still exceeds the trigger value, contact the CDPH HPS Site Lead.
3. The sample evaluation team will mark the batch and individual plastic bag and glassine envelope to indicate that readings above the trigger value were detected for that sample. A copy will be provided to the CDPH HPS Site Lead.
4. The wipe recount information and the EPA federal guidance document number 13<sup>1</sup> will be utilized to perform a risk analysis calculation. This EPA document provides numerical coefficients for use in estimating the risk of cancer from low level exposure to radionuclides. Results that exceed the EPA risk range<sup>2</sup> will be reported to the CDPH HPS site lead.
5. CDPH HPS Site Lead will initiate the Notification Plan after the follow-up specified in Steps 1 to 4 in this section, if necessary.

## **Survey Organization, Logistics, and Tasks**

CDPH RHB staff will be performing the following tasks:

- Staff positions
  - CDPH HPS Site Lead—Coordinates operations on site
  - Count Lab Specialist—Operates the counting instrumentation
  - Survey Teams –two staff each
    - Sampler – takes dust wipes
    - Data Analyst – records and analyzes data
- Scheduling
  - RHB staff will provide available time blocks to the HPA HOA, which will handle all scheduling of residential units. The residents can contact the HPS HOA to schedule their unit for dust surveying.

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<sup>1</sup> Federal Guidance Report No. 13: Cancer Risk Coefficients for Environmental Exposure to Radionuclides; of radionuclide specific lifetime radiogenic cancer risk coefficients for the U.S. population, based on age-dependent intake, dosimetry and risk models.

<sup>2</sup> U.S. Environmental Protection Agency, OSWER 9285.6-20, Distribution of the "Radiation Risk Assessment At CERCLA Sites: Q&A" June 13, 2014.

- Site preparation
  - The CDPH HPS Site Lead will assure that the on-site counting lab has operable equipment ready. The surveyor pens, latex gloves, filter paper, forms, glassine envelopes, survey jigs, and large and small plastic zip lock bags should be prepositioned at the counting lab site and available for distribution to the staff.
- Training
  - The CDPH HPS Site Lead will provide site specific training to all team members before any survey wipes are taken. Training will include proper use of survey jig, proper swipe technique and proper forms completion. All team members will sign the training log attendance sheet.
- Staff members will notify CDPH HPS Site Lead of arrival and undergo daily safety and survey briefing. Afterwards, staff members will perform daily equipment operational checks. End-of-day operations will include notification to CDPH HPS Site Lead of conclusion of surveying activities, confirmation of notification for any follow-up operations, and staff member briefing.
- Dust Sample Collection
  - Three teams of two staff members each will be available to collect residential dust wipes over a multiple day period.
  - Three dust samples will be gathered from inside the residence. A total of 100 square centimeters (as determined by the survey jig) will be wiped with a suitable filter paper for each sample. The samples will be placed in individual glassine envelopes and then all three samples will be placed in one plastic bag. The bag will be labeled with date, time, and unit number and the data needed for Attachment A will be filled out and verified as completed. The dust sample will be retained by RHB until no longer needed.
  - After one building is completed, the group of bags will have a COC form (Attachment B) filled out and the package will be delivered to the on-site lab.
- Counting procedure
  - The RHB's RAU procedure will be used for sample counting using the Ludlum Model 3030p Sample Counter.
- Reporting
  - A report will be prepared and will be available to the residents. The report will specify only general results throughout the housing complex with special attention paid to any trends that may be of concern.

### **Survey Procedure**

1. Perform QA measurements before using counting instruments and record necessary data on form RAU-5b.
2. Record name of surveyors on Attachment A.

3. Ensure all the needed supplies are available (latex gloves, pens, filter paper, survey jigs, forms, glassine envelopes, large and small plastic zip-lock bags).
4. Enter the residential address including unit number on Attachment A.
5. Proceed to residential unit to be surveyed and introduce team members to occupants and explain purpose of survey.
6. Locate appropriate sampling locations for dust in the residence (preferably windowsills if three windows with access to the outside are available, otherwise a secondary surface near a window).
7. Place survey jig on sill to delineate a 100 square cm area.
8. Use filter paper (Whatman 41 or equivalent borosilicate glass fiber filter paper) to wipe the delineated area.
9. Place used filter paper in glassine envelope.
10. Repeat Steps 7-9 twice more.
11. Place all three glassine envelopes in plastic zip-lock bag.
12. Attach Attachment A to plastic zip-lock bag.
13. Upon completion of survey, ask occupant to sign Attachment A and tell them the results of the survey will be available from the HOA in sealed envelopes. Additional questions can be passed to CDPH through the HOA.
14. Verify that Attachment A is fully filled out.
15. When all the requested units for that building are completed, fill out the COC form (Attachment B).
16. Return the plastic bags and Attachment B to the Counting Room Specialist and complete the COC transfer documentation.
17. Continue to next set of units to be surveyed.

## **Notification Plan**

Upon discovery of a measurement that exceeds the EPA risk range:

1. CDPH will take several internal steps, including:
  - a. Provide telephone notification to RHB Branch Chief with details of anomaly.
  - b. Send email as soon as practicable to RHB Branch Chief, with cc to Radioactive Materials, Inspection, Compliance, Enforcement (RAM ICE) Section Chief, and Radiological Assessment Unit Chief. This e-mail will contain detailed information regarding what was found, when, where, and further planned actions.
  - c. The RHB Branch Chief, or his designee will notify the Division of Radiation Safety and Environmental Management, by telephone and e-mail.
2. CDPH will also coordinate with the Navy, EPA and DTSC to notify the resident as well as City of San Francisco officials. That notification to the resident may include information on additional sampling, radiologic characterization, and any

other specific guidance deemed necessary (depending on the nature and concentration of the finding).

3. The Navy will be requested to perform a radiological characterization of the anomalous area and determine the next steps in conjunction with CDPH. Navy will then take further steps to coordinate with the residents.

**Proposed Timeline:**

February 5<sup>th</sup> – February 22<sup>nd</sup>: CDPH to join HOA meeting, sign-up opportunity for residents

February 18<sup>th</sup> – March 29<sup>th</sup>: Conduct testing (*may change depending on the number of people that sign up for testing*)

May 2019: Issue report