



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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N00217.003231
HUNTERS POINT
SSIC NO.5090.3

March 22, 1996

Mr. David Song
Engineering Field Activity, West
900 Commodore Drive, Code 1832.3
San Bruno, CA 94066

RE: EPA Review and Comment on the Phase III Radiation Investigation Draft Field Work Plan, Engineering Field Activity, West, Naval Facilities Engineering Command, Hunters Point Annex, San Francisco, California

Dear Mr Song:

EPA has completed the review of the above radiation investigation work plan, prepared by PRC Environmental Management, Inc. and dated February 15, 1996. Overall, the document appears to adequately meet the purpose of the Phase III investigation. The following comments address specific areas of concern with the work plan:

- (1) **Section 2.2, page 7:** The Navy is considering establishing an isotopic inventory of gamma emitting isotopes in the surface soils at Hunters Point Annex and storing the information electronically on a computer disk for later analysis. Will EPA have access to the information on computer disk?
- (2) **Section 2.2, page 7, third paragraph:** It is unlikely that strontium 90 (Sr90) devices can be successfully identified by detecting bremsstrahlung x-rays being generated in the soil surrounding the devices. EPA does not regard the method described in this section as an acceptable method of field screening for Sr90.
- (3) **Section 2.5, page 9:** The gamma rays emitted from Cesium 137 (Cs137) are primarily 662 kev energy. The most detectable gamma ray for radium is only 182 kev. Thus, radium gamma rays have 30% less penetrating power than cesium gammas. The 2-inch by 2-inch sodium iodide (NaI) detector is unlikely to detect a one microCurie radium source buried deeper than 12 inches.

- (4) **Section 3.1.4.6, page 28, Buildings 830 and 831:** No information is provided on previous investigations and decontamination activities, including confirmation sampling of any floor drains and sanitary piping, in and around the buildings. Please provide a justification, including background investigative information, for recommending that no confirmation survey be performed.
- (5) **Section 3.2.1.2, page 33:** The international standard for waist high exposure rate measurements is one meter above the surface rather than three feet as stated.
- (6) **Section 3.2.2.1, page 35:** An NaI detector is not appropriate for detecting Sr90. See comment # 3 above.

Suggestion:

Soil sampling for radiation investigation work can be minimized by utilizing gamma spectroscopy devices as a field screening mechanism prior to sampling events. A field survey system such as USRADS (UltraSonic Ranging And Data System) by Chemrad, and which EPA's Office of Radiation and Indoor Air has evaluated, is capable of characterizing the entire site's surface and displaying the gamma levels on contour or 3-D plots. This system uses 3-inch by 3-inch sodium iodide detectors which are three times more sensitive than the 2-inch by 2-inch sodium iodide detectors proposed for use in this work plan. It is our understanding that Captain David George with the Navy's Radiation Affairs Support Office (RASO) has recently purchased such a system and that arrangements could be made to borrow the equipment.

Please call me at (415) 744-2389, or Steve Dean of the EPA Office of Radiation and Indoor Air at (415) 744-1045, if you have any question or comments.

Sincerely,



Anna-Marie Cook
Remedial Project Manager

cc: Steve Dean, EPA
Cyrus Shabahari, DTSC
Mike McClelland, EFAWEST