



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105-3901

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HUNTERS POINT
SSIC NO.5090.3

September 8, 1993

Raymond E. Raymos
Base Closure Team
Western Division
Naval Facilities Engineering Command
San Bruno, CA 94066-2402

Dear Mr. Raymos:

Enclosed are comments on Appendix G, Building 816 Tritium Radiation Investigation, of the Draft Parcel A Site Inspection (SI) Report, dated July 30, 1993. These comments should be included with the other Draft Parcel A SI Report comments I sent to you yesterday; I inadvertently left them out. If you have any questions regarding these comments, please call Mr. Steve Dean, Environmental Scientist, directly at 744-1045.

Sincerely,

A handwritten signature in cursive script that reads "Roberta Blank".

Roberta Blank
Remedial Project Manager

Enclosure: 2 pages

cc: Bill Radzevich, WestDiv
Mike McClelland, WestDiv
Cyrus Shabahari, DTSC
Barbara Smith, RWQCB
Jim Sullivan, NSTI
Amy Brownell, SFPHD
Gary Welshans, PRC



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MEMORANDUM

DATE: August 26, 1993
FROM: Steve M. Dean 
Environmental Scientist, ORIA, (A-1-1)
TO: Roberta Blank
Remedial Project Manager, FEB, (H-9-2)
SUBJECT: Building 816 Tritium Study

After reviewing the report titled "Investigation of Tritium in Surface Soils and Paving Materials Surrounding Building 816" I am satisfied that tritium can be ruled out as a potential radiation hazard to the public as a result of activities in this building. Since tritium is as mobile as water, in most cases, there was little chance that detectable levels would be present 14 years or so later.

There are several points in the report on which I would like to comment:

Page 10, paragraph 2: "the most probable route of entry into the body at this site is by ingestion of soils or vegetation."

Page 11, paragraph 2: "At building 816, it was determined that ingestion of tritium in soils and paving materials would be the primary exposure pathway."

In my opinion, ingestion of soil, vegetation, and paving materials would **not** be the dominant exposure pathway for tritium. The most probable exposure pathway would be inhalation from tritium volatilizing as water vapor from the soil or concrete into the air. Had tritium been detected in any of the samples the Risk Assessment Guidance for Superfund Human Health Evaluation Manual Part B would have been a more appropriate choice for determining the risk to the public than ICRP (1975).

The drinking water MCL is frequently used as an ARAR when discussing tritium contamination. The MCL for tritium is currently 4 mrem per year which in turn is defined as 20,000 pCi/liter. However, to apply this ARAR to this study it would have to be considered 20,000 pCi/liter of soil, vegetation, or paving material moisture.

However, since no tritium was found at Building 816 a detailed discussion of the Relevant Regulatory Requirements is unnecessary in this report.

The samples' moisture content also raises another issue:

During a phone conversation this morning with Dr. Dinkar Kharkar of TMA/Norcal he said that none of the samples had sufficient moisture to generate 10 milliliters of water per sample necessary for the scintillation analysis. Consequently, 10 mls of deionized water were added to each sample before the azeotropic distillation was performed. Thus, the procedure was more like a water extraction than a distillation of sample moisture. This addition to the lab procedure should be mentioned in this report.

One final comment:

Page 9, footnote a: "Reported value is less than the negative of its 2 sigma counting error."

This is not the best way to report this data. A better explanation of this footnote is required, and also, reporting negative values does not give the data much credibility when reviewed by the general public.

If you have any questions or comments please do not hesitate to call me at 4-1045. Thank you.

cc: Michael Bandrowski, Director, ORIA