

**FACSIMILE**

Date: February 3, 2012

To: Kevin G. Null  
Senior Health Physicist  
NRC Region III  
Phone: 630-829-9854  
Fax No. 630-515-1259

From: Thomas E. Huston, Ph.D., CHP  
Program Manager/Health Physicist,  
VHA National Health Physics Program  
Phone: 501-257-1578  
Fax: 501-257-1570



Reference: NHPP Letter dated February 3, 2012

Attached: ~~3 pages~~ 4 pages *TEH*

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Kevin: Attached is the response for an earlier request for additional information. Please feel free to contact me if any additional information is required to complete this review.



**DEPARTMENT OF VETERANS AFFAIRS  
Veterans Health Administration  
National Health Physics Program  
2200 Fort Roots Drive  
North Little Rock, AR 72114**

In Reply Refer To: 598/115HP/NLR

**February 3, 2012**

Kevin G. Null  
Division of Nuclear Material Safety  
Nuclear Regulatory Commission (NRC), Region III  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532-4352

Re: NRC License 03-23853-01VA

Dear Mr. Null:

We are enclosing a memorandum from the Radiation Safety Officer for VA Palo Alto Health Care System, Palo Alto, California, that responds to a request for additional information in NRC letter dated January 4, 2012, from Christine A. Lipa. We appreciate your continued review of our request to release for unrestricted use Wings A and B of Building 2 at that facility.

If you have any questions, please contact Thomas E. Huston., Ph.D., at 501-257-1578, or you may reach me at 501-257-1571.

Sincerely,

A handwritten signature in dark ink, appearing to read "G. Williams".

Gary E. Williams  
Director, National Health Physics Program

Enclosure

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**DEPARTMENT OF  
VETERANS AFFAIRS****Memorandum**

**Date:** February 3, 2012

**From:** Radiation Safety Officer, VA Palo Alto Health Care System, Palo Alto, California

**Subj:** VHA Permit Number 04-23242-01

**To:** Director, VHA National Health Physics Program (NHPP) (115HP/NLR)

1. This memorandum provides a response to information requested in Nuclear Regulatory Commission (NRC) letter dated January 4, 2012. The items were referenced as items A, B, and C, in that letter.

2. Item A in NRC letter states:

*In Section 1 of the permittee's memorandum, the permittee noted that for survey units in the impacted areas of Wings A and B of Building 2 it was not practicable to survey inaccessible areas for the type and quantity of radioactive materials previously used at the facility. The permittee referred to Page 2-32 of the MARSSIM manual (NUREG 1575) Table 2.2. Section 4.8.4 of NUREG 1575 provides guidance on the Clearing to Provide Access to inaccessible areas prior to significant is expended as noted in table 2.2.*

*'Recommended Condition for Demonstrating Compliance Based on Survey Unit Classification for a Final Status Survey.' Specifically, the permittee should have determined all inaccessible areas prior to implementation of and made evaluations regarding needed radiological surveys or evaluation to ensure proper radiological characterization.*

*The NRC is requesting that the permittee evaluate all inaccessible areas within the bounds of areas impacted by licensed material to ensure compliance with NRC release criteria.*

*In the documents provided, the permittee did not define an inaccessible area. The NRC is also requesting the permittee define inaccessible areas in all impacted areas concerning licensed material.*

**Our response:**

For purposes of this closeout survey, "inaccessible areas" are those interior room surfaces within impacted areas where wipe samples and direct measurements were not able to be obtained because surfaces were blocked by permanent room fixtures such as floor and wall cabinets and countertops. Inaccessible areas in this case included walls behind existing cabinets/counters and floors under cabinets.

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As part of the close-out survey, a historical assessment was performed which included discussions with staff who used these areas and reviews of radiation safety program files (including spill records, inventory records, and waste disposal records). Based on our reviews of records and discussions with staff none of these "inaccessible areas" were ever surfaces upon which radioactive materials were ever directly stored or used so that the only way for contamination of these surfaces to have occurred would have been from a spill or unusual release. Based on interviews and records reviewed, no radioactive materials were known or reported to have been spilled or released to inaccessible areas. Also, visual examination of accessible surfaces adjacent to inaccessible areas revealed that the potential for radioactivity to have ever reached these areas was extremely unlikely due to the precautions followed during material use and the design of the cabinets and countertops (e.g., integral back-splashes and toe-kick boards and sealed seams between these areas and walls and floors) and other room furnishings. Finally, we determined that all wipe samples and direct measurements performed adjacent to these inaccessible areas had no residual radioactivity above our release criteria and were certainly well below the screening level criteria for unrestricted use in NUREG-1757, Rev. 2, Volume 1, Appendix B, Table B.1. In summary, we have evaluated the inaccessible areas using a mixture of records reviews, staff discussions, visual examination, and measurements of adjacent surfaces and conclude from this evaluation that these areas meet unrestricted release criteria in 10 CFR 20.1402.

3. Item B in NRC states:

*In Section 3 of the permittee's letter, the permittee stated that as static and wipe results did not show the presence or contamination in sinks, drains, and traps, no evaluation of the pipes or hold up tanks was necessary.*

*The NRC does not agree with the permittee's statements that no evaluation of pipes or hold up tanks is required as a result of negative contamination at the entrance points to pipes and/or hold up tanks. Sinks, drains, and traps are normally cleaned and/or have large quantities of liquids which could dilute or remove contamination through the pipes and concentrate in hold up tanks and the like. The NRC is requesting that the permittee perform radiological surveys and/or evaluations to determined potential radiological impacts to ensure compliance with NRC requirements.*

**Our response:**

Based on interviews with local Engineering Services personnel familiar with the building infrastructure, all sewer lines for Building 2 discharge to the municipal sanitary sewer system, and there are no sewer hold-up or neutralization tanks present in the building. With this clarification and our previous surveys, we conclude that the building sewer system is free of residual radioactivity and meets NRC release criteria for unrestricted use.

3. Item C in NRC letter states:

*In Section 5 of the permittee's letter, the permittee stated that DCGL's for U-238 were calculated to be 100 dpm/100cm<sup>2</sup> for fixed contamination and 20 dpm/100cm<sup>2</sup> for removable*

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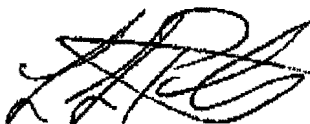
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contamination. However, the permittee also stated that the minimum detectable concentration (MDC) was 61.6 dpm/100cm<sup>2</sup> for alpha static measurements (fixed contamination) and 18 dpm/100cm<sup>2</sup> for removable contamination.

On page ROADMAP 9 of NUREG 1575 notes that for direct measurements and sample analyses, MDCs less than 10% of the DCGL are preferable while MDCs up to 50% of the DCGL are acceptable. In the licensee's case, both fixed and removable MDC's are greater than 50% of the DCGL's. The NRC requests that the permittee perform additional radiological surveys and evaluations to determine whether U-238 contamination exists as licensed material subject to Title 10 of the Code of Federal Regulations (CFR) Part 20 to ensure compliance with NRC requirements.

**Our response:**

Since submitting the final status survey report, we have performed additional reviews of our past radioactive material licenses and permits and additional interviews with long-term research and radiation safety staff. The only uses per our records of this type of material were those involving scanning electron microscopy and, as such, would have involved only very small gram quantities of natural or depleted uranium. In addition, our facility has never held a specific license to possess uranium (as either source material or special nuclear material). Our conclusion from these reviews is that all past receipt, possession, and use of uranium in Building 2 took place under general license provisions in 10 CFR 40.22. We note that 10 CFR 40.22(b) states that "persons who receive, possess, use, or transfer source material pursuant to the general license issued in paragraph (a) of this section are exempt from the provisions of parts 19, 20, and 21, of this chapter to the extent that such receipt, possession, use or transfer are within the terms of such general license." Therefore, we conclude that any residual radioactivity (we note that none was detected) from these sources would not exist as licensed material subject to provisions of 10 CFR Part 20. Nonetheless, we do believe that a good-faith effort was made to evaluate areas for alpha activity using alpha detection equipment available to us and emphasize that no alpha activity above background was observed. As an additional mitigating factor, we note that the MDCs associated with our measurements were more than 50% below NRC guidelines for alpha emitters for unrestricted areas as specified in NUREG-1556, Volume 21, Table M.5 (1500 dpm/100cm<sup>2</sup> maximum total, 500 dpm/100cm<sup>2</sup> average over 1 m<sup>2</sup>, and 100 dpm/100cm<sup>2</sup> removable).



Lance J. Phillips, CHP  
RSO, VAPAHCS