

Mr. Steven H. Gunderson
04-DOE-00339

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cc w/Encl.:

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Administrative Record

April 27, 2004

Mr. Warren Seyfert
U.S. Department of Energy
Rocky Flats Project Office
10808 Hwy 93, Unit A
Golden, CO 80403

**SUBJECT: DOE CONTRACT NO. DE-AC05-00OR22750
LETTER REPORT—TYPE A VERIFICATION OF THE
BUILDING 774 1973 ADDITION PRE-DEMOLITION SURVEY
REPORT, ROCKY FLATS ENVIRONMENTAL TECHNOLOGY
SITE CLOSURE PROJECT, GOLDEN, COLORADO**

Dear Mr. Seyfert:

The Environmental Survey and Site Assessment Program (ESSAP) of the Oak Ridge Institute for Science and Education (ORISE) has reviewed the project documentation and data for the subject area at the Rocky Flats Environmental Technology Site (RFETS). Kaiser-Hill (KH) has completed a Pre-Demolition Survey (PDS) of the facility for the purpose to determine compliant disposition and waste management of the Building 774 1973 Addition.

It is the policy of the U.S. Department of Energy (DOE) to perform independent verifications of decontamination and decommissioning activities conducted at DOE-owned facilities. ESSAP has been designated as the organization responsible for this task at the RFETS. The DOE Rocky Flats Project Office (RFPO) requested that ESSAP perform a Type A verification of the 1973 Addition based upon the minimal potential for residual radioactivity in the area in accordance with the Independent Verification Program Plan (IVPP) and the Building 771 Project-Specific Plan (PSP) (ORISE 2004 and 2003).

The main Building 774 was constructed in 1953 to process liquid radioactive and hazardous wastes from on-site production buildings via underground waste transfer lines, 55-gallon drums, or plastic bottles (KH 2001). The Building 774 1973 Addition is a three story high addition located to the south of the original building. The bottom elevation is the same as the original Building 774 second floor (KH 2004). Because of its historical use and its location and position to the original building, the 1973 Addition was determined to be a Type 3 facility. The Addition consists of rooms 241, 341, 342, 344, 441, 442 and the south stairwell from room 241 to 441. Demolition of the 1973 Addition is dependent upon PDS data meeting the unrestricted release limits as specified in the Pre-Demolition Survey Plan.

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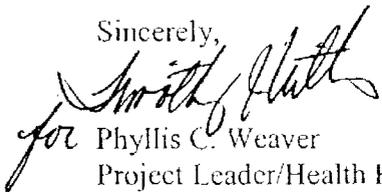
The contaminant of concern is weapons grade plutonium, typically consisting of Pu-238, Pu-239/240, Pu-242, and Am-241. Five survey units (SU) were defined for the building. The interior of Rooms 341, 342, and 441 and the entrance vestibules to rooms 341 and 441—rooms 344 and 442—(771056, 771058, and 771057, respectively) are classified as Class 2 SU. Room 241 and the south stairwell (771054 and 771048) are classified as Class 1 based on their contamination potential. The Type A verification consisted of a review of the survey design, data quality assessment, and total surface and removable activity data. This survey design and the data quality assessment appear to be somewhat consistent with MARSSIM guidance and satisfied PDS requirements.

KH obtained total surface activity (TSA) and removable measurements for alpha activity from both survey units. TSAs were below the release criteria of 100 dpm/100 cm² for alpha measurements and with mostly negligible removable activity—when compared to the release criteria of 20 dpm/100 cm²—being reported.

It is ESSAP's opinion that the Building 774 1973 Addition surface activity results satisfy the requirements for the release for unrestricted use. However, there are some inconsistencies in the presentation of the data that will require resolution before a final opinion can be rendered. This opinion is based on the review of the subject documentation, survey methodology, and documentation of PDS results. Document review comments are provided in an attachment to this report.

Please direct any questions you may have to me at (865) 576-5321 or Timothy Vitkus at (865) 576-5073.

Sincerely,



for Phyllis C. Weaver
Project Leader/Health Physicist
Environmental Survey and
Site Assessment Program

PCW:ar

Attachment

cc: J. Legare, DOE/RFPO
S. Roberts, KH/RFETS
E. Abelquist, ORISE/ESSAP
T. Vitkus, ORISE/ESSAP
File/0967

Distribution approval and concurrence:	Initials	Date
Technical Management Team Member	[Signature]	4/27/04

REFERENCES

Kaiser-Hill Company (KHC). Rocky Flats Environmental Technology Site: Reconnaissance Level Characterization Report (RLCR) Supplement Type I and Type II Facilities Building 771 Closure Project. Golden, Colorado; March 7, 2001.

Kaiser-Hill Company. Rocky Flats Environmental Technology Site: Pre-Demolition Survey Report (PDSR) Building 774 1973 Addition. Golden, Colorado; April 14, 2004.

Oak Ridge Institute for Science and Education. Independent Verification Team Project-Specific Plan for the Building 771 Closure Project—Rocky Flats Environmental Technology Site. Oak Ridge, Tennessee; February 27, 2003.

Oak Ridge Institute for Science and Education (ORISE). The Independent Verification Program Plan for the U.S. Department of Energy Rocky Flats Project Office—Rocky Flats Environmental Technology Site Closure Project. Oak Ridge, Tennessee; March 12, 2004.

Attachment

Comments on the Pre-Demolition Survey Report Building 774 1973 Addition Revision 0 Rocky Flats Environmental Technology Site

Comments

1. Section 1.2, page 2 of 12, 1st sentence of the second paragraph: Change "*All areas that will packaged...*" to read "*All areas that will be packaged...*".
2. Section 3, page 6 of 12, Building 774 South Stairwell -- (Survey Unit 771048): The number of measurements/samples for this survey unit appears inconsistent with the commitment to collect a minimum of 15 measurements per 100 m² of floor area. The reviewer must assume that the floor area was less than the 128 m² of area scanned. If the floor area was less than the reported 128 m², this should be clarified. Otherwise, it would be expected that the number of required measurements would increase proportionately, similar to the discussion provided in the following section for Building 774 Room 241 -- (Survey Unit 771054). This same comment also applies to Building 774 Room 341 -- (Survey Unit 771056).
3. Section 3, page 8 of 12, Building 774 Room 342 -- (Survey Unit 771058): The description of results for this survey unit states that contamination in media samples was identified in excess of the guidelines. The area should have been reclassified to a Class 1 designation and surveyed accordingly. However, the report of the area scanned was for 44% of the area rather than 100%. Please provide the justification for not reclassifying this survey unit.
4. Section 8, page 10 of 12: It is recommended that this section of the document provide the table of the release limits rather than referring the reviewer to Table 7-1 of the PDSP.