UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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June 10, 2010

MEMORANDUM TO: Docket File 030-06839

THROUGH: Jack E. Whitten, Chief ***/RA Roberto J. Torres for/***
Nuclear Materials Safety Branch B
Division of Nuclear Materials Safety

FROM: D. Blair Spitzberg, Chief ***/RA/***
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Division of Nuclear Materials Safety

SUBJECT: CLOSURE MEMORANDUM FOR HAWAII AGRICULTURE RESEARCH CENTER, CONTROL NO. 472404

By letter dated September 8, 2009, the Hawaii Agriculture Research Center (licensee) requested release of its Aiea Heights Drive facility in Aiea, Hawaii, from the license. In summary, we conducted a technical review of the licensee's submittals, and we recommend that the license be revised as requested by the licensee.

The licensee's request was reviewed as a Group 2 decommissioning project in accordance with the guidance provided in NUREG-1757, "Consolidated NMSS Decommissioning Guidance," Volume 1. According to Table 1.2, Principle Regulatory Features of Decommissioning Groups, from NUREG-1757, safety evaluation reports are not required for Group 2 decommissioning projects. However, a technical evaluation of this proposed licensing action is provided in the enclosure to this memorandum. Since a decommissioning plan was not required by 10 CFR 30.36(g) and since the final status survey results were less than the NRC's generic screening criteria, an environmental assessment is not required per Categorical Exclusion 10 CFR 51.22(c)(20)(iii).

Table 1.2 from NUREG-1757 provides the principle regulatory features of the seven decommissioning groups. Provided below is a status of each of the principle regulatory features for this Group 2 decommissioning project:

Principle Regulatory Feature	Status
NEPA compliance – completion of an Environmental Assessment	Not required per Categorical Exclusion 10 CFR 51.22(c)(20)(iii)
Restricted or unrestricted use	Licensee requested unrestricted use
Decommissioning plan required?	Decommissioning plan not required by 10 CFR 30.36(g)
Decommissioning plan review documentation	Not applicable

Radioactive material disposition documentation	Remaining radioactive materials were transferred to licensee's Kunia location
Method for demonstrating site is suitable for release-survey or demonstration	The licensee submitted final status survey report by letter dated 09/08/09 (ML092610751)
Confirmatory or side-by-side survey	DNMS/RSFS elected not to conduct a confirmatory survey because the radionuclides of concern were hydrogen-3 (tritium) and carbon-14 with low beta particulate energies
Close-out inspection	DNMS/RSFS elected not to conduct a close-out inspection because the only radionuclides of concern were tritium and carbon-14
Federal Register Notice used to inform public of the staff's actions	A FRN was not required based on the categorical exclusion and NUREG-1757 guidance
Documentation to support licensing action	Whalen, Stephanie A., HARC, License Amendment, September 8, 2009 (ML092610751) Whalen, Stephanie A., HARC, Response to February 9, 2010 Email, April 30, 2010 (ML101340799)

The NRC staff considered whether a consultation with U.S. Environmental Protection Agency (EPA) was required per the EPA-NRC Memorandum of Understanding dated October 9, 2002. An EPA consultation was not required because any contamination was limited to internal building surfaces only. Further, for this licensing action, there was no groundwater or outdoor soil contamination resulting from previous licensed operations.

Our review of the final status survey report is complete. The results of the final status survey meet the criteria of NUREG-1757 and similar guidance documents; therefore, RSFS approves the final status survey report. An amendment to NRC Materials License No. 53-00515-01 is recommended to authorize the release of the facility for unrestricted use and to amend the license to remove the Aiea Heights Drive facility from the license.

Control: 472404
Docket: 030-06839
License: 53-00515-01

Enclosure: Technical Evaluation

bcc w/enclosure (via ADAMS e-mail distribution):
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RSFS Files
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Draft: S:\DNMS\!NMSB-B\RJE\HARC Decomm Closure Memo.docx
Final: R:_DNMS

ADAMS	■ Yes ☐ No	■ SUNSI Rev Complete	Reviewer Initials:	RJE
Publicly Avail	■ Yes ☐ No	Sensitive Value:		

DNMS:RSFS	C:RSFS	C:NMSB-B	
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Technical Evaluation

The NRC Materials License No. 53-00515-01 authorizes Hawaii Agriculture Research Center (licensee) to possess radioactive materials for tracer studies in plants and soils and for laboratory analyses of samples. By letter dated September 8, 2009, the licensee requested an amendment to the license to remove the facility located at 99-193 Aiea Heights Drive, Aiea, Hawaii, from the license. Attached to the licensee's letter was a final decommissioning survey report for the facility.

Based on the licensee's records, the long-lived radionuclides of concern included hydrogen-3 (tritium) and carbon-14. Both radionuclides emit low energy beta particulate radiation. The licensee stated that it used only small quantities of radioactive materials, typically less than one millicurie per experiment. All radioactive material was removed from the building. The licensee's records indicate that the waste material was transferred to the licensee's Kunia location.

The NRC staff conducted a review of the licensee's docket file records. Docket file records indicate that the Aiea facility was added to the license during 1975. Various applications and renewals were identified which specified the proposed locations of use at the Aiea facility over time. NRC staff compared the previously identified locations of use to the licensee's final status survey report. Several additional locations were identified in the docket files that were not accounted for in the licensee's final status survey report. For example, Amendment 56 dated April 3, 1995, authorized the release of a greenhouse at the Aiea facility and approved the construction of a new greenhouse. No records were identified in the docket file after 1995 indicating whether the second greenhouse was actually constructed.

The NRC staff submitted a request for additional information to the licensee by email dated February 9, 2010. The NRC requested additional information about several rooms that were mentioned in previous license applications but were not mentioned in the final status survey report, including the greenhouse. The licensee responded by letter dated April 30, 2010. The licensee provided a status update of each room in question. For example, the licensee stated that the new greenhouse mentioned in Amendment 56 was never constructed.

The licensee's final status survey included a list of all rooms where radioactive materials were used and the sample results for each room. The NRC staff compared the licensee's survey results to the NRC's generic screening criteria provided in Table B.1, Acceptable License Termination Screening Values of Common Radionuclides for Building-Surface Contamination, from NUREG-1757, Volume 1, Revision 2, "Consolidated Decommissioning Guidance: Decommissioning Process for Materials Licensees." The most restricted radionuclide was carbon-14 with an acceptable screening level of 3,700,000 dpm/100 cm^2. The licensee conservatively established screening values of 5,000 dpm/100 cm^2 for surface contamination and 1,000 dpm/100 cm^2 for removable contamination. The licensee's records indicate that surface scan survey results were less than the minimum detectable activities of the survey equipment, and the wipe sample results were mostly at non-detectable levels. The highest swipe sample result, 200 dpm/100 cm^2, was well below the licensee's conservative screening value of 1,000 dpm/100 cm^2.

The NRC staff also compared the number of sample points to the recommendations provided in NUREG-1575, Revision 1, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)." The licensee used a default value of 30 sample points per survey unit as recommended by NUREG-1575, Appendix B, Simplified Procedure for Certain Users of Sealed

Sources, Short Half-Life Material, and Small Quantities. The number of sample points per survey unit was considered acceptable to the NRC staff.

In summary, all sample results were less than the NRC's generic screening criteria, indicating that the Aiea Heights Drive facility meets the radiological criteria for unrestricted use as specified by 10 CFR 20.1402.