



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

June 10, 2010

MEMORANDUM TO: Docket File 030-01063

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

FROM: D. Blair Spitzberg, Chief */RA/*
Repository and Spent Fuel Safety Branch
Division of Nuclear Materials Safety

SUBJECT: CLOSURE MEMORANDUM FOR AUGUSTANA COLLEGE
DECOMMISSIONING, CONTROL 472322

By letter dated January 22, 2009, Augustana College (licensee) requested release of Room 244 in the Gilbert Science Center as a restricted area 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.

In the licensee's letter dated January 22, 2009, Augustana College also requested the addition of a new room to the list of authorized locations of use, updated its training policy, and requested approval of a new radiation safety officer. Further, by letter dated June 30, 2009, the licensee added another location of use to the proposed license amendment because this room was accidentally left out of the January 22, 2009, letter. These four additional requests were not reviewed as part of this technical evaluation.

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	Not required per Categorical Exclusion

Environmental Assessment	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	The licensee disposed of the waste material via transfer to licensed brokers
Method for demonstrating site is suitable for release-survey or demonstration	The licensee conducted surface scans and the contractor conducted fixed point measurements as the final status survey
Confirmatory or side-by-side survey	A confirmatory survey was conducted on February 22, 2010 (ML100690027)
Close-out inspection	A close-out inspection was not conducted because the licensee is not terminating the license
<i>Federal Register</i> Notice used to inform public of the staff's actions	A FRN was not required per categorical exclusion and NUREG-1757 guidance
Documentation to support licensing action	<p>Wanous, Michael K., Notification of Decommissioning, June 17, 2008 (ML091190758, not publicly available)</p> <p>Wanous, Michael K., License Amendment Request, January 22, 2009 (ML091190758, not publicly available)</p> <p>Wanous, Michael K., Final Decommissioning Report, June 30, 2009 (ML092190923, not publicly available)</p> <p>Wanous, Michael K., Response to NRC Request for Additional Information, June 30, 2009 (ML092190923, not publicly available)</p> <p>NRC Inspection Report 030-01063/10-001, dated March 9, 2010 (ML100690027)</p> <p>Email Responses to NRC Request for Information about Decommissioning dated February 24, March 3, March 9, May 3, and May 13, 2010 (ML101370118)</p>

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. For this particular 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. 40-06921-03 is recommended to authorize the release of the facility for unrestricted use and to amend the license to remove laboratory Room GSC 244 from the license.

Control: 472322
Docket: 030-01063
License: 40-06921-03

Enclosure: Technical Evaluation

bcc w/enclosure (via ADAMS e-mail distribution):

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Final: R:_DNMS

ADAMS	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> SUNSI Rev Complete	Reviewer Initials:	RJE
Publicly Avail	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sensitive Value:		
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Technical Evaluation

The NRC Materials License No. 40-06921-03 authorizes Augustana College (licensee) to possess radioactive materials for research and development, classroom and laboratory demonstrations, and calibration of instruments. The licensee initially notified the NRC by letter dated June 17, 2008, that its contractor was in the process of decommissioning Gilbert Science Center Room GSC 244 in addition to decommissioning the radioactive storage vault and the former burial site located adjacent to GSC. (The licensee did not request release of the storage vault, so this portion of the decommissioning project was not considered in this technical evaluation. Further, the former burial site was previously released by the NRC in Amendment 17 to the license dated April 18, 2005 (ML051080202); therefore, the remediation of the former burial site was not considered in this technical evaluation.)

The decommissioning was conducted by a licensed contractor under reciprocity granted by the NRC. Based on the licensee's records, the long-lived radionuclides of concern encountered during decommissioning included strontium-90 and carbon-14.

The contractor's decommissioning summary report dated January 22, 2009 (ML091190758, not publicly available) discussed the field work and disposal activities that were conducted in Room GSC 244. The decommissioning was conducted during July 2008. Prior to decommissioning, the contractor located several areas that exhibited elevated radioactivity. With a background of about 40-60 counts per minute of radioactivity, two locations inside the room were measured at 300-500 counts per minute. These areas of elevated radioactivity included a vent hood and beneath a sink. After decommissioning, the radioactivity levels in these two areas were measured at the background level of 40-60 counts per minute. Wastes were collected from the three areas that were decommissioned (Room GSC 244, storage vault, and former burial site), the wastes were packaged into eight drums, and the wastes were transferred to a broker for disposal during October 2008. Residual liquids containing carbon-14 were also transferred for disposal during November 2008.

At the request of the NRC staff, the licensee submitted the contractor's final decommissioning and final status survey report as an attachment to the licensee's letter dated June 30, 2009. The NRC staff reviewed the contractor's completion report. The licensee's completion report included fixed point measurements of the areas remediated but did not include measurements for the remainder of the room. The NRC staff requested this additional information from the licensee.

By email dated March 3, 2010, the licensee stated that Room GSC 244 was scanned by the radiation safety officer over a two day period. The scan included greater than 90-percent of the floor surfaces, counter tops, and walls. In addition, all drawers were scan checked. The ceiling was not checked. Collectively, the licensee's scan results and the contractor's fixed point survey measurements of the remediated areas were designated by the licensee as the final status survey data. Both the licensee and its contractor concluded that Room GSC 244 had been decontaminated to the point where the room could be released for unrestricted use.

The NRC staff conducted a review of the acceptance criteria for release of the room for unrestricted use. The NRC provides the acceptable license termination screening values for common radionuclides in Table B.1 of NUREG-1757, "Consolidated Decommissioning Guidance," Volume 1, Revision 2. Based on the historical site assessment conducted by the licensee, the most limiting radionuclide was strontium-90. Per Table B.1, the strontium-90 screening level for total fixed surface contamination is 8,700 disintegrations per 100-square

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centimeters (dpm/100 cm²). The licensee proposed screening values were based on Table 1, Acceptable Surface Contamination Levels, to Regulatory Guide 1.86. The Table 1 surface contamination values for strontium-90 are 1,000 dpm/100 cm² average and 3,000 dpm/100 cm² maximum. The NRC staff noted that the licensee's proposed screening values for strontium-90 contamination were more conservative than the screening values presented in NUREG-1757. As noted above, the contractor's final status survey results were at background levels; therefore, the final status survey results were less than the licensee's proposed derived concentration guideline levels.

The NRC staff elected to conduct a confirmatory survey of Room GSC 244. The confirmatory survey was conducted on February 22, 2010. As documented in NRC Inspection Report 030-01063/10-001, the NRC's surface contamination survey results were less than the licensee's proposed acceptance criteria and the generic screening levels specified in Table B.1 to NUREG-1757, Volume 1. The NRC's survey results suggest that the licensee and its contractor had effectively decontaminated the room.

In summary, all surface sample results were less than the NRC's generic screening criteria, indicating that Room GSC 244 meets the radiological criteria for unrestricted use as specified by 10 CFR 20.1402.