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Colleen:

Please set up an amendment for 50-02430-07 (030-01179) to remove license conditions 10.A.3 (Alaska Sea Life Center, 301 Railway Avenue, Seward, Alaska) and 10.B.4. (Licensed material described in Items 6.A. and 6.D. may be used aboard the R/V Alpha Helix,...) based of NRC's Safety Evaluation ML101870112.

Roberto
10/6/2010

RTC



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

July 6, 2010

MEMORANDUM TO: Docket File 030-01179

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

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

SUBJECT: CLOSURE MEMORANDUM FOR TWO FORMER LOCATIONS OF USE
AT UNIVERSITY OF ALASKA-FAIRBANKS; CONTROL 471891

By letter dated July 31, 2008, the University of Alaska-Fairbanks (licensee) requested release of the Alaska SeaLife Center and the research vessel Alpha Helix as locations of use from the license. In summary, we conducted a technical review of the licensee's submittal, and we recommend that the license be revised as requested by the licensee. We have concluded that the Alaska SeaLife Center and the research vessel Alpha Helix meet the criteria for unrestricted use as stipulated by 10 CFR 20.1402.

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 decommissioning plans were 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 plans were not required by 10 CFR 30.36(g) for the decommissioning of the Alaska SeaLife Center and the research vessel Alpha Helix

Decommissioning plan review documentation	Not applicable
Radioactive material disposition documentation	The radioactive material was transferred to the main campus for disposal, allowed to decay in storage, or was released to the sewer in accordance with 10 CFR 20.2003
Method for demonstrating site is suitable for release-survey or demonstration	Licensee submitted final status survey data to NRC by letter dated July 30, 2008
Confirmatory or side-by-side survey	DNMS/RSFS elected not to conduct a confirmatory survey because the primary radionuclides of concern were small, research-oriented quantities of 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 licensee is not requesting termination of the license
<i>Federal Register</i> Notice used to inform public of the staff's actions	FR Notice not required due to categorical exclusion and NUREG-1757 guidance
Documentation to support licensing action	Letter dated July 31, 2008, from licensee to NRC requesting release of Alaska SeaLife Center and research vessel Alpha Helix; ML082420907 (not publicly available) Email dated June 28, 2010, from licensee responding to NRC questions about radioactive material use on research vessel Alpha Helix (ML101810128)

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/vessel surfaces only. Waste disposals were conducted in accordance with 10 CFR Part 20 and license requirements, and waste disposal activities were verified through the routine inspection process. 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 surveys 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. 50-02430-07 is recommended to authorize the release of the Alaska SeaLife Center from Condition 10.A.3 and to authorize the release of the research vessel Alpha Helix from Condition 10.E.

Control: 471891
Docket: 030-01179
License: 50-02430-07

Enclosure: Technical Evaluation

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

Arthur T. Howell

Charles L. Cain

William Maier

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Jack Whitten

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RSFS Files

RIV Materials Docket Files - 5th Floor

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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:		
DNMS:RSFS	C:RSFS	C:NMSB-B		
Robert Evans	D Blair Spitzberg	Jack E Whitten		
/RA/	/RA/	/RA/		
06/22/10	07/01/10	07/02/10		

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Technical Evaluation

The NRC Materials License No. 50-02430-07 authorizes the University of Alaska-Fairbanks (the licensee) to possess radioactive materials for research and development, calibration of survey instruments, gas chromatographs, and storage. The license is an academic, Type B broadscope license.

Docket file records indicate that the license was originally issued during January 1967. Amendment 23 dated February 14, 1980, added temporary jobsites at sea as an authorized location of use. The license first mentions the Alpha Helix as a specific location of use in Amendment 36 dated September 16, 1994. The Alaska SeaLife Center was added to the license by Amendment 41 dated July 12, 2000. By letter dated July 31, 2008, the licensee requested release of the Alaska SeaLife Center and the research vessel Alpha Helix from the license. Details of the decommissioning of each location are provided below.

Alaska SeaLife Center

By letter dated April 18, 2000, the licensee requested the addition of the Alaska SeaLife Center, 301 Railway Avenue in Seward, Alaska, to the license. At that time, the proposed uses included hydrogen-3 (tritium) and iodine-125 to determine hormone concentrations in animal tissues. The proposed radioisotope laboratory was Room 163, a secure research area. The NRC subsequently approved the licensee's request by Amendment 41 dated July 12, 2000.

The licensee subsequently requested release of the Alaska SeaLife Center from the license by letter dated July 31, 2008. According to the licensee, research activities involving radioactive materials were permanently discontinued in Room 163 during May 2008. All remaining radioactive wastes were removed from the laboratory and were transferred to the radioactive material storage bunker at the University of Alaska-Fairbanks.

The licensee conducted a final status survey of Room 163. The final survey consisted of measurement of ambient beta-gamma exposure rates and collection of swipe samples for quantification of removable contamination levels. Based on the licensee's survey results, the beta-gamma exposure rates were indistinguishable from background levels (less than 0.02 milliRoentgens per hour, or mR/hr). The licensee analyzed the swipe samples for hydrogen-3 and iodine-125 radioactivity using a liquid scintillation counter. With a background (blank sample count) of 22 counts per minute (cpm), the highest hydrogen-3 sample result was 35 cpm. With a background of 8 cpm, the highest iodine-125 sample result was 11 cpm. Based on these sample results, the licensee concluded that Room 163 was free of radioactive contamination.

The NRC staff compared the licensee's final status survey to the recommendations provided in NUREG-1575, Revision 1, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)." The licensee collected only 22 swipe samples, despite a recommendation in MARSSIM for a minimum of 30 samples for simplified surveys. However, the licensee's survey map indicated that the licensee had surveyed all pertinent areas of the laboratory including the floor, countertops, sinks, and fume hood.

The NRC staff compared the licensee's final status survey results to NUREG-1757, "Consolidated Decommissioning Guidance," Table B.1 values. Table B.1 provides the acceptable license termination screening values of common radionuclides for building surface contamination. The acceptable screening value for removable contamination, assuming a standardized removable fraction of 0.1, is 12,000,000 disintegrations per minute per 100-square centimeters (dpm/100 cm²) for hydrogen-3. The sample results presented by the licensee for removable hydrogen-3 contamination were well below this screening value. Because iodine-125

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has a 60-day half-life, the NRC staff concluded that iodine-125 was no longer a radiological hazard at the facility.

In summary, the licensee's final status survey results for Room 163 in the Alaska SeaLife Center were less than the screening values provided in NUREG-1757. Although the licensee collected fewer swipe samples than recommended by MARSSIM for simplified surveys, the licensee swipe sampled all pertinent areas of the laboratory. Therefore, the licensee sufficiently demonstrated that laboratory Room 163 meets the radiological criteria for unrestricted use as stipulated in 10 CFR 20.1402.

Research Vessel Alpha Helix

According to the licensee's records, the Alpha Helix was transferred to the University of Alaska-Fairbanks Institute of Marine Science during 1979. The home port was Seward, Alaska. As noted above, the NRC first approved the use of radioactive materials at temporary jobsites at sea by Amendment 23 dated February 14, 1980. The NRC specifically added the Alpha Helix to the license by Amendment 36 dated September 16, 1994.

According to the licensee's license renewal application for the Alpha Helix, the types of studies conducted on the research vessel included uptake or productivity measurements as well as radioimmunoassay measurements. The most common radiotracer was supposed to have been carbon-14 bicarbonate. Other potential tracer materials mentioned in the application included hydrogen-3 (tritium), sodium-22, phosphorus-32, sulfur-35, chlorine-36, calcium-45, manganese-54, iron-59, and iodine-125. The application also described the planned use of a gas chromatograph containing nickel-63.

The proposed waste disposal pathways included temporary storage of liquid scintillation vials and solid radioactive wastes, and storage of liquid wastes in 55-gallon drums. The licensee stated that it transferred the solid radwastes from the vessel to the main campus after completion of a research voyage. The liquid radwastes were released via sewer as allowed by 10 CFR 20.2003.

By letter dated July 31, 2008, the licensee requested the release of the Alpha Helix from the license. According to the licensee's records, radioactive materials were last used aboard the Alpha Helix during August 2004. The policy for isotope use on the Alpha Helix was to conduct wipe tests after each cruise, or once a month if the duration of the cruise lasted longer than one month. The licensee also stated that all radioactive wastes were removed from the ship after each cruise and transferred to the main campus in Fairbanks for disposal.

The results of the wipe tests taken at the conclusion of the last research cruise were provided in the licensee's letter. The licensee collected 21 individual swipe samples and analyzed the samples by liquid scintillation counter with an open window to detect all beta-emitting radionuclides. This method of detection would allow the licensee to identify any beta-emitting radioactivity regardless of the energy level of the radionuclide. With a background (blank sample count) of 24 cpm, the maximum sample result was 31.2 cpm.

By email dated June 25, 2010, the NRC staff questioned the licensee about the various radioactive materials that were authorized for use on the research vessel and whether these radionuclides were actually used on the vessel. The staff was mostly interested in the long-lived radioisotope sodium-22. In addition, the staff questioned whether gas chromatographs containing nickel-63 had been used and removed from the vessel. In a response email dated June 28, 2010, the licensee stated that only carbon-14 and tritium have been used on board since 1990. The other radionuclides that may have been used prior to 1990 included sulfur-35

and iodine-125. However, these radionuclides are not a radiological concern because of their short half-lives. Sodium-22 was supposed to have been used in conjunction with a particular experiment, but this experiment was never funded; therefore, this radioisotope was never used on the research vessel. Finally, the licensee stated that any gas chromatographs were removed by the responsible researchers after each research cruise.

The NRC staff compared the licensee's final status survey to the recommendations provided in MARSSIM. The licensee collected only 21 swipe samples, despite MARSSIM recommendations for a minimum of 30 samples for simplified surveys. However, the licensee's survey map indicated that the licensee had surveyed all pertinent areas including laboratory spaces, hand railings, and door knobs.

The NRC staff compared the licensee's final status survey results to NUREG-1757, Table B.1 values. This table provides the acceptable license termination screening values of common radionuclides for building surface contamination. The most limiting screening value for removable contamination, assuming a standardized removable fraction of 0.1, is 370,000 dpm/100 cm² for carbon-14. The sample results presented by the licensee for removable contamination were well below this screening value.

In summary, the licensee's final status survey results for the Alpha Helix were less than the screening values presented in NUREG-1757. Although the licensee collected fewer swipe samples than recommended by MARSSIM for simplified surveys, the licensee swipe sampled all pertinent areas of the research vessel. Therefore, the licensee sufficiently demonstrated that the research vessel Alpha Helix meets the radiological criteria for unrestricted use as stipulated in 10 CFR 20.1402.

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

letter dated July 31, 2008

<p>Licensee</p> <p>1. University of Alaska Fairbanks Environmental Health, Safety, and Risk Management 2. 1000 University Avenue, Room 155 P.O. Box 758145 Fairbanks, Alaska 99775-8145</p>	<p>In accordance with applications dated <u>August 31, 2010</u></p> <p>3. License number 50-02430-07 is renewed in its entirety to read as follows:</p> <p>4. Expiration date August 31, 2020</p> <p>5. Docket No. 030-01179 Reference No.</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. As specified in 10 CFR 33.100, Schedule A (Type B Broad Scope)</p> <p>B. Cobalt-60</p> <p>C. Hydrogen-3</p> <p>D. Nickel-63</p> <p>E. Cesium-137</p> <p>F. Americium-241</p> <p>G. Americium-241</p> <p>H. Cesium-137</p> <p>I. Radium-226</p> <p>J. Radium-226</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Sealed source (ICN Chemical and Radioisotope Division)</p> <p>C. Foils contained in electron capture detectors</p> <p>D. Foils contained in electron capture detectors</p> <p>E. Sealed source (Campbell Pacific Nuclear CPN-131)</p> <p>F. Sealed source (Campbell Pacific Nuclear CPN-131)</p> <p>G. Sealed source (Mount Sorpris Model GC375)</p> <p>H. Sealed source (Mount Sorpris Model GC375)</p> <p>I. Solid</p> <p>J. Sealed source (U.S. Radium Lab-598-1 or Nuclear Chicago Drawing 184321)</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. See Condition 12</p> <p>B. 100 microcuries total</p> <p>C. 200 millicuries total</p> <p>D. 100 millicuries total</p> <p>E. 10 millicuries total. Not to exceed 10 millicuries per source</p> <p>F. 50 millicuries total. Not to exceed 50 millicuries per source</p> <p>G. 1 curie total</p> <p>H. 5 millicuries total</p> <p>I. 150 milligrams total</p> <p>J. 4.5 millicuries total. Not to exceed 4.5 millicuries per source.</p>
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- | | | |
|---|---|--|
| 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount that licensee may possess at any one time under this license |
| K. Cesium-137 | K. Sealed source (Isotope Products Laboratories Model HEG-137-30) | K. 60 millicuries total. Not to exceed 30 millicuries per source. |

9. Authorized Use:

- A. Research and development as defined in 10 CFR 30.4. In vitro and in vivo studies in plants and animals.
- B. For calibration of the licensee's survey instruments.
- C. and D. For use in gas chromatographs for sample analysis.
- E. and F. To be used in a CPN International, Inc., portable gauging device for measuring physical properties of materials.
- G. through I. For storage only pending disposal.
- J. Portable nuclear gauge Texas Nuclear (Division of Nuclear Chicago Corporation) Model 5901 in storage only pending disposal.
- K. For calibration of the licensee's survey instruments and for physics laboratory demonstrations.

CONDITIONS

10. A. Licensed material shall be used only at the licensee's facilities located at:
1. University of Alaska, Fairbanks Campus, Fairbanks, Alaska
 2. University of Alaska, Seward Marine Center, 201 Railway Avenue, Seward, Alaska
 - ~~3. Alaska Sea Life Center, 301 Railway Avenue, Seward, Alaska~~
 4. Large Animal Research Station, Mile 1, Yankovich Road, Fairbanks, Alaska
 5. Toolik Lake Field Station, Mile 284.5 Dalton Highway, North Slope Borough, Alaska
 6. Reindeer Research Station, Cantwell, Alaska (for decommissioning only)
 7. Lena Point Fisheries Facility, 17101 Point Lena Loop Road, Juneau, Alaska
- B. Licensed material described in Items 6.C. and 6.D. may also be used anywhere in the State of Alaska and at temporary job sites of the licensee where the U.S. Nuclear Regulatory Commission maintain jurisdiction for regulating the use of licensed material under the following conditions:
1. Specific approval is given by the University of Alaska Fairbanks Radiation Safety Officer.
 2. The licensee obtains written permission to use radioactive materials at the proposed site from the appropriate authorities (or persons) who maintain administrative control over the property.

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- D. Sealed sources need not be tested if they are in storage, and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- E. The leak test shall be capable of detecting the presence of 0.005 microcuries (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcuries (185 becquerels) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd., Suite 400, Arlington, Texas 76011, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.
- F. Tests for leakage and/or contamination, limited to leak test sample collection, shall be performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- G. Records of leak test results shall be kept in units of microcuries and shall be maintained for 3 years.
15. Maintenance, repair, cleaning, replacement, and disposal of foils contained in detector cells shall be performed only by the device manufacturer or other persons specifically authorized by the Commission or an Agreement State to perform such services.
16. A. Detector cells containing a titanium tritide foil or a scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperature from exceeding that specified in the certificate of registration referred to in 10 CFR 32.210.
- B. When in use, detector cells containing a titanium tritide foil or a scandium tritide foil shall be vented to the outside, unless the cells are used in a mobile laboratory situation in the field.
17. Licensed material shall not be used in or on human beings.
18. Experimental animals or the products from experimental animals, that have been administered licensed materials, shall not be used for human consumption.
19. This license does not authorize commercial distribution of licensed material.
20. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific conditions of this license.
21. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

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3. Carbon-14 may be used at the Toolik Lake Field Station, North Slope Borough, Alaska, in accordance with letters dated June 27, 2000, April 16, 2001, and December 1, 2001.
- ~~4. Licensed material described in Items 6.A. and 6.D. may be used aboard the R/V Alpha Helix, home port at the University of Alaska, Seward Marine Center, Seward, Alaska.~~
5. Hydrogen-3 may be used on St. Paul Island and Bogoslof Island, Alaska, in accordance with the letter dated March 21, 2005.
6. The incinerator for hydrogen-3 and carbon-14 located at the Arctic Health Research Building as described in Appendix F to letter dated March 10, 2000, has been taken out of service pending dismantlement and decommissioning of the incinerator.
7. Hydrogen-3 and carbon-14 may be used at Revine Creek Kennels, Mile 228.9 George Parks Highway, Denali, Alaska as described in application dated April 5, 2010 and July 15, 2010 for *ex vivo* uptake measurements in sarcolemmal vesicles isolated from biopsied sled dog muscle.
11. A. Licensed materials shall only be used by, or under the supervision of, individuals designated in writing by the Radiation Safety Officer.
B. The Radiation Safety Officer for this license is Tracey Martinson, Ph.D.
12. For Item 8.A, if only one radionuclide is possessed, the possession limit is the quantity specified for that radionuclide in 10 CFR 33.100, Schedule A, Column 1. If two or more radionuclides are possessed, the possession limit is determined as follows: For each radionuclide, determine the ratio of the quantity possessed to the applicable quantity specified in 10 CFR 33.100, Schedule A, Column 1, for that radionuclide. The sum of the ratios for all radionuclides possessed under the license shall not exceed unity.
13. This license does not authorize disposal of licensed material at sea.
14. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.
B. In the absence of a certificate from a transferor indicating that a leak test has been made, within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement state, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.
C. Sealed sources need not be leak tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain no more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material.

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22. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
23. The licensee shall not acquire licensed material in a sealed source or device that contains a sealed source unless the source or device has been registered with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State.
24. The licensee shall conduct a physical inventory every 6 months to account for all sealed sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory, and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.
25. In addition to the possession limits in item 8, the licensee shall further restrict the possession of unsealed byproduct materials to quantities less than 10^4 of the applicable limits in Appendix B of 10 CFR Part 30, as specified in 10 CFR 30.35(d).
26. The licensee is authorized to hold radioactive material with a physical half-life of less than 120 days for decay-in-storage before disposal in ordinary trash provided:
- A. Monitors byproduct material at the surface before disposal and determines that its radioactivity cannot be distinguished from the background radiation level with an appropriate radiation detection survey meter set on its most sensitive scale and with no interposed shielding; and
 - B. Removes or obliterates all radiation labels, except for radiation labels on materials that are within containers and that will be managed as biomedical waste after they have been released from the licensee; and
 - C. Maintains records of the disposal of licensed materials for 3 years. The record must include the date of the disposal, the survey instrument used, the background radiation level, the radiation level measured at the surface of each waste container, and the name of the individual who performed the disposal.
27. Radioactive waste generated shall be stored in accordance with the statements, representation, and procedures included with the waste storage plan described in the licensee's application dated March 1, 2010.
28. Except for maintaining labeling as required by 10 CFR Part 20 or 71, the licensee shall obtain authorization from U.S. Nuclear Regulatory Commission before making any changes in the sealed source, device, or source-device combination of a portable gauge that would alter the description or specifications as indicated in the respective Certificates of Registration issued either by the Commission pursuant to 10 CFR 32.210 or by an Agreement State.
29. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage, or when not under the direct surveillance of an authorized user.

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30. Any cleaning, maintenance, or repair of portable nuclear gauges that requires detaching the source or source rod from the gauge shall be performed only by the manufacturer or other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
31. A. If the licensee uses unshielded sealed sources extended more than 3 feet below the surface when using portable nuclear gauges, the licensee shall use surface casing that extends from the lowest depth to 12 inches above the surface and other appropriate procedures to reduce the probability of the source or probe becoming lodged below the surface. If it is not feasible to extend the casing 12 inches above the surface, the licensee shall implement procedures to ensure that the cased hole is free of obstruction before making measurements.
- B. If a sealed source or a probe containing sealed sources in a portable nuclear gauge becomes lodged below the surface and it becomes apparent that efforts to recover the sealed source or probe may not be successful, the licensee shall notify the U.S. Nuclear Regulatory Commission and submit the report required by 10 CFR 30.50(b)(2) and (c). The licensee shall not abandon the sealed source or probe without obtaining the Commission's prior written consent. Notification and reporting requirements should be made to the NRC Emergency Operations Center at 301-816-5100.
32. Upon completion of each carbon-14 field study identified in License Condition 10.A.5 and 10.C., the licensee shall notify the NRC Region IV office identified in 10 CFR 30.6 and submit a copy of the baseline and final decommissioning surveys of the affected subplots.
33. Pursuant to 10 CFR 20.1302(c) and 10 CFR 20.2002, the licensee is authorized to dispose of licensed material by incineration, provided the gaseous effluent from incineration does not exceed the limits specified for air in Appendix B, Table II, 10 CFR Part 20.
34. Pursuant to 10 CFR 20.2002, the licensee may dispose of incinerator ash containing radioactive materials with Atomic Nos. 1-83, except as identified below, as ordinary waste in a landfill, provided that the concentration of radionuclides (in microcuries per gram of ash) at the time of disposal are no greater than the values of Table II, Column 2, 10 CFR Part 20, Appendix B. For hydrogen-3, carbon-14, aluminum-26, chlorine-36, silver-108m, niobium-94, iodine-129, technetium-99, and thallium-204, the concentration can be no greater than one-tenth of the value in Table II, Column 2, 10 CFR Part 20, Appendix B. If more than one radionuclide is present in the ash, then the sum of fractions rule applies.

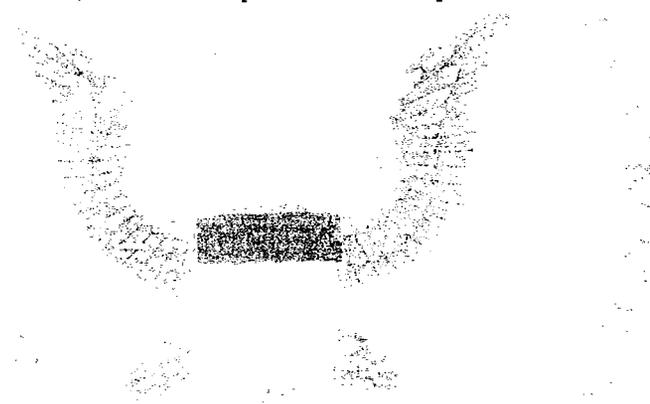
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35. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- | | | |
|----|-----------------------------------|---|
| A. | Letter dated March 10, 2000 | [ML102360372] |
| B. | Letter dated June 27, 2000 | [ML003765453] |
| C. | Letter dated April 16, 2001 | [ML011160225] |
| D. | Letter dated December 1, 2001 | [ML013650150] |
| E. | Letter dated March 21, 2005 | [ML051150410] |
| F. | Application dated April 5, 2010 | [ML101540223] |
| G. | Application dated March 1, 2010 | [ML100970729, ML100970736, ML100970740] |
| H. | Application dated July 15, 2010 | [ML102360269] |
| I. | Application dated August 31, 2010 | [ML102560461] |

J.



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Date: September 13, 2010

By: _____

Roberto J. Torres, Senior Health Physicist
Nuclear Materials Safety Branch B
Region IV
Arlington, Texas 76011-4125

BETWEEN:

Accounts Receivable/Payable
and
Regional Licensing Branches

[FOR ARPB USE]
INFORMATION FROM LTS ...

Program Code: 01110
Status Code: Pending Amendment
Fee Category: 3L 3P 4A
Exp. Date:
Fee Comments:
Decom Fin Assur Req: Y

License Fee Worksheet - License Fee Transmittal

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: ALASKA, UNIV OF FAIRBANKS, ENVIR
Received Date: 10/06/2010
Docket Number: 3001179
Mail Control Number: 573805
License Number: 50-02430-07
Action Type: Amendment

2. FEE ATTACHED

Amount: _____

Check No.: _____

3. COMMENTS

Signed: Colleen Murnighan

Date: 10-29-2010

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered / /)

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:

Amendment: _____

Renewal: _____

License: _____

3. OTHER _____

Signed: _____

Date: _____