

You cannot transfer possession of your license to Cornerstone-West Park, LLC, (Altus Properties). From my discussion with Kelly Diehl, Cornerstone-West Park, LLC, does not want an NRC license. You will need to perform a close-out survey to show the facility where you used and stored radionuclides is suitable for release for unrestricted use and terminate your NRC license.

Please see the enclosed Item 11, Termination of Activities, from NUREG-1556, Volume 9, Revision 2, licensing guidance document.

Please submit a completed 314, "Certificate of Disposition of Materials" (see accompanying copy) and submit a close-out survey that includes the following information:

**314 FORM**

For termination we need a completed 314 FORM, "Certificate of Disposition of Materials" (see accompanying copy).

**Close-out Survey**

Please be advised that we cannot authorize you to release your facility for unrestricted use (even by other members of your staff) until we have received and reviewed a copy of the results of your close-out survey. The survey should consist of exposure rate measurements to show that all sources of radioactive material have been removed, and contamination checks of areas where radioactive materials were used or stored. Average radiation levels associated with surface contamination and removable contaminations should not exceed those specified in the enclosed decontamination guide. Please submit the following information with your close-out survey:

- a. A history of all radionuclides used at your facility.
- b. A current copy of the leak test results for the sealed sources used at your facility. Also a history of leaking sealed sources (if any).
- c. A diagram of your facility with survey and wipe test results keyed to specific locations. Please record your survey results using the appropriate units as described in 10 CFR 30.36 (j) (2) (i) (copy enclosed).
- d. The name of the person performing the survey.
- e. The date the survey was performed.
- f. The instrument(s) used for exposure rate measurements and for analysis of the wipes.
- g. Background readings.

- h. The date that the survey instrument was last calibrated.
- i. Confirm that all radioactive waste has been decayed to background radiation or has been transferred to a radioactive waste broker for disposal. Also please specify the final disposition of any sealed sources you used or stored at your facility.

Please send a facsimile (630- 515-1078) of your response to the above.  
OR You may mail your license termination request with close-out survey to:

Materials Licensing Section  
United States Nuclear Regulatory Commission  
Region 3  
2443 Warrenville Road  
Suite 210  
Lisle, Illinois 60532-4352

Please call me at 630-829-9839 if you have any questions.

*In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this facsimile and the attached documents will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). The NRC's document system is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).*

From the desk of:

  
*Bill Reichhold*

## 11 TERMINATION OF ACTIVITIES

**Regulations:** 10 CFR 20.1401, 10 CFR 20.1402, 10 CFR 20.1403, 10 CFR 20.1404, 10 CFR 20.1405, 10 CFR 20.1406, 10 CFR 30.34(b), 10 CFR 30.35(g), 10 CFR 30.36, 10 CFR 30.51(f).

**Criteria:** Pursuant to the regulations described above, the licensee must do the following:

Part 35	Applicability
100	✓
200	✓
300	✓
400	✓
500	✓
600	✓
1000	✓

- Notify NRC, in writing, within 60 days of:
  - the expiration of its license;
  - a decision to permanently cease licensed activities at the entire site (regardless of contamination levels);
  - a decision to permanently cease licensed activities in any separate building or outdoor area if it contains residual radioactivity making it unsuitable for release according to NRC requirements (see Note);
  - no principal activities having been conducted at the entire site under the license for a period of 24 months; and
  - no principal activities having been conducted for a period of 24 months in any separate building or outdoor area if it contains residual radioactivity making it unsuitable for release according to NRC requirements (see Note).

**Note:** Residual radioactivity includes that from accelerator-produced radionuclides and discrete sources of Ra-226, which are now included in the definition of byproduct material as a result of the EPAct.

- Submit a decommissioning plan, if required by 10 CFR 30.36(g);
- Conduct decommissioning, as required by 10 CFR 30.36(h) and (j); and
- Submit, to the appropriate NRC Regional Office, a completed NRC Form 314, "Certificate of Disposition of Materials," (or equivalent information) and demonstrate that the premises are suitable for release for unrestricted use (e.g., results of final survey).
- Before a license is terminated, the licensee must send the records important to decommissioning to the appropriate NRC Regional Office. If licensed activities are transferred or assigned in accordance with 10 CFR 30.34(b), transfer records important to decommissioning to the new licensee.

## TERMINATION OF ACTIVITIES

**Discussion:** Useful guidance and other aids related to decommissioning are:

- NUREG-1757, Volume 2, "Consolidated NMSS Decommissioning Guidance: Characterization, Survey, and Determination of Radiological Criteria," dated September 2003.
- NUREG/BR-0241, "NMSS Handbook for Decommissioning Fuel Cycle and Materials Licenses," dated March 1997, containing the current regulatory guidance concerning decommissioning of facilities and termination of licenses.
- Appendix B of NUREG/BR-0241 containing a comprehensive list of NRC's decommissioning regulations and guidance. NUREG-1727 contains a list of superseded guidance; however, due to ongoing revisions, applicants are encouraged to consult with NRC staff regarding updates of decommissioning guidance.
- NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," dated December 1997, should be reviewed by licensees who have large facilities to decommission.
- An acceptable computer code for calculating screening values to demonstrate compliance with the unrestricted dose limits is DandD, Version 2.1.0, (McFadden and others, 2001).
- NUREG-1757, Volume 2, includes a table (Table H.1) of acceptable license termination screening values of common beta/gamma radionuclides for building surface contamination. NUREG-1757, Volume 2, also contains methods for conducting site-specific dose assessments for facilities with contamination levels above those in the table.

**Response from Applicant:** The applicant is not required to submit a response to NRC during the initial application. The licensee's obligations are to undertake the necessary decommissioning activities, to submit NRC Form 314 or equivalent information, and to perform any other actions as summarized in the "Criteria."

### References:

- NRC Form 314, "Certificate of Disposition of Materials," is available at <http://www.nrc.gov/reading-rm/doc-collections/forms/>.
- McFadden, K., D.A. Brosseau, W.A. Beyeler, and C.D. Updegraff, "Residual Radioactive Contamination from Decommissioning - User's Manual DandD, Version 2.1," NUREG/CR-5512, Volume 2, U.S. Nuclear Regulatory Commission, Washington, DC, April 2001.

### CERTIFICATE OF DISPOSITION OF MATERIALS

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE NAME AND ADDRESS

LICENSE NUMBER

DOCKET NUMBER

LICENSE EXPIRATION DATE

- This license has expired.  **A. LICENSE STATUS (Check the appropriate box)**  
 This license has not yet expired; please terminate it.

#### B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

- 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner:
  - a. Transfer of radioactive materials to the licensee listed below:
  - b. Disposal of radioactive materials:
    - 1. Directly by the licensee:
    - 2. By licensed disposal site:
    - 3. By waste contractor:
  - c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

#### C. SURVEYS PERFORMED AND REPORTED

- 1. A radiation survey was conducted by the licensee. The survey confirms:
  - a. the absence of licensed radioactive materials
  - b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- 2. A copy of the radiation survey results:
  - a. is attached; or  b. is not attached (Provide explanation); or  c. was forwarded to NRC on: \_\_\_\_\_ Date
- 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
  - a. The results of the latest leak test are attached; and/or
  - b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
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Mail all future correspondence regarding this license to:

#### C. CERTIFYING OFFICIAL

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE	SIGNATURE	DATE
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WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

## CERTIFICATE OF DISPOSITION OF MATERIALS

PLEASE READ THESE INSTRUCTIONS BEFORE COMPLETING NRC FORM 314.

Subpart E of 10 CFR Part 20 establishes the radiological criteria for license terminations/decommissioning of facilities licensed under 10 CFR Parts 30, 40, 50, 60, 61, 70, and 72, as well as other facilities subject to the Commission's jurisdiction under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended.

### INSTRUCTIONS

#### Section B, Item 2.

Licensees should describe the specific radioactive material transfer actions. If radioactive wastes were generated in terminating this license, the licensee should describe the disposal actions taken, including the disposition of low-level radioactive waste, mixed waste, greater-than-Class-C waste, and sealed sources.

#### Section B, Item 2.a.

The information provided concerning the transfer of radioactive material to another licensee should specify the date of the transfer, the name of the licensee recipient, an individual contact name and telephone number for the licensee recipient, and the recipient's NRC or Agreement State license number.

#### Section B, Item 2.b.

For disposal of radioactive materials, licensees should describe the specific disposal method or procedure (e.g., decay-in-storage). For those cases when radioactive materials are disposed of by a licensed disposal site or by a waste contractor, the licensee should specify the name, address, and telephone number of the licensed disposal site operator or waste contractor.

#### Section B, Item 2.c.

"Residual radioactivity," as defined in 10 CFR 20.1003, means radioactivity in 'areas' (structures, materials, soils, etc.) remaining as a result of activities (licensed and unlicensed) under the licensee's control from sources used by the licensee, excluding background radiation. ALARA is defined in 10 CFR 20.1003.

### FILE CERTIFICATES AS FOLLOWS:

#### IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND CERTIFICATES TO:

LICENSING ASSISTANT SECTION  
NUCLEAR MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA,  
MISSOURI, OHIO, OR WISCONSIN, SEND CERTIFICATES  
TO:

MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

#### IF YOU ARE LOCATED IN:

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA,  
COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA,  
MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW  
MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON,  
PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS,  
UTAH, WASHINGTON, OR WYOMING, SEND  
CERTIFICATES TO:

MATERIAL RADIATION PROTECTION SECTION  
U. S. NUCLEAR REGULATORY COMMISSION, REGION IV  
612 E. LAMAR BOULEVARD, SUITE 400  
ARLINGTON, TX 76011-4125

... sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted 24-month period;

(3) Whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay;

(4) Whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and

(5) Other site-specific factors which the Commission may consider appropriate on a case-by-case basis, such as the regulatory requirements of other government agencies, lawsuits, ground-water treatment activities, monitored natural ground-water restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.

(j) As the final step in decommissioning, the licensee shall--

(1) Certify the disposition of all licensed material, including accumulated wastes, by submitting a completed NRC Form 314 or equivalent information; and

(2) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey, unless the licensee demonstrates in some other manner that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR part 20, subpart E. The licensee shall, as appropriate--

(i) Report levels of gamma radiation in units of millisieverts (microrentgen) per hour at one meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of megabecquerels (disintegrations per minute or microcuries) per 100 square centimeters--removable and fixed--for surfaces, megabecquerels (microcuries) per milliliter for water, and becquerels (picocuries) per gram for solids such as soils or concrete; and

(ii) Specify the survey instrument(s) used and certify that each instrument is properly calibrated and tested.

(k) Specific licenses, including expired licenses, will be terminated by written notice to the licensee when the Commission determines that:

GUIDELINES FOR DECONTAMINATION OF FACILITIES AND EQUIPMENT  
PRIOR TO RELEASE FOR UNRESTRICTED USE  
OR TERMINATION OF LICENSES FOR BYPRODUCT, SOURCE,  
OR SPECIAL NUCLEAR MATERIAL

U.S. Nuclear Regulatory Commission  
Division of Fuel Cycle, Medical, Academic,  
and Commercial Use Safety  
Washington, DC 20555

April 1993

The instructions in this guide, in conjunction with Table 1, specify the radionuclides and radiation exposure rate limits which should be used in decontamination and survey of surfaces or premises and equipment prior to abandonment or release for unrestricted use. The limits in Table 1 do not apply to premises, equipment, or scrap containing induced radioactivity for which the radiological considerations pertinent to their use may be different. The release of such facilities or items from regulatory control is considered on a case-by-case basis.

1. The licensee shall make a reasonable effort to eliminate residual contamination.
2. Radioactivity on equipment or surfaces shall not be covered by paint, plating, or other covering material unless contamination levels, as determined by a survey and documented, are below the limits specified in Table 1 prior to the application of the covering. A reasonable effort must be made to minimize the contamination prior to use of any covering.
3. The radioactivity on the interior surfaces of pipes, drain lines, or ductwork shall be determined by making measurements at all traps, and other appropriate access points, provided that contamination at these locations is likely to be representative of contamination on the interior of the pipes, drain lines, or ductwork. Surfaces of premises, equipment, or scrap which are likely to be contaminated but are of such size, construction, or location as to make the surface inaccessible for purposes of measurement shall be presumed to be contaminated in excess of the limits.
4. Upon request, the Commission may authorize a licensee to relinquish possession or control of premises, equipment, or scrap having surfaces contaminated with materials in excess of the limits specified. This may include, but would not be limited to, special circumstances such as razing of buildings, transfer of premises to another organization continuing work with radioactive materials, or conversion of facilities to a long-term storage or standby status. Such requests must:
  - a. Provide detailed, specific information describing the premises, equipment or scrap, radioactive contaminants, and the nature, extent and degree of residual surface contamination.
  - b. Provide a detailed health and safety analysis which reflects that the residual amounts of materials on surface areas, together with other considerations such as prospective use of the premises, equipment, or scrap, are unlikely to result in an unreasonable risk to the health and safety of the public.

5. Prior to release of premises for unrestricted use, the licensee shall make a comprehensive radiation survey which establishes that contamination is within the limits specified in Table 1. A copy of the survey report shall be filed with the Division of Fuel Cycle Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and also the Administrator of the NRC Regional Office having jurisdiction. The reports should be filed at least 30 days prior to the planned date of abandonment. The survey report shall:
  - a. Identify the premises.
  - b. Show that reasonable effort has been made to eliminate residual contamination.
  - c. Describe the scope of the survey and general procedures followed.
  - d. State the findings of the survey in units specified in the instructions.

Following review of the report, the NRC will consider visiting the facilities to confirm the survey.

TABLE 1

## ACCEPTABLE SURFACE CONTAMINATION LEVELS

NUCLIDES <sup>a</sup>	AVERAGE <sup>b, c, f</sup>	MAXIMUM <sup>b, d, f</sup>	REMOVABLE <sup>b, c, f</sup>
U-nat, U-235, U-238, and associated decay products	5,000 dpm $\alpha$ /100 cm <sup>2</sup>	15,000 dpm $\alpha$ /100 cm <sup>2</sup>	1,000 dpm $\alpha$ /100 cm <sup>2</sup>
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm <sup>2</sup>	300 dpm/100 cm <sup>2</sup>	20 dpm/100 cm <sup>2</sup>
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000 dpm/100 cm <sup>2</sup>	3,000 dpm/100 cm <sup>2</sup>	200 dpm/100 cm <sup>2</sup>
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above.	5,000 dpm $\beta\gamma$ /100 cm <sup>2</sup>	15,000 dpm $\beta\gamma$ /100 cm <sup>2</sup>	1,000 dpm $\beta\gamma$ /100 cm <sup>2</sup>

<sup>a</sup> Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides should apply independently.

<sup>b</sup> As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

<sup>c</sup> Measurements of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each such object.

<sup>d</sup> The maximum contamination level applies to an area of not more than 100 cm<sup>2</sup>.

<sup>e</sup> The amount of removable radioactive material per 100 cm<sup>2</sup> of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.

<sup>f</sup> The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, ILLINOIS 60532-4352

**TELEFAX TRANSMITTAL**

DATE July 19, 2010

NUMBER OF PAGES *12*

SEND TO Michael G. Beat, M.D., Radiation Safety Officer

LOCATION St. Louis PET Centers, LLC (NRC License 24-32395-01) c/o Arch  
Cancer Care

FAX NUMBER (314) 523-5445

VERIFY BY CALLING

FROM: Bill Reichhold  
(Sender)

TELEPHONE NUMBER (630) 829-9839

FAX NUMBER (630) 515-1078

If you do not receive the complete fax transmittal, please contact the sender as soon as possible at the telephone number provided above.

MESSAGE See accompanying documents.

**NOTICE**

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential, or exempt from disclosure under applicable law. If the reader of this message is not the intended recipient or the employee responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you received this communication in error, please notify the sender immediately by telephone and return the original to the above address, by U.S. Mail. Thank You.