

RADIOACTIVE MATERIAL LICENSE

Pursuant to the California Code of Regulations, Division 1, Title 17, Chapter 5, Subchapter 4, Group 2, Licensing of Radioactive Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, use, possess, transfer, or dispose of radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders of the California Department of Public Health, now or hereafter in effect and to any standard or specific condition specified in this license.

1. Licensee	Environmental Management and Controls, Inc.	3. License Number	3546-50	Amendment Number : 74
2. Address	3106 South Faith Home Road Turlock, CA 95380	4. Expiration date	August 10, 2019	(2)
Attention:	Thomas A. Gray President	5. Inspection agency	Radiologic Health Branch North	

License Number 3546-50 is hereby administratively amended as follows:

6. Nuclide	7. Form	8. Possession Limit
A. Hydrogen-3	A. Packaged waste	A. Not to exceed 9,000 curies.
B. Any radioactive material except: (1) special nuclear material, (2) source material, (3) any other alpha emitters	B. Packaged waste	B. Not to exceed 150 curies.
C. Alpha emitters except: (1) special nuclear material, (2) source material	C. Packaged waste	C. Not to exceed 1000 millicuries.
D. Special nuclear material	D. Packaged waste	D. See Condition 27
E. Source material	E. Packaged waste (non-dispersible)	E. Not to exceed 30,000 pounds.
F. Source material	F. Packaged waste	F. Not to exceed 2,500 pounds
G. Radium-226	G. Radioactive waste (Sealed sources)	G. Sources not to exceed 100 millicuries each. Total not to exceed 2.7 curies.
H. Any nuclide with atomic number 3-104	H. Radioactive waste (Sealed calibration check sources)	H. Not to exceed 99 microcuries. Not to include TRU > 100 nanocuries/g.
I. Any nuclide with atomic number 3-104	I. Contaminated wipe samples	I. Not to exceed 10 millicuries total.
J. Any nuclide with atomic number 3-104	J. Calibration sources	J. Not to exceed 1.0 millicurie total.
K. Radium-226	K. Sealed source	K. 1 source not to exceed 100 microcuries
L. Americium-241	L. Sealed source	L. 1 source not to exceed 12 microcuries

9. Authorized Use

A.-I. To be used incidental to performing services including pickup and packaging of radioactive waste in DOT approved containers at temporary job sites. Receipt and storage of radioactive waste packaged in DOT approved containers. Defacing <100 microcuries sealed calibration check sources to be disposed of as DAW, not to include TRU>100 nanocuries per gram. Transportation of radioactive waste within the State of California when each transport conforms to the California Radiation Control Regulations including Section 30373. Up to ten (10) percent (or one (1) percent if in liquid form) of the radioactive waste as described in Subitems A.-I. of this license may also be processed and repackaged in accordance with the procedures and limitations specified in this license.

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- J. To be used as check sources for in house detectors.
- K.-L. To be used as check calibration sources for effluent monitoring.

LICENSE CONDITIONS

- 10. Radioactive material shall be used only at the following locations:
 - (a) 3106 South Faith Home Road, Turlock, CA.
 - (b) Temporary job sites of the licensee in areas not under exclusive federal jurisdiction throughout the state of California (See Condition 32). (Except for Decay in Storage)
- 11. This license is subject to an annual fee for sources of radioactive material authorized to be possessed at any one time as specified in Items 6, 7, 8 and 9 of this license. The annual fee for this license is required by and computed in accordance with Title 17, California Code of Regulations, Sections 30230-30232 and is also subject to an annual cost-of-living adjustment pursuant to Section 100425 of the California Health and Safety Code.
- 12. Radioactive material shall be used by, or under the supervision of, the following individuals:
 - (a) Thomas A. Gray
 - (b) Gaye Nelson
 - (c) Michael J. Zittle
 - (d) Kaushil Patel
- 13. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 7, 8 and 9 of this license in accordance with the statements, representations, and procedures contained in the documents listed below. The Department's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
 - (a) The renewal application dated July 03, 2007, letters with attachments, dated July 3, 2007, and July 23, 2007, all signed by Gaye Nelson, Manager, Radiation Safety Officer, EMC, regarding the addition/appointment of an Alternate Radiation Safety Officer, the addition of the sealed source disposal service, the services performed at temporary job sites, and the letters dated January 19, 2009, and January 21, 2009, both signed by Gaye Nelson and E-Mails dated January 20, 2009, sent by Gaye Nelson, regarding a revision to license condition numbers 15(c), and 23.
 - (b) The letters dated January 11, 2010, and July 21, 2010, both signed by Gaye Nelson, Manager and RSO, requesting to provide additional services for Decay in Storage prior to disposal, committing to perform requirements for Decay in Storage of Co-57 sealed sources, and the letter dated August 9, 2010, signed by Gaye Nelson, correcting the renewal application, dated July 3, 2007, for temporary job sites.
- 14.
 - (a) The Radiation Safety Officer in this program shall be Gaye Nelson.
 - (b) The Alternate Radiation Safety Officer in this program shall be Kaushil Patel.

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15. The Radioactive Shipment Record, from each customer, shall be on file describing:
- (a) Total activity in millicuries, or in the case of source or special nuclear material, the total weight.
 - (b) The principal radioisotopes.
 - (c) The maximum radiation level at the surface of the container, and the reading at one meter from the source, only for Yellow II and Yellow III Containers.
 - (d) The name and address of the licensee from whom the waste was received.
 - (e) The date of receipt of the package.
 - (f) Form of the radioactive material, specifically whether absorbed liquid, dry solid, animal carcasses or scintillation vials.
 - (g) Cataloging system (numbering or lettering) to be used for the accountability, and tracing of the radioactive material through documentation pertaining to the specifics of each container and generator.
16. The maximum period the licensee is authorized to store radioactive waste material is as follows:
- (a) For solid material in noncombustible containers, 24 months.
 - (b) For solid material in combustible containers, 6 months.
 - (c) For absorbed liquid material and non-overpacked animal carcasses in hermetically sealed, watertight liner inside a 7A-type drum, 90 days.
 - (d) For over-packed animal carcasses, 12 months.
17. The licensee shall, with respect to all radioactive waste collected for disposal at licensed land burial sites, establish and maintain a training program, written operating and radiation safety procedures, and quality assurance inspection and testing procedures which assure that:
- (a) All waste is properly segregated and identified with respect to those classes of waste being accepted for burial at the intended burial sites.
 - (b) Waste is properly packaged to conform to DOT regulations, according to specific packaging instructions for the class of waste being packed and for the intended burial site.
 - (c) All containers are properly closed, meet DOT specifications, and are acceptable at the burial site for the class of waste contained.
 - (d) All containers are free of surface contamination per DOT regulations.
 - (e) Radiation levels conform to DOT limits.
 - (f) All containers are properly labeled per DOT regulations.
 - (g) All records, shipping papers, and certificates are complete and accurate.

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18. The licensee shall not store more than 8,000 cubic feet of uncompacted radioactive waste at any one time or a total of 8,500 cubic feet of radioactive waste including both uncompacted, compacted, and solidified radioactive waste at any one time.
19. All radioactive waste shall be loaded and transported in accordance with all applicable U.S. Department of Transportation Regulations, U.S. Nuclear Regulatory Commission Regulations, state regulations, and the requirements of this license. Nothing in this license shall in any way relieve the licensee from full compliance with all applicable local, state, and federal laws and regulations.
20. Sealed sources possessed under this license shall be tested for leakage and/or contamination as required by Title 17, California Radiation Control Regulations, Section 30275 (c).
21. Records of leak test results shall be kept in units of microcuries and maintained for inspection. Records may be disposed of following Department inspection. Any leak test revealing the presence of 0.005 microcuries or more of removable radioactive material shall be reported to the California Department of Public Health, Radiologic Health Branch, MS 7610, P.O. Box 997414, Sacramento, CA 95814-5006, within five days of the test. This report shall include a description of the defective source or device, the results of the test, and the corrective action taken.
22. The licensee is authorized to perform tests for leakage and/or contamination of sealed sources. The following tests may be performed for sources possessed under this license and as a customer service:
 - (a) Collection of wipe test samples from sealed sources and devices containing sealed sources.
 - (b) Furnishing leak test kits Model TGA-76 for sealed sources and devices containing sealed sources to customers authorized to use such leak test kits.
 - (c) Analysis of materials collected by the licensee as stated in (a) above and material returned by customers from leak test kits listed in (b) above for amount of radioactivity. Reports to customers of analysis shall be in microcuries.
23. The licensee is authorized to use a radioactive waste compactor for compacting radioactive waste under the following limitations:
 - (a) Compacting of radioactive waste is prohibited if the radioactive waste contains:
 - (1) Unsealed radioactive material other than contaminated articles,
 - (2) Radioactive material in liquid form.
 - (b) The licensee shall test areas near the compactor (excluding the compactor chamber and inside the surfaces of the sorting tunnel or the starting belts) considered most likely to be contaminated for removable contamination at intervals not less frequently than monthly, or if used less frequently than monthly, after each use. Results of such tests shall be maintained available for Department inspection. If removable contamination exceeds 2,000 disintegrations per minute per 100 square centimeters, the licensee shall immediately decontaminate the area.
 - (c) The licensee shall test areas inside the compaction chamber for contamination at intervals not less frequently than monthly or if used less frequently than monthly, after each use. Results of such tests shall be maintained available for inspection. If removable contamination exceeds 10,000 disintegrations per minute per 100 square centimeters, the licensee shall immediately decontaminate the area. If direct surface contamination surveys with a portable survey meter exceed 5,000 disintegrations per minute, the licensee shall immediately decontaminate the area.

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24. The licensee shall conduct a physical inventory every six months to account for all sealed sources and/or devices received and possessed under the license. Records of the inventories shall be maintained for inspection, and may be disposed of following Department inspection.
25. The licensee is authorized to solidify waste under the following limitations:
 - (a) The solidification process shall be limited to Class A wastes as defined by 10 CFR 61.
 - (b) The licensee shall test for surface contamination in the puck loading area, where it is considered most likely to be contaminated, prior to moving any waste containers to outside storage. Results of such tests shall be maintained available for inspection.
 - (c) The licensee shall test by air sampling or shall use engineering controls to ensure airborne environmental releases do not occur via unmonitored release points. Results of such tests or the use of engineering controls shall be documented and maintained for inspection.
26. Notwithstanding the limitations specified by Condition 16 of this license, the licensee is authorized to store all forms of packaged waste for up to five (5) years from the date of receipt while an authorized waste site is not available to receive the waste. If an authorized waste site becomes available during the five-year limit specified by this condition, the licensee must meet the requirements of Condition 16 within 90 days of availability of the waste site.
27. The total mass of special nuclear material possessed under this license at any one time or at any one authorized location of use shall not exceed that stated in the following formula: The number of grams of Uranium-235 divided by 350, plus the number of grams of Uranium-233 divided by 200, plus the number of grams of Plutonium (all isotopes) divided by 200, shall not exceed one (i.e., unity).
28. In accordance with the California Code of Regulations Title 17, Section 30195.1, the licensee shall maintain an acceptable financial instrument in the amount of \$320,810.00 that satisfies the requirements outlined in the decommissioning funding plan dated August 12, 2010 if:
 - (a) The possession limit of unsealed licensed material specified in this license, has a half life greater than 120 days, and each isotope is greater than 10^5 times the applicable quantities listed in the Code of Federal Regulations, Title 10, Part 30, Appendix B; or
 - (b) The possession limit of unsealed licensed material specified in this license, has a half life greater than 120 days, and for a combination of isotopes, R (sum of the ratios) divided by 10^5 is greater 1.
29. The licensee is authorized to hold radioactive materials with a physical half-life of less than 65 days including Co-57 for decay in storage before disposal in ordinary trash provided:
 - (a) Radioactive waste to be disposed of in this manner shall be held for decay in storage for at least 10 half-lives. Cobalt-57 shall be held for decay for at least 15 half-lives.
 - (b) Before disposal as normal waste, radioactive waste shall be surveyed to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
 - (c) Records shall be maintained of the disposal of licensed materials made by decay in storage. These records shall be sufficient to demonstrate compliance with this license condition and shall be retained for 3 years after the record is made.
 - (d) Radioactive waste to be held for decay shall be segregated from all other radioactive waste forms to ensure decay to background levels prior to disposal.

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30. The licensee shall comply with the requirements described in the RHB document entitled "Increased Controls (IC) for Licensees that Possess Sources Containing Radioactive Material Quantities of Concern". The IC requirements shall be implemented before taking possession of any IC quantities. Upon completion of implementation, the licensee shall notify the Radiologic Health Branch (RHB) of the California Department of Public Health (CDPH) by telephone and in writing. Written notification is to be sent to:

CDPH
Radiologic Health Branch
Radioactive Material Licensing

ATT: Increased Controls Program

MS 7610
PO Box 997414
Sacramento, CA 95899-7414

Telephone notification shall be made to the local RHB Inspection Office. Local RHB Inspection Office telephone numbers are:

Northern California:	(510) 620-3416 or (510) 620-3419
Southern California:	(714) 257-2025 or (714) 257-2031
Los Angeles County:	(213) 351-7897 or (213) 351-7387
San Diego County:	(858) 694-3621 or (858) 694-3616

31. The licensee shall comply with the requirements described in the Department of Public Health, Radiologic Health Branch letter, with enclosure entitled, "Specific Requirements Pertaining to Fingerprinting and Criminal History Records Checks," dated June 5, 2008, and California order dated June 5, 2008, signed by Gary Butner, Acting Chief, Radiologic Health Branch. The licensee shall complete implementation of said requirements by December 2, 2008. The licensee shall notify the California Department of Public Health, Radiologic Health Branch in writing within twenty-five (25) days after full compliance as described in the letter and enclosure has been achieved.
32. Before radioactive materials may be used at a temporary job site at any federal facility, the jurisdictional status of the job site must be determined. If the jurisdictional status is unknown, the federal agency should be contacted to determine if the job site is under exclusive federal jurisdiction. A response shall be obtained in writing or a record made of the name and title of the person at the federal agency who provided the determination and the date that it was provided. Authorization for use of radioactive materials at the job sites under exclusive federal jurisdiction shall be obtained either by:
- Filing an NRC Form-241 in accordance with the Code of Federal Regulations, Title 10, Part 150.20 (b), "Recognition of Agreement State Licenses", or
 - By applying for a specific NRC license.
- Before radioactive material can be used at a temporary job site in another State, authorization shall be obtained from the State if it is an Agreement State, or from the NRC for any non-Agreement State, either by filing for reciprocity or applying for a specific license.
33. At least 30 days prior to vacating any address of use listed in Condition 10 of this license, the licensee shall provide written notification thereof to the California Department of Public Health, in accordance with Title 17, California Code of Regulations, Section 30256 (b).
34. A copy of this license and a copy of all documents pertaining to this license shall be maintained available for inspection at 3106 South Faith Home Road, Turlock, CA.

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35. The licensee will provide the Low Level Radioactive Waste (LLRW) reports specified in the California Health and Safety Code section 115000.1(h) to the California Department of Public Health (CDPH) on an annual basis for both shipped and stored LLRW. Alternatively, LLRW shipment information may be provided on a per shipment basis. LLRW shipment information and annual reports shall be mailed to:

Attn: LLRW Tracking Program
California Department of Public Health
Radiologic Health Branch, MS 7610
P.O. Box 997414
Sacramento, CA 95899-7414

36. The licensee shall comply with the inventory and transaction reporting requirements in 10CFR 20.2207 (1-1-08 Edition) for nationally tracked sources. Note that transaction reports are required for any manufacture, transfer, receipt, disassembly, or disposal of a nationally tracked source, otherwise allowed by this license, by the next business day after the transaction. A nationally tracked source, as defined in 10 CFR 20.1003 (1-1-08 Edition) refers to a sealed source containing a quantity equal to or greater than Category 1 or Category 2 levels of any radioactive materials listed in Appendix E to 10 CFR Part 20 – “Nationally Tracked Source Thresholds.” (1-1-08 Edition).

Issued for the California Department of Public Health

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By: 

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