



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 DIVISION OF RADIOLOGICAL HEALTH
 3RD FLOOR, L & C ANNEX, 401 CHURCH STREET, NASHVILLE, TN 37243

RADIOACTIVE MATERIAL LICENSE

Pursuant to Tennessee Department of Environment and Conservation Regulations, 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 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 and regulations of the Tennessee Department of Environment and Conservation and orders of the Division of Radiological Health, now or hereafter in effect and to any conditions specified below.

LICENSEE		
1. Name Dade Moeller & Associates, Inc.	3. License number	R-01111-J21
	4. Expiration date	October 21, 2021
	5. File no.	R-01111
2. Address 704 S. Illinois Ave., Suite C-101 Oak Ridge, Tennessee 37830		
6. Radioactive Material (Element and Mass Number)	8. Chemical and/or physical form	9. Maximum Radioactivity and/or quantity of material which licensee may possess at any one time.
See Supplementary Sheets		

10. Authorized Use

See Supplementary Sheets

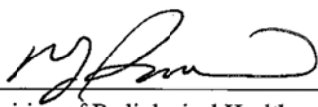
CONDITIONS

11. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.

See Supplementary Sheets

For the Commissioner
 Tennessee Department of Environment and Conservation

Date of Issuance October 7, 2011

By: 

Page 1 of 5 Pages

Division of Radiological Health
 Ronald J. Parsons
 Health Physicist



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RADIOACTIVE MATERIAL LICENSE

Supplementary Sheet

Page 2 of 5 Pages

License Number **R-01111-J21**

6. Radioactive Material
(Element and
Mass Number)

- A. Any radioactive material
- B. Any radioactive material
- C. Cesium 137

8. Chemical
and/or
Physical Form

- A. See Item 10 below
- B. Sealed Sources
- C. Sealed Source
(Amersham Models
CDC.93, CDC.192,
CDC.PE2, CDC.PE3,
CDC.PE4, CDC.PE5,
CDC.PE6, CDC.PE7,
CDC.800 Series, IPL
Model 192, or Industrial
Reactor Labs, Inc.
Model 2-4 & 2-10)

9. Maximum Radioactivity
and/or Quantity of Material
Which Licensee May
Possess at Any One Time

- A. See Item 10 below
- B. 10 microcuries
- C. 1.7 Curies

10. Authorized Uses

- A. For possession and use as laboratory instrument calibration standards and for collection and analysis as environmental, swipe, or other analytical samples.

The licensee is authorized to perform tests for leakage and/or contamination upon sealed sources containing these radioactive materials and upon devices which contain sealed sources. This license is also authorized to possess and analyze radioactive material contained on test media resulting from these tests and contamination surveys which the licensee may perform. Such waste will be disposed of in conformance with 1200-2-5-.120 of "State Regulations for Protection Against Radiation".

- B. For use as radioactive standards for instrument calibration and efficiency determination and to verify survey meter operation.
- C. To be used in a J.L. Shepherd Model 28-6 Calibrator for calibration of ionizing radiation exposure rate instruments.

Conditions (continued)



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RADIOACTIVE MATERIAL LICENSE

Supplementary Sheet

Page 3 of 5 Pages

License Number R-01111-J21

12. The licensee shall comply with applicable provisions of 1200-02-04, 1200-02-05, and 1200-02-10 of "State Regulations for Protection Against Radiation."
13. A. Licensed material is only authorized for use by, or under the supervision of:
- | | |
|-----------------------------|-------------------------|
| Clark Barton, CHP | Michael Jedlicka |
| James S. Bogard, Ph.D., CHP | Daniel S. Mantooth, CHP |
- B. The Radiation Safety Officer for this license is James S. Bogard, Ph.D., CHP.
14. The collection of test samples for leakage and/or contamination authorized in 10A. shall be performed at the customer's site, in areas not under exclusive Federal jurisdiction, as designated by the pertinent Tennessee license authorizing the customer's use and possession of that material. The analysis of these test samples shall be performed at the licensee's address.

Before radioactive materials can 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 should be obtained in writing or a record should be 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 job sites under exclusive Federal jurisdiction shall be obtained either by: (1) filing a NRC Form-241 in accordance with 10 CFR 150.20(b), "Recognition of Agreement State Licenses,;" or (2) by applying for a specific NRC license.

Before radioactive materials 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.

15. The tests for leakage and/or contamination shall be capable of detecting 0.005 microcurie of contamination on the test sample. The customer shall be furnished a report of leak test results in units of microcuries. If the test reveals the presence of removable contamination equivalent to or greater than 0.005 microcurie, the customer of the licensee shall be informed of the Department's requirements as follows: "The licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or the be disposed of in accordance with Department regulations. A report shall be filed within five (5) days of the test with the Division of Radiological Health, Tennessee Department of Environment and Conservation, 3rd Floor, L & C Annex, 401 Church Street, Nashville, Tennessee, 37243, describing the equipment involved, the test results, and the corrective action taken."
16. A. Sealed sources authorized by this license shall be tested for leakage and/or contamination at intervals not to exceed six (6) months. In the absence of a certificate from a transferor



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RADIOACTIVE MATERIAL LICENSE

Supplementary Sheet

Page 4 of 5 Pages

License Number R-01111-J21

indicating that a test has been made within six (6) months prior to transfer, the sealed source shall not be put into use until tested.

- B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surface of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak tests shall be kept in units of microcuries and maintained for inspection by the Department.
 - C. If the test reveals the presence of 0.005 microcurie or more of removable contamination the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Department regulations. A report shall be filed within five (5) days of the test with the Division of Radiological Health, Tennessee Department of Environment and Conservation, 3rd Floor, L & C Annex, 401 Church Street, Nashville, Tennessee, 37243-1532, describing the equipment involved, the test results, and the corrective action taken.
 - D. Tests for leakage and/or contamination shall be performed by persons authorized by this Department, the U. S. Nuclear Regulatory Commission, an Agreement State, or Licensing State to perform such services.
17. Notwithstanding the periodic leak test required by Condition 16, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of Beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.
18. The licensee shall not open sealed sources containing radioactive material.
19. The licensee shall maintain complete and accurate records of the receipt and disposal of radioactive material. The licensee shall, for radioactive material no longer useful for any purpose and for any equipment or supplies contaminated with such material for which further use and decontamination is not planned, define those materials as radioactive waste and treat them as such in accordance with the following provisions:
- A. Radioactive waste material shall not be stored with non-radioactive waste.
 - B. A written record of all radioactive waste material shall be maintained until it has been determined by a suitable survey or radioassay that it has decayed to background levels or until it has been shipped to an authorized recipient in accordance with all applicable regulations. Accountability of radioactive waste material prepared for shipment but not yet shipped from the licensee's premises shall be maintained by the licensee by an internal record system such that the licensee is constantly aware of the material's location and the proposed time of shipment. Individuals who are involved in the shipping of such material



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RADIOACTIVE MATERIAL LICENSE

Supplementary Sheet

Page 5 of 5 Pages

License Number R-01111-J21

and/or the storage of such material prior to shipment, shall be trained in the precautions necessary for such handling and storage.

- C. For material which has decayed to background levels as determined by radioassay or external level as measured with appropriately calibrated instruments, records shall indicate that the material was determined to be no longer radioactive and will indicate the methods and results of the survey or analysis.
- D. Shipment records of radioactive waste material shall be maintained and the licensee shall require written confirmation from the authorized recipient of such material that this material has been received.
- E. All records and written confirmations required by this condition shall be maintained for inspection by the Department.

The requirements for this condition are in addition to any other requirements for the handling and/or disposal of radioactive material contained in this license and "State Regulations for Protection Against Radiation."

- 20. The licensee shall conduct a physical inventory every six (6) months to account for all sources and/or devices received and possessed under this license. Records of inventories shall be maintained for inspection by the Department.
- 21. No provision of this license relieves the licensee from compliance with other Federal, State and local laws, ordinances, and regulations applicable to the licensee's activities.
- 22. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 8, and 9 of this license in accordance with statements, representations, and procedures contained in the following:
 - Application dated August 13, 2011, with attachments
 - Letters dated August 30, 2011, with attachment, and October 6, 2011, with attachments.