TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

AMENDMENT 68

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 | 3. License number R-01003-G00 AMENDED IN ITS ENTIRETY |
|---|---|
| 1. Name EG&G Instruments | 4. Expiration date July 31, 2000 |
| 2. Address 801 S. Illinois Avenue Oak Ridge, TN 37830 | 5. File no. R-01003 |

| 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 July 20, 1995

By: _____
DIVISION OF RADIOLOGICAL HEALTH
Ronald J. Parsons
Health Physicist



CN-0719 (Rev. 9-92)
Form RHS 8-7

Form RHS 8-7A
(09-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
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License Number R-01003-G00

| 6. Radioactive Material (Element and Mass Number) | 8. Chemical and/or Physical Form | 9. Maximum Radioactive Material Which Licensee May Possess at Any One Time |
|---|---|---|
| A. Any radioactive materials with atomic numbers 3 through 83. | A. Sealed, bonded, and deposited sources, NIST standard solutions, and liquid sources sealed in phantoms. | A. No single source to exceed 100 microcuries. Total not to exceed 100 millicuries. |
| B. Any radioactive materials with atomic numbers 84 through 100. | B. Sealed, bonded, and deposited sources, NIST standard solutions, and liquid sources sealed in bottles. | B. No single source to exceed 10 microcuries. Total not to exceed 10 millicuries. |
| C. Hydrogen 3 | C. Any | C. No single source to exceed 50 microcuries. Total not to exceed 250 microcuries. |
| D. Any radioactive materials with atomic numbers 3 through 83. | D. Sealed and bonded sources that have been evaluated and approved for distribution under a license issued by the State of Tennessee, the U.S. Nuclear Regulatory Commission, an Agreement State, or a Licensing State, as appropriate. | D. No single source to exceed 50 millicuries. Total not to exceed 500 millicuries. |

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|---|---|---|
| E. Any radioactive materials with atomic numbers 84 through 100. | E. Sealed and bonded sources that have been evaluated and approved for distribution under a license issued by the State of Tennessee, the U.S. Nuclear Regulatory Commission, an Agreement State, or a Licensing State. | E. No single source to exceed 25 millicuries. Total not to exceed 100 millicuries. |
| F. Thorium 232, Uranium 235, Uranium 238, or Neptunium 237 | F. Sealed sources (Custom fabricated fission foils encapsulated in either vanadium from Interlaboratory Reaction Rate Program or aluminum from Oak Ridge National Laboratory (ORNL). | F. No single source to exceed 250 microcuries. Total not to exceed 3000 microcuries. |
| G. Natural Uranium | G. Soil matrix and associated mill tailings. | G. No single source to exceed 50 microcuries. Total not to exceed 1000 microcuries. |
| H. Cesium 137 | H. Sealed source (Monsanto Model NS-19) | H. One source of 25 millicuries. |
| I. Thallium 204 | I. Sealed source (Monsanto Model NS-19) | I. Six (6) sources of 200 millicuries each. Total not to exceed 1200 millicuries. |
| J. Thulium 170 | J. Sealed source (Monsanto Model NS-19) | J. One source of 25 millicuries. |

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| K. Cerium 144 | K. Sealed source (ORNL Custom) | K. One source of 10 millicuries. |
| L. Ruthenium 106 | L. Sealed source (ORNL Custom) | L. One source of 10 millicuries. |
| M. Strontium 90 | M. Sealed source (Monsanto Model NS-19) | M. No single source to exceed 50 millicurie. Total not to exceed 500 millicuries. |
| N. Americium 241 | N. Deposited sources | N. No single source to exceed 0.1 microcuries. Total not to exceed 100 microcuries. |
| O. Curium 244 | O. Deposited sources | O. No single source to exceed 1.5 microcuries. Total not to exceed 100 microcuries. |
| P. Californium 252 | P. Plated sources | P. One source of 0.1 microcurie. |
| Q. Americium 241 | Q. Deposited sources | Q. No single source to exceed 5 microcuries. Total not to exceed 50 microcuries. |
| R. Americium 241 | R. Deposited sources | R. No single source to exceed 5 microcuries. Total not to exceed 50 microcuries. |
| S. Cobalt 57 | S. Diffusion bonded sources | S. No single source to exceed 500 microcuries. Total not to exceed 1000 microcuries. |
| T. Americium 241 | T. Sealed source (Isotope Products Lab AN-241-55 and New England Nuclear Model NER-476A) | T. No single source to exceed 25 millicuries. Total not to exceed 150 millicuries. |
| U. Iodine 125 | U. Sealed source (Isotopes, Inc. Model 913) | U. No single source to exceed 3 millicuries. Total not to exceed 9 millicuries. |

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|---|---|---|
| V. Cobalt 57 | V. Sealed source (Isotopes, Inc. Model 921) | V. No single source to exceed 1 millicurie. Total not to exceed 3 millicuries. |
| W. Cadmium 109 | W. Sealed source (Isotopes Product Labs AN-109R and New England Nuclear Model NER-466A). | W. No single source to exceed 5 millicuries. Total not to exceed 15 millicuries. |
| X. Mixed gamma (Cd-109, Co-57, Ce-139, Hg-203, Sn-113, Cs-137, Y-88, Co-60); Mixed Gamma as above + Am-241; Mixed gamma as above + Sr-85; Mixed gamma as above + Am-241 and Sr-85. All standards as provided by Analytics, Inc. | X. Solution dispersed in epoxy. | X. No single source to exceed 25 microcuries. Total not to exceed 200 microcuries. |
| Y. Iron 55 | Y. Sealed source (Isotope Products Lab AN-55R and New England Nuclear Model NER-461A) | Y. No single source to exceed 1 millicurie. Total not to exceed 3 millicuries. |
| Z. Sodium 22 | Z. Custom sealed sources(Radiation Materials Corp. Model ORNA-1) | Z. Three (3) sources of 0.1 millicurie each. Total not to exceed 0.3 millicurie. |
| AA. Barium 133 | AA. Deposited sources | AA. No single source to exceed 1.0 microcurie. Total not to exceed 200 microcuries. |
| BB. Bismuth 207 | BB. Deposited sources | BB. No single source to exceed 1.0 microcurie. Total not to exceed 200 microcuries. |

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| CC. Cesium 137 | CC. Deposited sources | CC. No single source to exceed 1.0 microcurie. Total not to exceed 200 microcuries. |
| DD. Tin 113 | DD. Deposited sources | DD. No single source to exceed 1.0 microcurie. Total not to exceed 200 microcuries. |
| EE. Cobalt 57 | EE. Deposited sources | EE. No single source to exceed 1.0 microcurie. Total not to exceed 200 microcuries. |
| FF. Cobalt 60 | FF. Deposited sources | FF. No single source to exceed 1.0 micorcurie. Total not to exceed 200 microcuries. |
| GG. Cobalt 60 | GG. Sealed sources (New England Nuclear NES-134) | GG. No single source to exceed 15 microcuries. Total not to exceed 500 microcuries. |
| HH. Cobalt 60 | HH. Sealed sources (New England Nuclear NES-134) | HH. No single source to exceed 1.0 microcurie. Total not to exceed 150 microcuries. |
| II. Iron 59 | II. Sealed sources (General Nuclear, Inc.) | II. Three (3) sources of 50 microcuries each. Total not to exceed 150 microcuries. |
| JJ. Sodium 22 | JJ. Custom sealed sources(Radiation Materials Corp. Model ORNA-1) | JJ. Three (3) sources of 0.1 millicurie each. Total not to exceed 0.3 millicurie. |
| KK. Cesium 137 | KK. Sealed sources (New England Nuclear Model NER-570) | KK. Three (3) sources of 1.0 millicurie each. Total not to exceed 3 millicuries. |

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| LL. Cobalt 57 | LL. Sealed sources (NEN Model NER-471A) | LL. Three (3) sources of 10 millicuries each. Total not to exceed 30 millicuries. |
| MM. Iron 55 | MM. Sealed sources (NEN Model NER-460B) | MM. Two (2) sources of 100 millicuries each. Total not to exceed 200 millicuries. |
| NN. Cobalt 57 | NN. Sealed sources (Isotope Products Labs, Model PH-57) | NN. No single source to exceed 1 millicurie. Total not to exceed 5 millicuries. |
| OO. Iron 55 | OO. Sealed sources (Isotope Products Labs, Model PH-55) | OO. No single source to exceed 1 millicurie. Total not to exceed 3 millicuries. |
| PP. Cadmium 109-Silver 109m, Cobalt 57, Cerium 139, Mercury 203, Tin 113-Indium 113m, Strontium 85, Cesium 137-Barium 137m, Yttrium 88, Cobalt 60 as a mixed radionclide standard. | PP. Point source (National Bureau of Standards mixed radionuclide gamma-ray standard Number SRM-4215-C and SRM-4216-C) | PP. Five (5) standards of each number. No single standard to exceed 10 microcuries. |
| QQ. Cadmium 109-Silver 109m, Cobalt 57, Cerium 139, Mercury 203, Tin 113-Indium 113m, Strontium 85, Cesium 137-Barium 137m, Yttrium 88, Cobalt 60 as a mixed radionclide standard. | QQ. Liquid (National Bureau of Standard mixed radionuclide gamma-ray standard Number SRM-4242-E, SRM-4243-E, and SRM-4254) | QQ. Five (5) standards of each number. No single standard to exceed 10 microcuries. |

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| RR. Cadmium 109 | RR. Sealed source (Isotope Products LABS as described in Drawing number 284 dated 7-25-77, New England Nuclear Corp. as described in Drawing number 313-269 dated 6-9-77, Monsanto Research Corp. Model 24160, Drawing number B24160-AAOO, dated 8-12-77, and The Radiochemical Centre Drawing number 3RC 10699/S, with attached General Specification dated August 1977) | RR. No single source to exceed 150 millicuries. Total not to exceed 700 millicuries. |
| SS. Thorium 230<br>Americium 241<br>Curium 244 | SS. Electro deposited composite alpha source (Isotope Products Laboratories Model AF-250C) | SS. Ten (10) sources. No single source to exceed 1 microcurie. |
| TT. Cadmium 109 | TT. Sealed source (New England Nuclear Model NER-465, NER-467, and Amersham model CUC.D1) | TT. No single source to exceed 50 millicuries. Total not to exceed 200 millicuries. |
| UU. Americium 241 | UU. Sealed source (New England Nuclear Model NER-478, NER-478C and Amersham model AMCL) | UU. No single source to exceed 50 millicuries. Total not to exceed 200 millicuries. |
| VV. Iron 55 | VV. Sealed source (New England Nuclear Model NER-460A, NER-460B, NER-462, and Amersham model IEC.D1) | VV. NO single source to exceed 50 millicuries. Total not to exceed 200 millicuries. |

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| WW. Cobalt 57 | WW. Sealed source (New England Nuclear Model NER-9021) | WW. Three (3) sources of 15 millicuries each. Total not to exceed 45 millicuries. |
| XX. Cobalt 60 | XX. Sealed source (New England Nuclear Model NES-9023, Drawing No. 180-114 or Isotope Products Model 060D) | XX. No single source to exceed 100 microcuries. |
| YY. Sodium 22 | YY. Sealed source (New England Nuclear Model NES-9071, Drawing No. 180-114 or Isotope Products Model 022D) | YY. No single source to exceed 100 microcuries. Total not to exceed 500 microcuries. |
| ZZ. Neptunium 237 | ZZ. Sealed source (custom fabricated fission foils encapsulated in either vanadium from Inter-laboratory Reaction Rate Program or aluminum from Oak Ridge National Laboratory) | ZZ. No single foil to exceed 250 microcuries. Total not to exceed 1000 microcuries. |
| AAA. Thorium 232 | AAA. Sealed source (custom fabricated fission foils encapsulated in either vanadium from Inter-laboratory Reaction Rate Program or aluminum from Oak Ridge National Laboratory) | AAA. No single foil to exceed 1 microcurie. Total not to exceed 60 microcuries. |

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| BBB. Uranium 235 | BBB. | Sealed source (custom fabricated fission foils encapsulated in either vanadium from Inter-laboratory Reaction Rate Program or aluminum from Oak Ridge National Laboratory) | BBB. No single foil to exceed 1 microcurie. Total not to exceed 60 microcuries. |
| CCC. Uranium 238 | CCC. | Sealed source (custom fabricated fission foils encapsulated in either vanadium from Inter-laboratory Reaction Rate Program or aluminum from Oak Ridge National Laboratory) | CCC. No single foil to exceed 1 microcurie. Total not to exceed 60 microcuries. |
| DDD. Germanium 68 | DDD. | Liquid sources sealed in custom phantoms or needles | DDD. No single source to exceed 5 millicuries. Total not to exceed 15 millicuries. |
| EEE. Gallium 68 | EEE. | Liquid sources sealed in custom fabricated phantoms. | EEE. 30 millicuries. |
| FFF. Radium 226 | FFF. | Sealed source (Isotope Products, Inc., Models 193, and 193T) | FFF. No single source to exceed 2 milligrams. |
| GGG. Iron 55 | GGG. | Sealed source (New England Nuclear Corp. Model NER-461A) | GGG. Three (3) sources to exceed 50 millicuries. Total not to exceed 150 millicuries. |
| HHH. Americium 241 | HHH. | Diffusion bonded to nickel (Lockhead Missles and Space Company, Inc. Drawing Number 11940) | HHH. Three (3) sources of 0.5 nanocurie each. |

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| III. Iron 55/Iron 59 | III. Ferric Oxide (Irradiated samples in sealed containers of poly-propylene doubly encapsulated in plastic vials) | III. No single source to exceed 200 microcuries. |
| JJJ. Radium 226 | JJJ. Radium Chloride dispersed in activated charcoal and sealed in a tin canister. | JJJ. No single source to exceed 20 nanocuries. |
| KKK. Radium 226 | KKK. Solution dispersed in epoxy in a beaker. | KKK. No single beaker to exceed 0.1 microcurie. |
| LLL. Americium 241 | LLL. Sealed source (Any source which has been evaluated and approved for distribution under a license issued by the State of Tennessee, the U.S. Nuclear Regulatory Commission, an Agreement State, or a Licensing State) | LLL. No single source to exceed 100 microcuries. |
| MMM. Americium 241 | MMM. Sealed Source (Isotope Products Laboratories Model GFS series or New England Nuclear Model NER-478C) | MMM. No single source to exceed 10 millicuries. Total not to exceed 20 millicuries. |
| NNN. Polonium 210 | NNN. Deposited source | NNN. No single source to exceed 0.5 microcurie. Total not to exceed 5 microcuries. |

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| OOO. Scandium 46<br>Chromium 51<br>Iron 59<br>Cobalt 60<br>Cerium 141<br>Neodymium 147<br>Europium 152<br>Ytterbium 169<br>Hafnium 181<br>Tantalum 182<br>Protactinium 233 | OOO. Irradiated geological sample | OOO. No single sample to exceed 10 microcuries. |
| PPP. Natural uranium and associated daughter products | PPP. Soil matrix and mill tailings | PPP. 50 microcuries. |
| QQQ. Americium 241<br>Curium 244<br>Plutonium 239 | QQQ. Deposited sources | QQQ. No single source to exceed 0.5 microcurie. Total not to exceed 5 microcuries. |
| RRR. Plutonium 238 | RRR. Anodized sources | RRR. No single source to exceed 0.2 microcurie. Total not to exceed 5 microcuries. |
| SSS. Mixed Gamma Standard as described in letter dated May 24, 1993 | SSS. Solution dispersed in epoxy in a beaker | SSS. No single source to exceed 3 microcuries. Total no to excceed 10 microcuries. |
| TTT. Americium 241 | TTT. Sealed source (Epoxied in a plastic tube as described in letter dated June 22, 1993, with attachments. | TTT. No single source to exceed 1 microcurie. Total no to exceed 15 microcuries. |
| UUU. Iron 55 | UUU. Sealed source (Dupont Merck Pharmaceutical model NER 461A) | UUU. No single source to exceed 100 millicuries.Total not to exceed 200 millicuries. |

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|---|---|---|
| VVV. Mixed gamma (Cd-109, Co-57, Ce-139, Hg-203, Sn-113, Cs-137, Y-88, Co-60) + Am-241 standard as provided by Analytics, Inc. | VVV. Solution dispersed in epoxy. | VVV. No single source to exceed 15 microcuries. Total not to exceed 50 microcuries. |
| WWW. Cadmium 109 | WWW. Sealed source (Amersham Model CUC.D1, Product Code CUCQ9215) | WWW. No single source to exceed 10 millicuries. Total not to exceed 20 millicuries. |
| XXX. Cobalt 57 | XXX. Sealed source (Amersham Model CTC.D1, Product Code CTC4) | XXX. No single source to exceed 10 millicuries. Total no to exceed 20 millicuries. |

10. Authorized use

A. through G. Instrument test, calibration, research and development, evaluation of electronic components and systems, and distribution to authorized users.

H. through M. Study and investigation of density measurements of cryogenic liquids.

N. and O. To be used for testing and calibration of instruments and redistribution to authorized recipients.

P. To be used in testing fission fragment detectors.

Q. To be used for instrument calibration.

R. For distribution to authorized recipients.

S. To be used in x-ray thickness gauges in ORTEC detector testing laboratory.

T. through W. To be used as a flourescent x-ray source in demonstrating ORTEC x-ray spectrometer systems.

X. Instrument test, calibration, research and development, demonstration and evaluation of electronic components and systems.

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Y. To be used as a flourescent x-ray source in demonstrating ORTEC x-ray spectrometer systems.

Z. For evaluation of electronics components developed for use with solid state detectors.

AA. through FF. To be used for testing and calibration of instruments and distribution to licensed recipients.

GG. through II. To be used for testing and calibration of instruments.

JJ. and KK. For evaluation of electronic components developed for use with solid state detector.

LL. To be used as a flourescent x-ray source in demonstating ORTEC x-ray spectrometer systems.

MM. To be used to evaluate solid state spectrometer systems.

NN. and OO. To be used for evaluation and testing of solid state detectors and associated electronic components.

PP. and QQ. Standards used for use in testing and calibration of Ortec Analytical Systems.

RR. Instrument test, calibration, research and development, evaluation of electronic components and systems, and distribution to authorized users. The loading of any single instrument with radioactive material authorized by Item RR. of this license shall not exceed 150 millicuries.

SS. To be used to calibrate ORTEC alpha spectometer systems.

TT. through VV. To be used in Source Excited Flourescence Analyzer (SEFA Model 6122), in accordance with statements, representations, and procedures contained in letter dated January 25, 1978, with attachments.

WW. To be used in accordance with statements, representations, and procedures contained in letter dated March 28, 1978.

XX. and YY. To be used for testing and calibration of instruments.

ZZ. through CCC. To be received for counting in accordance with letter dated January 15, 1979, with attachments.

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DDD. For use in calibration of the ORTEC Emission Computerized Axial Tomographic (ECAT) Whole Body Scanner in accordance with letter dated August 18, 1977. This authorization does not include the performance of wet lab work with this radioactive material.

EEE. For use in calibration of the ORTEC Emission Computerized Axial Tomographic (ECAT) Whole Body Scanner in accordance with letter dated November 8, 1979. This authorization does not include the performance of wet lab work with this radioactive material.

FFF. To be used for testing and calibration of instruments.

GGG. Standardization of X-ray spectrometers.

HHH. For incorporation into EG & G Ortec surface barrier detectors incorporated into CRRES telescopes.

III. To be received for purposes of analysis in order to perform experiments and develop applications for neutron activation analysis and gamma and x-ray spectroscopy.

JJJ. and KKK. To be used as a calibration standard for use in testing and calibration of EG & G Ortec Analytical Systems. This authorization does not allow the manufacture or distribution of this radioactive material.

LLL. To be used for the testing and calibration of germanium gamma spectroscopy systems.

MMM. To be used in research and development of Germanium solid state gamma ray detectors.

NNN. To be used for the testing and calibration of instruments, the evaluation of electronic components, or the calibration of survey meters of analyzers.

OOO. To be used for sample analysis, the testing and calibration of instruments, the evaluation of electronic components, or the calibration of survey meters or analyzers.

PPP. To be used for instrument and sample evaluation.

QQQ. and RRR. To be used for the testing and calibration of instruments, the evaluation of electronic components, the calibration of survey meters or analyzers specifically requiring the use of this source for such tests.

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SSS. and TTT. To be used for the testing and calibration of instruments, the evaluation of electronic components, the calibration of survey meters or analyzers specifically requiring the use of this source for such tests.

UUU. To be used for the testing and calibration of instruments, specifically requiring the use of this source for such tests.

VVV. To be used for the testing and calibration of instruments, the evaluation of electronic components, the calibration of survey meters or analyzers specifically requiring the use of this source for such tests.

WWW. To be used for the development, testing, and calibration of instruments reqiring the use of this source for such tests.

XXX. To be used for the development, testing, and calibration of instruments requiring the use of this source for such tests.

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Conditions (continued)

12. The licensee shall comply with applicable provisions of 1200-2-4, 1200-2-5, and 1200-2-10 of "State Regulations for Protection Against Radiation."

13. A. Radioactive material authorized by this license shall be used by, or under the supervision of, David Watkins, Rex Trammel, Ron Keyser, Craig Johnson, or Richard A. Bly.

    B. The Radiation Safety Officer for this license is David Watkins.

14. Radioactive material authorized by this license may be used at 801 S. Illinois Avenue, 100 Midland Avenue, 102 Midland Avenue, 104 Midland Avenue, 295 Midway Road, located in Oak Ridge, Tennessee, and may be used by ORTEC personnel or representatives at temporary sites throughout the State of Tennessee. Also, in accordance with letter dated January 11, 1989, EG & G Ortec is authorized to ship and receive radioactive material at EG & G Ortec Instruments, 299 Midway Road, Oak Ridge, Tennessee, 37831. (This condition does not prohibit use in other states under reciprocity privileges which may be granted by the regulatory agency having jurisdiction.)

15. 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:

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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 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."

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 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.

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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 the licensee in accordance with letter dated July 1995, with attachments, or by persons specifically licensed by this Department, the U. S. Nuclear Regulatory Commission, an Agreement State, or Licensing State to perform such services.

17. When not in use, the sources authorized in Item SS. shall be stored in a closed container adequately designed and constructed to contain alpha emitting material which might otherwise escape during storage. The inside of this storage container should be checked from time to time for loose activity.

18. 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 fo beta and/or gamma emitting material or 10 micorcuries or less of alpha emitting material.

19. The licensee shall not open or remove sealed sources containing radioactive material.

20. The licensee is authorized to receive, possess, and use any radioactive material distributed under a general license, issued by the U.S. Nuclear Regulatory Commission, or another Agreement State, without being specifically referenced in Items 6, 8, 9, and 10 of this license. Notwithstanding any other conditions of this license, the general licensee may possess and use radioactive material received under the provisions of "State Regulations for Protection Against Radiation," 1200-2-10 in accordance with the regulations and requirements provided at the time of the transfer of the radioactive material under the terms of the general license.

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.

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

AMENDMENT 68

SUPPLEMENTARY SHEET

 License Number R-01003-G00

22. Shipments of plutonium by air regardless of quantity, may only be made in packages, the design which has been specifically approved by the U.S. Nuclear Regulatory Commission for transport of plutonium by air.

23. 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.

24. The licensee shall make disposal of all radioactive waste material (radioactive material no longer useful for any purpose and any equipment or supplies contaminated with radioactive material for which further use and decontamination is not planned) prior to September 30, 1995. The exceptions to this requirement are as follows:

    1. Radioactive waste material with a half-life of sixty-five days or less and which is being held in storage for decay may be retained until disposal as non-radioactive material is appropriate.

    2. Radioactive waste material which has been designated by another condition of this license for a timetable of disposal is authorized to be disposed of in accordance with the schedule which has been approved.

25. 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 application dated November 29, 1994, with attachments, letters dated April 3, 1995, and July 1995, with attachments.

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(9-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

Amendment 69

Page 1 of 2 Pages License Number R-01003-G00

EG&G Instruments
801 S. Illinois Avenue
Oak Ridge, TN 37830

Attention: David Watkins, RSO

Gentlemen:

In accordance with the attached U. S. Nuclear Regulatory Commission document "Recommended Procedures for Licensees to Obtain Jurisdiction Determinations," your Tennessee Radioactive Material License number R-01003-G00 is amended as follows:

To change Condition 14. This condition will now read as follows:

14. Radioactive material authorized by this license may be used at 801 S. Illinois Avenue, 100 Midland Avenue, 102 Midland Avenue, 104 Midland Avenue, 295 Midway Road, located in Oak Ridge, Tennessee, and may be used by ORTEC personnel or representatives at temporary sites, in areas not under exclusive Federal jurisdiction, throughout the State of Tennessee. Also, in accordance with letter dated January 11, 1989, EG & G Ortec is authorized to ship and receive radioactive material at EG & G Ortec Instruments, 299 Midway Road, Oak Ridge, Tennessee, 37831.

    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 an 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.

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

Amendment 69



License Number R-01003-G00

All other parts of this license remain unchanged.
Date April 4, 1996

For the Commissioner
Tennessee Department of
Environment and Conservation

By Ronald E. Wynn
Ronald E. Wynn
Health Physicist
Division of Radiological Health

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(9-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

Amendment 70

Page 1 of 2 Pages License Number R-01003-G00

EG&G Instruments
801 S. Illinois Avenue
Oak Ridge, TN 37830

Attention: David Watkins, RSO

Gentlemen:

As requested by David Watkins and in accordance with his letters dated July 1, 1996, and July 17, 1996, with attachments, your Tennessee Radioactive Material License Number R-01003-G00 is amended as follows:

To add:

| 6. Radioactive Material (Element and Mass Number) | 8. Chemical and/or Physical Form | 9. Maximum Radioactivity and/or Quantity Material Which Licensee May Possess at Any One Time |
|---|---|---|
| YYY. Californium 252 | YYY. Sealed source (Frontier Technology Corporation Model 100 Series) | YYY. No single source to exceed 3 millicuries. Total not to exceed 3 millicuries. |
| ZZZ. Activation products | ZZZ. As necessary for the uses authorized in Item 10.ZZZ. | ZZZ. As necessary for the uses authorized in Item 10.ZZZ. |

10. Authorized use

YYY. To be used to test and calibrate systems using a Prompt Gamma Neutron Activation Analysis (PGNAA) technique specifically requiring the use of this source for such tests in accordance with letter dated July 17, 1996, with attachments.

ZZZ. For the purposes authorized in Item 10. YYY. and as by-products of the uses authorized in Item 10. YYY in accordance with letter dated July 17, 1996, with attachments.

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

Amendment 70

 License Number R-01003-G00

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To change Condition 25. This condition will now read as follows:

25. 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 application dated November 29, 1994, with, attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, and July 17, 1996, with attachments.

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All other parts of this license remain unchanged.

Date July 18, 1996

For the Commissioner
Tennessee Department of
Environment and Conservation

By Charles Arnott

Charles Arnott
Health Physicist
Division of Radiological Health

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(9-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

**Amendment 71**

 **License Number R-01003-G00**

EG&G Instruments
801 S. Illinois Avenue
Oak Ridge, TN 37830

Attention: David Watkins, RSO

Gentlemen:

As requested by David Watkins and in accordance with his letter dated March 19, 1999, your Tennessee Radioactive Material License number R-01003-G00 is amended as follows:

To add:

| 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 |
|---|---|---|
| AAAA. Plutonium 238 | AAAA. Liquid (10 ml nitric acid solution) | AAAA. No single source to exceed 20 nanocuries. Total 40 nanocuries |
| BBBB. Gadolinium 148 | BBBB. Liquid (10 ml hydrochloric acid solution) | BBBB. No single source to exceed 2 nanocuries. Total 4 nanocuries |

10. Authorized use

AAAA. and BBBB. To be used in a research and development project for the application of solution to "dope" a germanium detector. A survey shall be performed of the project area to confirm the absence of any radioactive material contamination. The detector and any excess radioactive material originally supplied by the customer shall be transferred only to persons specifically licensed by the Department, U.S. Nuclear Regulatory Commission, an Agreement State, or to an Agency of the Federal Government that has been exempted from licensing regulation by Federal law.

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

Amendment 71

 License Number R-01003-G00

To change Condition 25. This condition will now read as follows:

25. 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 application dated November 29, 1994, with attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, July 17, 1996, with attachments, and March 19, 1999.

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**All other parts of this license remain unchanged.**
**Date March 22, 1999**

**For the Commissioner**
**Tennessee Department of**
**Environment and Conservation**

**By** Johnny C. Graves

**Johnny C. Graves**
**Licensing, Registration, Planning Manager**
**Division of Radiological Health**

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

**Amendment 72**

Page 1 of 2 Page License Number R-01003-G00

EG&G Instruments
801 S. Illinois Avenue
Oak Ridge, TN 37830

Attention: David Watkins, RSO

Gentlemen:

As requested by David Watkins and in accordance with his letter dated March 24, 1999, your Tennessee Radioactive Material License number R-01003-G00 is amended as follows:

To add:

| 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 |
|---|---|---|
| CCCC. Cadmium 109 | CCCC. Sealed Source (Cyclotron Co., LTD./ Russia, Model GK57.BT2) | CCCC. One (1) source not to exceed 30 millicuries |

10. Authorized use

CCCC. To be used in a one time research and development project to evaluate a digital spectroscopy system using ORTEC's second generation digital spectroscopy system. The Radiation Safety Officer shall prepare a radiation safety plan for the handling of this project and shall assure its implementation during the course of the project. The source shall be returned to its previously licensed possessor upon completion of the project.

To change Condition 25. This condition will now read as follows:

25. 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 application dated November 29, 1994, with attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, July 17, 1996, with attachments, March 19, 1999, and March 24, 1999.

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

Amendment 72

 License Number R-01003-G00

All other parts of this license remain unchanged.
Date March 25, 1999

For the Commissioner
Tennessee Department of
Environment and Conservation

By Johnny C. Graves
Johnny C. Graves
Licensing, Registration, Planning Manager
Division of Radiological Health

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

**Amendment 73**

**Page 1 of 1 Page** **License Number R-01003-G00**

PerkinElmer Instruments
801 South Illinois Avenue
Oak Ridge, Tennessee 37830

Attention: David Watkins, Radiation Safety Officer

Gentlemen:

As requested by David Watkins and in accordance with his letter dated December 27, 1999, your Tennessee Radioactive Material License number R-01003-G00 is amended as follows:

To change Item 1 and Condition 25. This item and this condition will now read as follows:

1. PerkinElmer Instruments

25. 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 application dated November 29, 1994, with attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, July 17, 1996, with attachments, March 19, 1999, March 24, 1999, and December 27, 1999.

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**All other parts of this license remain unchanged.**
**Date: January 28, 2000**

**For the Commissioner**
**Tennessee Department of**
**Environment and Conservation**

**By** _____
**Gerald W. Bacon**
**Health Physicist**
**Division of Radiological Health**

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

**Amendment 74**

**Page 1 of 1 Page** **License Number R-01003-G05**

PerkinElmer Instruments
801 South Illinois Avenue
Oak Ridge, Tennessee 37830

Attention: David Watkins, Radiation Safety Officer

Gentlemen:

Your Tennessee Radioactive Material License number R-01003-G00 is amended as follows:

To change Items 3 and 4. These items will now read as follows:

3. R-01003-G05

4. July 31, 2005

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**All other parts of this license remain unchanged.**
**Date: February 8, 2000**

**For the Commissioner**
**Tennessee Department of**
**Environment and Conservation**

By _____
**Solomon M. Sahle**
**Health Physicist**
**Division of Radiological Health**

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

**Amendment 75**

**Page 1 of 2 Pages** **License Number R-01003-G05**

PerkinElmer Instruments
801 South Illinois Avenue
Oak Ridge, TN 37830

Attention: David Watkins, Radiation safety Officer

Gentlemen:

As requested by David Watkins and in accordance with his letter dated February 28, 2000, your Tennessee Radioactive Material License number R-01003-G05 is amended as follows:

To add:

| 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 |
|---|---|---|
| DDDD. Uranium 235 Standard | DDDD. 8.5" x 11" filter paper with dried uranium solution sandwiched and sealed between 1/16" plastic sheets. A heat sealed plastic cover completes the standard. Custom standards to be fabricated at the DOE Y-12 Oak Ridge Facility. | DDDD. No single source to exceed 0.71 % U-235 and 50 grams of uranium. Total not to exceed 200 grams of uranium. |
| EEEE. Uranium 235 Standard | EEEE. 8.5" x 11" filter paper with dried uranium solution sandwiched and sealed between 1/16" plastic sheets. A heat sealed plastic cover completes the standard. Custom standards to be fabricated at the DOE Y-12 Oak Ridge Facility. | EEEE. No single source to exceed 2.0 % U-235 and 20 grams of uranium. Total not to exceed 40 grams of uranium. |
| FFFF. Uranium 235 Standard | FFFF. 8.5" x 11" filter paper with dried uranium solution sandwiched and | FFFF. No single source to exceed 5.0 % U-235 and 10 grams of uranium. |

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

**Amendment 75**



| | | |
|---|---|---|
| | sealed between 1/16" plastic sheets. A heat sealed plastic cover completes the standard. Custom standards to be fabricated at the DOE Y-12 Oak Ridge Facility. | Total not to exceed 20 grams of uranium. |
| GGGG. Uranium 235 Standard | GGGG. 8.5" x 11" filter paper with dried uranium solution sandwiched and sealed between 1/16" plastic sheets. A heat sealed plastic cover completes the standard. Custom standards to be fabricated at the DOE Y-12 Oak Ridge Facility. | GGGG. No single source to exceed 10.0 % U-235 and 10 grams of uranium. Total not to exceed 20 grams of uranium. |

10. Authorized use

DDDD. through GGGG. To be used for calibration of measurement systems using gamma ray spectroscopy.

To change Condition 25. This condition will now read as follows:

25. 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 application dated November 29, 1994, with attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, July 17, 1996, with attachments, March 19, 1999, March 24, 1999, December 27, 1999, and February 28, 2000.

**All other parts of this license remain unchanged.**
**Date March 3, 2000**

**For the Commissioner**
**Tennessee Department of**
**Environment and Conservation**

**By** Charles Arnott
**Charles Arnott**
**Health Physicist**
**Division of Radiological Health**

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

## Amendment 76

 License Number R-01003-G05

Advanced Measurement Technology (AMETEK)
801 South Illinois Avenue
Oak Ridge, Tennessee 37830

Attention: David Watkins, Radiation Safety Officer

Gentlemen:

In accordance with your letters dated January 7, 2002, with attachments, and January 15, 2002, with attachment, your Tennessee Radioactive Material License number R-01003-G05 is amended as follows:

To add Condition 26. This condition will read as follows:

26. In addition to the addresses in Condition 14, the licensee is authorized to use and store radioactive material at 102 Midland Road and 295 Midland Road, until the move to the new locations have been completed and a survey of use and storage areas shows that no sources and/or contamination remains. A record of this survey shall be maintained and a copy submitted to the Department.

To change Item 1 and Conditions 13, 14, and 25. This item and these conditions will now read as follows:

1. Advanced Measurement Technology (AMETEK)

13. A. Radioactive material authorized by this license shall be used by, or under the supervision of, David Watkins, Rex Trammell, or Ron Keyser.

B. The Radiation Safety Officer for this license is David Watkins.

14. Radioactive material authorized by this license may be used at 801 S. Illinois Avenue, and 104 Midland Road, located in Oak Ridge, Tennessee, and may be used by Advanced Measurement Technology (AMETEK) personnel or representatives at temporary sites, in areas not under exclusive Federal jurisdiction, throughout the State of Tennessee. Also, in accordance with letter dated January 11, 1989, Advanced Measurement Technology (AMETEK) is authorized to ship and receive radioactive material at Advanced Measurement Technology (AMETEK), 801 S. Illinois Avenue, Oak Ridge, Tennessee, 37830.

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 an NRC Form-241 in accordance

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

**Amendment 76**



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.

25. 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 application dated November 29, 1994, with attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, July 17, 1996, with attachments, March 19, 1999, March 24, 1999, December 27, 1999, February 28, 2000, January 7, 2002, with attachments, and January 15, 2002, with attachment.

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**All other parts of this license remain unchanged.**
**Date: January 24, 2002**

**For the Commissioner**
**Tennessee Department of**
**Environment and Conservation**

**By** _____

**Ronald J. Parsons**
**Health Physicist**
**Division of Radiological Health**

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

## Amendment 77

Page 1 of 1 Page

License Number R-01003-G05

Advanced Measurement Technology (AMETEK)
801 South Illinois Avenue
Oak Ridge, Tennessee 37830

Attention: David Watkins, Radiation Safety Officer

Gentlemen:

As requested by David Watkins and in accordance with his letter dated April 4, 2002, with attachment, your Tennessee Radioactive Material License number R-01003-G05 is amended as follows:

To delete Condition 26. This condition is hereby deleted.

To change Condition 25. This condition will now read as follows:

25. 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 application dated November 29, 1994, with attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, July 17, 1996, with attachments, March 19, 1999, March 24, 1999, December 27, 1999, February 28, 2000, January 7, 2002, with attachments, January 15, 2002, with attachment, April 4, 2002, with attachment.

**All other parts of this license remain unchanged.**
**Date: April 12, 2002**

**For the Commissioner**
**Tennessee Department of**
**Environment and Conservation**

**By** _____

**Ronald J. Parsons**
**Health Physicist**
**Division of Radiological Health**

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

**Amendment 78**

**Page 1 of 2 Pages** **License Number R-01003-G05**

Advanced Measurement Technology (AMETEK)
801 South Illinois Avenue
Oak Ridge, TN 37830

Attention: David Watkins, Radiation safety Officer

Gentlemen:

As requested by David Watkins and in accordance with his letter dated August 14, 2002, with attachments, your Tennessee Radioactive Material License number R-01003-G05 is amended as follows:

To add:

| 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 |
|---|---|---|
| HHHH. Gamma emitting radionuclides | HHHH. Solid Sealed Sources | HHHH. No single source to 10 microcuries. Total not exceed 100 microcuries. |

10. Authorized use

HHHH. To be used in an intercomparison study to produce an estimate of the accuracy and precision of low-level waste measurement techniques.

To change Condition 25. This condition will now read as follows:

25. 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 application dated November 29, 1994, with attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, July 17, 1996, with attachments, March 19, 1999, March 24, 1999, December 27, 1999, February 28, 2000, January 7, 2002, with attachments, January 15, 2002, with attachment, April 4, 2002, with attachment, and August 14, 2002, with attachments.

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

Amendment 78



License Number R-01003-G05

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All other parts of this license remain unchanged.
Date August 23, 2002

For the Commissioner
Tennessee Department of
Environment and Conservation

By _____
Ronald J. Parsons
Health Physicist
Division of Radiological Health

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

## Amendment 79

 License Number R-01003-G05

Advanced Measurement Technology (AMETEK)
801 South Illinois Avenue
Oak Ridge, TN 37830

Attention: David Watkins, Radiation Safety Officer

Gentlemen:

As requested by David Watkins and in accordance with his letter dated December 5, 2003, your Tennessee Radioactive Material License number R-01003-G05 is amended as follows:

To change Items 9.XX., 9.FFF., 9.III., 9.LLL., and 9.ZZZ., and Condition 25. These items and this condition will now read as follows:

9.XX. One source not to exceed 200 microcuries.

9.FFF. One source not to exceed 3 millicuries.

9.III. One source not to exceed 200 millicuries.

9.LLL. Total not to exceed 200 microcuries.

9.ZZZ. Total not to exceed 100 millicuries.

25. 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 application dated November 29, 1994, with attachments, and letters dated April 3, 1995, July 1995, with attachments, July 1, 1996, July 17, 1996, with attachments, March 19, 1999, March 24, 1999, December 27, 1999, February 28, 2000, January 7, 2002, with attachments, January 15, 2002, with attachment, April 4, 2002, with attachment, and August 14, 2002, with attachments.

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF RADIOLOGICAL HEALTH

# RADIOACTIVE MATERIAL LICENSE

Amendment 79



License Number R-01003-G05

All other parts of this license remain unchanged.
Date December 12, 2003

For the Commissioner
Tennessee Department of
Environment and Conservation

By Charles Arnott

Charles Arnott
Health Physicist
Division of Radiological Health