Weyerhaeuser
Grayling Structurwood®

4111 West Four Mile Road
Grayling, MI 49738
Tel (517) 348 2881

United States
Nuclear Regulatory Commission
Attention: Materials Licensing Branch Chief
Region III
2443 Warrenville road
Lisle, IL 60532-4351

**Subject: Requested Amendment, License #21-20351-01**

**To: Materials Licensing Branch Chief**

**Please amend our license #21-20351-01 to reflect the following changes. (See attachment)**

**Remove 6 – B and 9-B from our license. Due to the Spectro Model number 200 Serial #5157 nuclear sources curium-244 has been sent back to the Manufacturer. We have reflected this in our yearly General Licensee registration.**

**Add to 12 - A. Kathi Moss as a license (RSO) back up. Attached is a copy of her certificate of completion and a course outline. Kathi will also be training with me to gain hands on experience.**

**Change line 13 – B to read not to exceed 6 months instead of 3 months. When we had our last Compliance inspection by Mr. Robert P. Hays, Radiation Specialist, Division of Nuclear Materials Safety. He pointed out that per attached registry we had to complete leak test every 6 months for our LFE gauge. He suggested next time we request an amendment to request the change.**

**Sincerely,**

**John A. Sinnaeve**
**Safety and training Director**
**(989) 348-3455**
**Fax (989) 348-8226**

RECEIVED MAY 2 9 2007

NRC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION



Amendment No. 07

# MATERIALS LICENSE

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

| Licensee | In accordance with the letter dated **November 12, 2004,** |
|---|---|
| 1. Weyerhaeuser Company | 3. License number 21-20351-01 is **amended** in its entirety to read as follows: |
| 2. 4111 West Four Mile Road<br>Grayling, MI 49738 | 4. Expiration date September 30, 2013 |
| | 5. Docket No. 030-18287<br>Reference No. |

| 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount that licensee may possess at any one time under this license |
|---|---|---|
| A. Americium-241 | A. Sealed sources registered either with NRC under 10 CFR 32.210 or with an Agreement State and incorporated in a compatible gauging device specified in Item 9 of this license | A. No single source to exceed the maximum activity specified in the certificate of registration issued by NRC or an Agreement State |
| **B. Curium-244** | **B. Sealed sources registered either with NRC under 10 CFR 32.210 or with an Agreement State and incorporated in a compatible gauging device as specified in Item 9 of this license** | **B. No single source to exceed the maximum activity specified in the certificate of registration issued by NRC or an Agreement State** |

9. Authorized use:

A. To be used in LFE Corporation Model No. SU-S3 Model source holder for density measurement.

**A. and B. To be used in SPECTRO Analytical Instruments, Inc., Model 200 series x-ray fluorescence analyzer head for elemental analysis of process materials.**

## CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at 4111 West Four Mile Road, Grayling, Michigan.

11. Licensed material shall be used by, or under the supervision of individuals who have received the training described in the facsimile message dated August 29, 2003. The licensee shall maintain records of individuals designated as users for 3 years following the last use of licensed material by the individual.

**MATERIALS LICENSE**
**SUPPLEMENTARY SHEET**

License Number
21-20351-01

Docket or Reference Number
030-18287

Amendment No. 07

12. A. The Radiation Safety Officer (RSO) for this license is **John A. Sinnaeve**. Backup is Kath. Moss

B. Before assuming the duties and responsibilities as RSO for this license, future RSOs shall have successfully completed one of the training courses described in Criteria in Section 8.7.1 of NUREG-1556, Volume 4, dated October 1998.

13. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State.

B. Notwithstanding Paragraph A of this condition, sealed sources designed to primarily emit alpha particles shall be tested for leakage and/**or contamination at intervals not to exceed 6 months.**

C. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.

D. Sealed sources need not be tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material.

E. Sealed sources need not be tested if they are in storage and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

F. The leak test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the appropriate U.S. Nuclear Regulatory Commission, Regional Office referenced in Appendix D of 10 CFR Part 20. The report shall specify the source involved, the test results, and corrective action taken.

G. Tests for leakage an/or contamination, limited to leak test sample collection shall be performed by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services. The licensee is not authorized to perform the analysis. Analysis of leak test samples must be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

H. Records of leak test results shall be kept in units of microcuries and shall be maintained for 3 years.

**MATERIALS LICENSE**
**SUPPLEMENTARY SHEET**

License Number
21-20351-01

Docket or Reference Number
030-18287

Amendment No. 07

14. Sealed sources containing licensed material shall not be opened or sources removed from source holders by the licensee, except as specifically authorized.

15. The licensee shall conduct a physical inventory every 6 months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sealed sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory, and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.

16. A. Each gauge shall be tested for the proper operation of the on-off mechanism (shutter) and indicator, if any, at intervals not to exceed 6 months or at such longer intervals as specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or the equivalent regulations of an Agreement State.

    B. Notwithstanding the periodic on-off mechanism (shutter) and indicator test, the requirement does not apply to gauges that are stored, not being used, and have the shutter lock mechanism in a locked position. The gauges exempted from this periodic test shall be tested before use.

17. The following services shall not be performed by the licensee: installation, initial radiation surveys, relocation, removal from service, dismantling, [redacted] replacement, disposal of the sealed source and non-routine maintenance or repair of components related to the radiological safety of the gauge (i.e., the sealed source, the source holder, source drive mechanism, on-off mechanism (shutter), shutter control, shielding). These services shall be performed only by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

18. The licensee may initially mount a gauge if permitted by the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State and under the following conditions:

    A. the gauge must be mounted in accordance with written instructions provided by the manufacturer;

    B. the gauge must be mounted in a location compatible with the "Conditions of Normal Use" and "Limitations and/or Other Considerations of Use" in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State;

    C. the on-off mechanism (shutter) must be locked in the off position, if applicable, or the source must be otherwise fully shielded;

    D. the gauge must be received in good condition (i.e., package was not damaged); and

    E. the gauge must not require any modification to fit in the proposed location.

    Mounting does not include electrical connection, activation or operation of the gauge. The source must remain fully shielded and the gauge may not be used until it is installed and made operational by a person specifically licensed by the U.S. Regulatory Commission or an Agreement State to perform such operations.

**MATERIALS LICENSE**
**SUPPLEMENTARY SHEET**

License Number
21-20351-01

Docket or Reference Number
030-18287

Amendment No. 07

19. A. The licensee may maintain, repair, or replace device components that are not related to the radiological safety of the device containing byproduct material and that do not result in the potential for any portion of the body to come into contact with the primary beam or in increased radiation levels in accessible areas.

    B. The licensee may not maintain, repair, or replace any of the following device components: the sealed source, the source holder, source drive mechanism, on-off mechanism (shutter), shutter control, or shielding, or any other component related to the radiological safety of the device, except as provided otherwise by specific condition of this license.

20. Prior to initial use and after installation, relocation, dismantling, alignment, or any other activity involving the source or removal of the shielding, the licensee shall assure that a radiological survey is performed to determine radiation levels in accessible areas around, above, and below the gauge with the shutter open. This survey shall be performed only by persons authorized to perform such services by the U.S. Regulatory Commission or an Agreement State.

21. The licensee shall operate each device containing licensed material within the manufacturer's specified temperature and environmental limits such that the shielding and shutter mechanism of the source holder are not compromised.

22. The licensee shall assure that the shutter mechanism of each device is locked in the closed position during periods when a portion of an individual's body may be subject to the direct radiation beam. The licensee shall review and modify, as appropriate, its "lock-out" procedures whenever a new device is obtained to incorporate the device manufacturer's recommendations.

23. Except for maintaining labeling as required by 10 CFR Part 20, or 71, the licensee shall obtain authorization from the U.S. Nuclear Regulatory Commission before making any changes in the sealed source, device or source-device combination that would alter the description or specifications as indicated in the respective certificate of registration issued either by the Commission pursuant to 10 CFR 32.210 or by an Agreement State.

24. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.

25. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

**MATERIALS LICENSE**
**SUPPLEMENTARY SHEET**

License Number
21-20351-01

Docket or Reference Number
030-18287

Amendment No. 07

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

A. Application dated May 29, 2003; and

B. Facsimile Messages dated August 29, 2003, and September 18, 2003.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date FEB 0 8 2005

By _____
Colleen Carol Casey
Materials Licensing Branch
Region III

# Radiation Safety & Control Services, Inc.

*Awards this certificate to*

# Kathi Moss

*in recognition of satisfactory completion of our 40-hour*

## Radiation Safety Officer Training Course

Lake Buena Vista, Florida

March 5 - 9, 2007

Frederick P. Straccia, CHP

James P. Tarzia, CHP

This course has been approved for 40, Category A, CE credits (reference number NHZ0183001) by the ASRT Dept. of Education.

NOTE: This class satisfies the Department of Transportation requirements listed in Title 49 CFR parts 172 subpart H and expires three years from the date listed above.

# Radiation Safety Officer Training Course Outline:
# RSCS Inc.

- Math Review
  - Basic Definitions and Operations
  - Problem Solving
  - Graphical Analysis
  - Powers
  - Scientific Notation
  - Exponentials and Logarithms
- Nuclear Physics Review
  - Atomic Structure
  - Nucleus
  - Fundamental Properties
    - Mass, Charge, Energy, Force
    - Electrical & Chemical
  - Nuclear Force
- Radiation & Radioactivity
  - Radiation
    - Definition
    - Types of Radiation
  - Radioactivity
    - Definition
    - Units of Measure
    - Half Life & Decay Law
  - Interaction of Radiation with Matter
    - Penetrating Radiation
    - Non-Penetrating Radiation
      - Charged Particle Interactions
      - Coulomb Forces
      - Radiative Losses
    - Gamma & X-Ray Interactions
      - Photoelectric Effect
      - Compton Scattering
      - Pair Production
- Radiation Exposure and Dose
  - Fundamental Concepts
    - Exposure
    - Absorbed Dose
    - Dose Equivalent
    - Total Effective Dose Equivalent, TEDE
    - Committed Effective Dose Equivalent, CEDE
    - Deep Dose Equivalent, DDE

# Radiation Safety Officer Training Course Outline:
# RSCS Inc.

- Contamination Measurements
  - Direct Methods (Friskers)
  - Indirect Methods
  - Swipes
  - Laboratory Instruments
- Operational Radiation Safety
  - Organization
  - Facility Design
  - Radiation Safety Program Goals
    - General Public
    - Radiation Workers
    - ALARA
  - Requirements
  - Annual Radiation Protection Program Audits
- Planning for Emergencies
  - Nature of Radiation Accidents
  - Planning for Radiation Accidents
    - Types of Accidents
    - Planning Criteria
  - Responding to Accidents
  - The Role of Federal, State, and Local Agencies
  - General Rules for Health Physicists and RSOs
- Regulations Pertaining to Radiation Protection
  - NRC/Agreement States - License Requirements
    - 10CFR20
    - 10CFR19
  - DOT - Transportation Requirements
  - EPA - Environmental/Effluent Considerations
- Transportation of Radioactive Material
  - Regulatory Agencies
  - Title 49 - Department of Transportation
    - 49 CFR 171: General Information
    - 49 CFR 172: Hazmat Tables
    - 49CFR 173: Reqts for shippers
    - 49 CFR 177: Public Highway
  - Title 10 - Nuclear Regulatory Commission
    - 10 CFR 71: Packaging of RAM
  - Title 39 - U.S. Postal Service
    - US Postal Service Publication #6

# Radiation Safety Officer Training Course

**COURSE SCHEDULE**

Radiation Safety & Control Services, Inc

Monday

| | |
|---|---|
| 8:00am | Introduction and Course Objectives |
| 9:15am | Math Review |
| 10:00am | *Break* |
| 10:15am | Nuclear Physics Review |
| 12:00pm | *Complimentary Lunch* |
| 1:00pm | Radiation and Radioactive Material |
| 2:30pm | *Break* |
| 2:45pm | Interaction of Radiation With Matter |
| 5:00pm | *Social Hour* |

Tuesday

| | |
|---|---|
| 8:00am | Interaction of Radiation with Matter |
| 10:00am | *Break* |
| 10:15am | Radiation Exposure and Dose |
| 12:00pm | *Lunch* |
| 1:00pm | Biological Effects of Radiation |
| 2:30pm | *Break* |
| 2:45pm | Radiological Hazards |
| 5:00pm | Break |
| 7:00pm | **Optional** - Special Topics in Radiation Protection |
| 9:00pm | *Class Ends* |

Wednesday

| | |
|---|---|
| 8:00am | Radiological Hazards |
| 10:00am | *Break* |
| 10:15am | Radiological Hazards |
| 12:00pm | *Lunch* |
| 1:00pm | Principals of Radiation Detection |
| 2:30pm | *Break* |
| 2:45pm | Principals of Radiation Detection |
| 5:00pm | *Class Ends* |

Thursday

| | |
|---|---|
| 8:00am | Operational Radiation Safety Program |
| 10:00am | *Break* |
| 10:15am | Operational Radiation Safety Program |
| 12:00pm | *Lunch* |
| 1:00pm | Operational Radiation Safety Program |
| 2:30pm | *Break* |
| 2:45pm | Planning For Emergencies |
| 5:00pm | Break |
| 7:00pm | **Optional** - Special Topics in Radiation Protection |
| 9:00pm | *Class Ends* |

Friday

| | |
|---|---|
| 8:00am | Nuclear Regulatory Commission Regulations |
| 10:00am | *Break* |
| 10:15am | Transportation of Radioactive Material |
| 12:00pm | *Class Commencement* |

# Radiation Safety & Control, Inc.

## Radiation Safety Officer Training Course

## Formal NRC Radiation Safety Training Equivalent Hours

| | TRAINING CATEGORY | I | II | III | IV |
|---|---|---|---|---|---|
| **Monday** | Introduction and Course Objectives | | 0.75 | | |
| | Math Review | | | 1.00 | |
| | Nuclear Physics Review | 1.00 | | 0.75 | |
| | Radiation and Radioactive Material | 1.00 | | 0.75 | |
| | Interaction of Radiation With Matter | 1.75 | | 1.00 | |
| **Tuesday** | Interaction of radiation with Matter (con't) | 2.25 | | | |
| | Radiation Exposure and Dose | | 1.00 | 0.75 | |
| | Biological Effects of Radiation | | | | 1.75 |
| | Radiological Hazards | | 1.00 | | 1.25 |
| | Special Topics in Radiation Protection | | 2.00 | | |
| **Wednesday** | Radiological Hazards | | 4.00 | | |
| | Principals of radiation Detection | 4.00 | | | |
| **Thursday** | Operational Radiation Safety Program | | 5.75 | | |
| | Planning For Emergencies | | 2.25 | | |
| | Special topics in Radiation Protection | | 2.00 | | |
| **Friday** | Nuclear Regulatory Commission Regulations | | 2.25 | | |
| | Transportation of Radioactive Material | | 1.75 | | |
| | *Totals* | 10.00 | 22.75 | 4.25 | 3.00 |

Category I: Radiation Physics and Instrumentation
Category II: Principles and Practices of Radiation Protection
Category III: Mathematics Pertaining to the Use and Measurement of Radioactivity
Category IV: Biological Effects of Radiation

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

CORRECTED PAGE 11/2/94

NO: NR-420-D-134-G DATE: SEP 2 1982 

DEVICE TYPE: "O", "MO", or "C" Frame Gamma Gauge

MODEL: SU-S3

MANUFACTURER/DISTRIBUTOR: LFE Corporation
1601 Trapelo Road
Waltham, MA 02154

MANUFACTURER/DISTRIBUTOR:

SEALED SOURCE MODEL DESIGNATION: LFE Model SS-3A

ISOTOPE: Americium-241 MAXIMUM ACTIVITY: 1000 millicuries

LEAK TEST FREQUENCY: 6 months

PRINCIPAL USE: (D) Gamma Gauge

CUSTOM DEVICE: ____ YES X NO

REFERENCES: LFE Corporation License No. 20-01382-16G

ISSUING AGENCY: U.S. Nuclear Regulatory Commission

Weyerhaeuser
Grayling Structurwood
24111 W.Four Mile Road
Grayling MI 49738
John SINNAEVE


# FIRST CLASS MAIL

**United States**
**Nuclear Regulatory Commission**
**Attention: Materials Licensing Branch Chief**
**Region III**
**2443 Warrenville road**
**Lisle, IL 60532-4351**