

**Location** • 4111 West Four Mile Rd. • Grayling, MI 49738

(989) 348-3401  
Rina.allen@weyerhaeuser.com

January 6, 2017

Director, Office of Nuclear Materials Safety and Safe Guards  
Attention: GLTS  
US Nuclear Regulatory Commission  
Washington DC 20555-0001

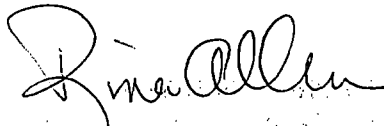
**Subject: Amendment Request, General License #21-20351-01**

Weyerhaeuser requests that our license be amended to list Faith Dandois as the sites Radiation Safety Officer (RSO) and to list Kathi Moss as the assistant RSO. Ms. Dandois will assume full responsibility as the RSO on February 1, 2017.

Copies of Ms. Dandois' certificate of completion and course outline are included with this communication.

Please contact Kathi Moss at [Kathi.moss@weyerhaeuser.com](mailto:Kathi.moss@weyerhaeuser.com) or (989) 348-3475 with any questions you may have regarding this request.

Regards,



Rina Allen  
Mill Manager

cc: Kathi Moss, Environmental Manager, Weyerhaeuser  
Faith Dandois, EH&S Coordinator, Weyerhaeuser

# **Radiation Safety & Control Services, Inc.**

*Awards this certificate to*

## **Faith Dandois**

*in recognition of satisfactory completion of a 40 hour course in*

### **Radiation Safety Officer Training**

**Exeter, NH**

**September 12-16, 2016**



  
Jennifer A. Collins - Enrolled Training Manager

Course Instructors: Frederick P. Straccla, CHP

This course has been approved for 40 Category A CE credits (reference number NHZ0183001, expiration date: 1/1/2018) by the ASRT \*Activity Approved by ASRT\* and 40 CE credits by the AAHP (ID number 2013-00-002).

# **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.**

- Background Radiation Exposure
  - Natural Sources
  - Technologically Enhanced Sources
- Biological Effects of Radiation
  - Background
  - Sequential Patterns of Biological Effects
  - Cellular Effects
  - Types of Exposure
    - Acute
    - Chronic
  - Types of Biological Effects
    - Short Term Effects
    - Long Term Effects
    - Genetic Effects
  - Federal Exposure Limits and Risk Estimates
- Radiological Hazards
  - External Radiation Dose
    - Penetrating (gamma)
    - Non-Penetrating (beta)
    - Rules of Thumb
    - Time, Distance, Shielding
  - Internal Radiation Dose
    - Units of Measure
    - Fixed vs Removable Contamination
    - Internal Hazards and Entry Routes
    - Airborne Radioactivity
    - Protection Methods
- Radiation Detection and Measurement
  - Basic Principles
    - Gas Filled Detectors
    - Scintillation Detectors
    - Solid State Detectors
  - Sample Analysis Applications
    - Detector Efficiency
    - Counting Statistics
    - Minimum Detectable Activity
  - Dose and Dose Rate Measurements
    - Dose Rate Meters
    - Dosimeters

# **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: Reqs 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 Outline: RSCS Inc.**

### **3 Considerations When Shipping**

**The A(1) and A(2) System**

**Quantity Limits**

**Radioactive Material**

**Limited Quantity**

**Type A Quantity**

**Type B Quantity**

**Highway Route Controlled Quantity:**

**Low Specific Activity (LSA)**

**Instruments or Articles: Solids**

**Three types of packaging**

**Container Type Determination**

**Transport Index**

**Warning Labels**

**White I**

**Yellow II**

**Yellow III**

**Contamination Control**

**Shipping Papers**

### **Radiation Protection Program Assessments**

**Purpose of Assessments**

**Types of Assessments**

**Preparations for Assessments**

**Conducting Assessments**

**Documentation**

**Lessons Learned**