



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

(FSME-14-049, May, Training, H-122)

May 21, 2014

ALL AGREEMENT STATES

ACCEPTANCE TO FUNDAMENTAL HEALTH PHYSICS I AND II COURSE (H-122)
(FSME-14-049)

Purpose: To provide the list of students selected for the NRC Fundamental Health Physics I and II Course (H-122).

Background: The U.S. Nuclear Regulatory Commission (NRC) provides the list of students and instructions to the States to help ensure that States with candidates on waiting lists will have an opportunity to fill vacated slots that may open up after this notification letter has been

Discussion: Enclosure 1 is the list of students from the States selected to attend the July 28 – August 8, 2014, Fundamental Health Physics I and II Course (H-122). This course is to be held at Oak Ridge, Tennessee. Please provide the list of students and the instructions (Enclosure 2) to each individual from your program that is on the list. Enclosed for your information is a tentative schedule for the course (Enclosure 3). Students attending this course will be paid lodging and per diem by the NRC. Students should also be aware that you must be a U.S. citizen to have access on to the Oak Ridge training site. If you are a foreign student and do not have citizenship you need to contact Kristy Mashburn at Kristy.Mashburn@ornl.gov. She is the Registrar at Oak Ridge Universities and she will give you direction as to how you can get access on to the Oak Ridge site. Students should immediately make their travel arrangements through Carlson Wagonlit Travel at 1-800-453-8693 and then download the Travel Application Form at <http://nrc-stp.ornl.gov/training.html>. The completed form should be sent to ASTrainingandtravel.Resource@nrc.gov. Information should not be sent directly to Brenda Usilton. In addition, we are requesting that you do not send any training applications, travel forms and vouchers by fax. Processing of your requests sent by fax could result in significant delays.

We ask that you inform us of any cancellations 30 days prior to the course starting date or as soon as you are aware that the student cannot attend the course.*

If you have any questions regarding this correspondence, please contact me at 301-415-3340 or either of the individuals named below:

POINT OF CONTACT: Brenda G. Usilton
TELEPHONE: (301) 415-2348

INTERNET: Brenda.Usilton@nrc.gov

Marcia J. Casby
(301) 415-6525

INTERNET: Marcia.Casby@nrc.gov

/RA DSollenberger for/

Laura A. Dudes, Director
Division of Materials Safety and State Agreements
Office of Federal and State Materials
and Environmental Management Programs

Enclosures:

1. List of students
2. Instructions to students
3. Tentative course agenda
4. Student Information (ORAU)

FUNDAMENTAL HEALTH PHYSICS I and II COURSE (H-122)
 JULY 28 – AUGUST 8, 2014
 OAK RIDGE, TN

| STATE | PARTICIPANT |
|---|--------------------|
| CALIFORNIA Dept. of Health Services 1500 Capitol MS-7610 Sacramento, CA 94899 | Robert Jordan |
| COLORADO Dept. of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246-1530 | Michael Cosby |
| FLORIDA Dept. of Health 4052 Bald Cypress Way, Bin C21 Tallahassee, FL 32399-1741 | Richard Davis |
| ILLINOIS Division of Nuclear Safety 2200 S. Dirksen Parkway Springfield, IL 62703 | Talon Holmes |
| KANSAS KS Dept. of Health and Environment 1000 SW Jackson, Suite 330 Topeka, KS 66612-1365 | Marjorie Greep |
| KENTUCKY Radiation Health Branch 275 East Main Street HSIC-A Frankfort, KY 4061-0001 | Jeannie Merwin |
| NORTH CAROLINA Dept. of Health and Human Services 3825 Barrett Drive Raleigh, NC 27609-7221 | Ryan Kapler |
| NORTH DAKOTA North Dakota Dept. of Health 918 East Divide Ave. Bismarck, NC 58501-1947 | Karen Deibert |
| NEW YORK STATE HEALTH Empire State Plaza Corning Tower 12 th Floor Albany, NY 12237 | Marc Sullivan |

| STATE | PARTICIPANT |
|--|--------------------|
| PENNSYLVANIA Rachel Carson State Office Bldg. P.O. Box 8469 Harrisburg, PA 17105-8469 | Gerald Horvath |
| TENNESSEE Dept. of Environment & Conservation 312 Rosa L. Parks Avenue Nashville, TN 37243 | Trevor Jackson |
| TEXAS Dept. of State Health Services P.O. Box 149347-Mail Code 2835 Austin, TX 78714-9347 | Tony Haynes |

INSTRUCTIONS TO STUDENTS

ACCEPTANCE: This is to advise you that those individuals in Enclosure (1) have been accepted for participation in the training course (H-122) Fundamental Health Physics. This course is scheduled to be presented July 28 – August 8, 2014, at the Oak Ridge Institute for Science and Education (ORISE) training center at 1299 Bethel Valley Road, Building SC-1 Annex, Oak Ridge, Tennessee 37830.

COURSE: You should plan to arrive on Sunday, July 27, 2014, and depart on Friday, August 8, 2014. Participants must make their own lodging and travel arrangements. The course will be conducted beginning at 8:00 a.m. and end at 4:30 p.m. each day except for Friday, August 8, 2014 classes are scheduled to be completed at 4:00 p.m. If there are no convenient flights leaving on Friday then you can be authorized to leave on Saturday, August 9. Please indicate this on your paperwork. The per diem for Oak Ridge, TN area is 88/46/134. This means lodging/meals/not to exceed total. Tax is a separate line item on your voucher. There is no suitable lodging within walking distance, nor reliable public transportation, from the hotels to the Training Center; therefore, students should coordinate with students who have a car, or take a taxi to and from the training center. No rental cars will be authorized for travel. If traveling by air, you need to contact Carlson Travel at 1-800-453-8396 for airline reservations. Please complete the Travel Application Form <http://nrc-stp.ornl.gov/training.html> and return it to AStrainingandtravel.Resource@nrc.gov. Information should not be sent directly to Brenda Usilton. In addition, we are requesting that you do not send any training applications, travel forms and vouchers by fax. Processing of your requests sent by fax could result in significant delays.

If you have any questions regarding the travel form please contact Marcia Casby on 301-415-6525 or e-mail Brenda.Usilton@nrc.gov. You will also need to go to the same Web site to receive a copy of the travel instructions and voucher for reimbursement. The Federal mileage rate for FY2014 is 56 cents per mile. You will also need a copy of your travel itinerary included in your voucher reimbursement. They will not process your voucher without it.

Cellular phones and similar devices with audible capability should be disabled while classes are in session. Normal office/business attire is appropriate for students attending TTC courses. Enclosure 3 is a tentative agenda for the course. We have also enclosed a Student Information document provided by ORISE (Enclosure 4).

**Tentative Course Outline
Fundamental Health Physics I and II
July 28 – August 1, 2014**

First Week

| DATE | TIME | TOPIC | INSTRUCTOR(S) | LOCATION |
|----------------------|-------------|--|-----------------------|-----------------|
| Monday, Jul 28 | 8:00 AM | Registration, Orientation and Photo Staff | | W-14/W-13 |
| | 9:00 AM | INTRODUCTION TO RADIOACTIVITY | Frame | W-14 |
| | 12:00 Noon | Lunch and Welcome | | |
| | 1:00 PM | INTERACTIONS OF RADIATION WITH MATTER | Thomas | W-14 |
| | 3:00 PM | RADIATION SAFETY PRINCIPLES | Thomas | W-14 |
| | 4:00 PM | Practice Test | Worthington | |
| Tuesday, Jul 29 | 8:00 AM | RADIATION SAFETY PRINCIPLES (Cont'd) | Thomas | W-14 |
| | 9:00 AM | RADIATION QUANTITIES AND UNITS | Frame | W-14 |
| | 12:00 Noon | Lunch | | |
| | 1:00 PM | BIOLOGICAL EFFECTS OF RADIATION | Frame | W-14 |
| | 2:30 PM | Demonstration: Cloud Chamber, Lab: GM Detectors (GM-100, 103, 105, 106) | Bernhardt/Worthington | W-4 |
| Wednesday, Jul 30 | 8:00 AM | INSTRUMENT OVERVIEW - Gas detectors, scintillation detectors, semiconductor detectors | Frame | W-14 |
| | 11:00 AM | SURVEY INSTRUMENTS | Frame | W-14 |
| | 12:00 Noon | Lunch (review at 12:15 PM in C-1) | | |
| | 1:00 PM | Lab: Survey Instruments I (SI-100, 100.1, 102) | Thomas | W-15 |
| | 2:45 PM | Lab: Survey Instruments II (SI-101, 103) | Thomas | W-15 |
| | 4:00 PM | Test | | |
| Thursday, Jul 31 | 8:00 AM | NATURAL BACKGROUND RADIATION | Bernhardt | C-1 |
| | 9:30 AM | INSTRUMENT CALIBRATION | Frame | C-1 |
| | 11:00 AM | CONTAMINATION SURVEYS | Bernhardt | C-1 |
| | 12:00 Noon | Lunch | | |
| | 1:00 PM | Lab: Survey Instrument Calibration (SI-106) | Bernhardt/Worthington | W-15 |
| | 2:30 PM | Lab: Walkover Survey - NaI detectors | Bernhardt/Worthington | W-15 |
| | 3:30 PM | Lab: Floor Monitoring - Gas Flow Proportional | Bernhardt/Worthington | W-15 |
| Friday, Aug 1 | 8:00 AM | REGULATIONS and REGULATORY GUIDANCE | Thomas | C-1 |
| | 10:00 AM | Lab: Ion Exchange (RC-102) | Thomas/Bernhardt | W-19 |
| | 12:00 Noon | Lunch (review at 12:15 PM in C-1) | | |
| | 1:00 PM | Lab: Contamination Surveys (ST-102) | Bernhardt/Thomas | W-19 |
| | 2:00 PM | COUNTING STATISTICS | Thomas | C-1 |
| | 3:00 PM | Lab: Counting Statistics (S-102) | Thomas/Worthington | W-15 |
| | 4:00 PM | Test | Worthington | |

August 4 - 8, 2014
Second Week

| DATE TIME | TOPIC | INSTRUCTOR(S) | LOCATION |
|-----------------------------|--|------------------------|-----------------|
| Monday, 8:00 AM Aug 4 | EXTERNAL DOSIMETRY AND PERSONNEL MONITORING | Thomas | C-1 |
| 10:00 AM | BIOASSAY | Toohy | C-1 |
| 12:00 | Noon Lunch | | |
| 2:30 PM | Lab: Gamma Spectroscopy II (GE-100, 101.1, 103) | Thomas/Bernhardt | W-15 |
| Tuesday, 8:00 AM Aug 5 | NEUTRON SOURCES, INTERACTIONS AND DETECTION | Frame | C-1 |
| 10:00 AM | NEUTRON ACTIVATION | Frame | C-1 |
| 11:00 AM | THERMOLUMINESCENT AND OSL | Frame | C-1 |
| 12:00 | Noon Lunch | | |
| 1:00 PM | Lab: Activation Analysis (NAA-103) | Thomas/Worthington | W-15 |
| 2:30 PM | Lab: TLD Systems (TLD-100, 102,103) | Thomas/Worthington | W-15 |
| Wednesday, 8:00 AM Aug 6 | RADIATION SHIELDING | Thomas | C-1 |
| 10:00 AM | Lab: Shielding | Thomas/Worthington | C-1 |
| 11:00 AM | AIR SAMPLING | Frame C-1 | |
| 12:00 | Noon Lunch (review at 12:15 PM in C-1) | | |
| 1:00 PM | AIR SAMPLING continued | Frame | C-1 |
| 2:00 PM | Lab: Air Sampling (AS-105) | Frame/Worthington | W-1 |
| 4:00 PM | Test | Worthington | |
| Thursday, 8:00 AM Aug 7 | RESPIRATORY PROTECTION | Frame | C-1 |
| 9:00 AM | Lab: Protective Clothing | Bernhardt | W-15-C |
| 10:30 AM | ENVIRONMENTAL TRANSPORT MODELING | Frame | C-1 |
| 12:00 | Noon Lunch | | |
| 1:00 PM | RADIOACTIVE WASTE | Frame C-1 | |
| 2:00 PM | LIQUID SCINTILLATION COUNTING | Frame | C-1 |
| 3:00 PM | Lab: LSC | Bernhardt, Worthington | W-15 |
| Friday, Aug 8 | 8:00 AM MEDICAL USES OF RADIATION | Thomas | C-1 |
| 9:00 AM | REAL-WORLD LICENSEE ISSUES | Staff | C-1 |
| | Power Reactors; Fuel Cycle Licensees; Industrial Uses: Academic Users; Decommissioning Uranium Recovery Facilities; Waste Disposal Sites | | |
| 12:00 | Noon Lunch (review at 12:15 PM in C-1) | | |
| 1:00 PM | CURRENT TOPICS - Issues, events, accidents | Thomas | C-1 |
| 3:00 PM | Test | Worthington | |

Greetings,

On behalf of Professional Training Programs' we are pleased to have you registered for our upcoming training course! The course will be held in Room 135 of the Oak Ridge Institute for Science and Education (ORISE) building at 1299 Bethel Valley Road, Oak Ridge, Tennessee. The enclosed directions and map of Oak Ridge should help you find our facility. *(Note: Please follow the directions we have provided, GPS is not exact and will take you to the ORNL guard gate.)*

Be sure to enter the building via the closest entrance to the intersection of Bethel Valley Road and Pumphouse Rd./Scarboro Rd. It is on the northwest corner of the building facing Bethel Valley Rd. On the detailed map, the building entrance is shown.

Please be prepared to show ID the first day of the course for identity purposes (driver's license, federal or state issued badge, etc). The course will start at 8:00 a.m. There will be someone at the front entrance to check you in beginning at 7:30 a.m.

ORISE is a Department of Energy (DOE) facility, so we are subject to DOE requirements. There are special briefing and badging requirements for Foreign National Participants. **If you are not a U.S. Citizen, please contact me immediately.**

Fundamental Health Physics III course participants: Please bring the following reference materials you received while attending the BHPT or Fundamental Health Physics I and II course:

1. 17th Edition Chart of the Nuclides
2. Radioactive Decay Data Tables
3. Radiological Health Handbook
4. Nuclide ID Gamma Catalog

Please let me know if you do not have these reference materials.

We will supply you with course notebooks, notebook paper, pencils, etc. You should bring a **calculator** with exponential functions and be familiar with its use.

If you have any questions about the course, please contact me at Kristy.Mashburn@orau.org or 865-576-3576 or Tracy.Whitaker@orau.org at 865-576-6408. We look forward to meeting you!

Kristy Mashburn, Registrar
Oak Ridge Associated Universities (ORAU)
Independent Environmental Assessment and Verification (IEAV)

DIRECTIONS, LODGING, & TRANSPORTATION DIRECTIONS

Oak Ridge is approximately 20 miles west-northwest of Knoxville, Tennessee. The course will be held at the Oak Ridge Institute for Science and Education (ORISE) Professional Training Programs (PTP) training facility located at 1299 Bethel Valley Road. *GPS takes you to another facility so please do not rely on it for correct directions.*

Directions for Automobile Travel to Oak Ridge:

Heading east on I-40 (e.g., from Nashville), take Exit 356 onto Gallaher Road (State Route 58). This exit is just east of Kingston. Eventually, Gallaher Road will become the Oak Ridge Turnpike (State Route 95).

Heading south on I-75 (e.g., from Lexington), take Exit 122 from I-75 and head west on State Route 61 towards Clinton. Oak Ridge is approximately ten miles west of Clinton. Just before it reaches Oak Ridge, Route 61 effectively becomes the Oak Ridge Turnpike (State Route 95).

Heading west on I-40/75 (e.g., from Knoxville) take Exit 376A onto State Route 162 (aka Pellissippi Parkway) into Oak Ridge. See directions from Airport for additional information.

Heading north on I-75 (e.g., from Chattanooga), you have two options. The first is to take Exit 364 onto State Route 95 which will eventually become the Oak Ridge Turnpike. Sections of 95 have lots of tight curves so be careful. The other option is to continue on I-75 and take Exit 376 onto State Route 162 (aka Pellissippi Parkway) into Oak Ridge. See directions from Airport for additional information.

Directions from Airport to Oak Ridge:

1. From airport, take Alcoa Highway (US 129 North) toward Knoxville for approximately 2.5 miles.
2. Take the OAK RIDGE exit to the right onto I-140.
3. Continue on I-140 for approximately 11.5 miles. You will cross interstate I-40/I-75. As you cross the interstate, watch for the Oak Ridge sign telling you to bear left. This takes you onto Route 162, better known as the Pellissippi Parkway.
4. In about 6 miles, you will go through the small Solway community that primarily consists of gas stations. Continue over the Clinch River/Solway Bridge (bearing left), and past a local cemetery that will be on the right.
5. Once past the cemetery, bear left at the sign indicating the approach into Oak Ridge. In a mile or so, this will take you onto South Illinois Avenue. Most of the Oak Ridge hotels are located on South Illinois.

Directions from Airport Directly to Training Facility:

1. After you have crossed the bridge over the river and are next to the cemetery, you will see a sign that says "Bethel Valley Rd. Closed to through traffic." That is the road that you want to take. Bear right onto Bethel Valley Road.

2. The training center will be on the left at the first intersection that you come to: the intersection of Bethel Valley Road and Pumphouse Rd. (to the left) and Scarboro Rd. (to the right). Turn left onto Pumphouse Road. There will be two entrances immediately on the left into the parking lot.

3. **IMPORTANT:** To enter the facility walk around to the front of the building. The building entrance that you must use is the one facing Bethel Valley Road closest to the intersection. Someone should be there to let you in. See attached photo. **DO NOT USE ANY OTHER BUILDING ENTRANCE!**

Directions from Oak Ridge to Training Facility:

1. Proceed south on South Illinois as if you were leaving Oak Ridge and going towards Knoxville or the Airport.

2. Bear right at the first intersection after McDonalds. You will now be heading south on Scarboro Road. Stay in the left lane since you do not want to be forced to turn right into the Y-12 Plant.

3. In approximately one mile you will come to the intersection with Bethel Valley Road (Knoxville is to the left and Oak Ridge National Laboratory is to the right). The training facility is on the south east corner of the intersection.

4. Go straight through the intersection onto Pumphouse Road. There will be two entrances immediately on the left into the parking lot.

5. **IMPORTANT:** To enter the facility; walk around to the front of the building. The building entrance that you must use is the one facing Bethel Valley Road closest to the intersection. Someone should be there to let you in. See attached photo. **DO NOT USE ANY OTHER BUILDING ENTRANCE!**



Google Earth Address of Training Facility: 35.983667 -84.222

LODGING

Be sure to ask if they have ORAU rate

| | | | |
|---------------------------------|------------------------------------|--------------|-----------------|
| <u>Candlewood Suites</u> | 10206 Parkside Dr., Knoxville | 865-777-0400 | 1-877-226-3539 |
| <u>Comfort Inn</u> | 433 S. Rutgers Ave. | 865-481-8200 | 1-800-228-5150 |
| <u>Days Inn</u> | 206 S. Illinois Ave. | 865-483-5615 | 1-800-329-7466 |
| <u>Doubletree</u> | 215 S. Illinois Ave. | 865-481-2468 | 1-800-222-TREE |
| <u>Hampton Inn</u> | 208 S. Illinois Ave. | 865-482-7889 | 1-800-HAMPTON |
| <u>Hampton Inn & Suites</u> | 11340 Campbell Lakes Dr, Knoxville | 865-966-0303 | |
| <u>Homewood Suites</u> | 10935 Turkey Drive, Knoxville | 865-777-0375 | 1-800-CALL-HOME |
| <u>Jameson Inn</u> | 216 S. Rutgers Ave. | 865-483-6809 | 1-800-JAMESON |
| <u>Staybridge Suites</u> | 420 Illinois Avenue | 865-483-0200 | 1-800-238-8000 |
| <u>Westgate Apartments</u> | 101-0 Gates Drive, Oak Ridge | 865-481-0603 | |

TRANSPORTATION

Air travel reservations should be made to McGhee-Tyson Airport (TYS), Knoxville, TN, which is located 35 miles from Oak Ridge.

Airport/Airlines

McGhee Tyson Airport 865-970-2773
McGhee-Tyson Airport 865-342-3000
Information Directory

American Eagle 1-800-433-7300
American Airlines 1-800-433-7300
Comair 1-800-354-9822
Continental 1-800-525-0280
Delta 1-800-221-1212
Delta - Lost Luggage: 1-800-325-8224
Northwest Airlines 1-800-225-2525
United 1-800-241-6522
US Airways 1-800-428-4322

Car Rental Agencies at the McGhee Tyson Airport

| <u>Agency</u> | <u>Phone number</u> | <u>Reservations</u> |
|-------------------|---------------------|---------------------|
| <u>Alamo</u> | 865-342-3210 | 1-800-327-9633 |
| <u>Avis</u> | 865-342-3220 | 1-800-331-1212 |
| <u>Budget</u> | 865-342-3225 | 1-800-527-0700 |
| <u>Enterprise</u> | 865-342-1650 | 1-800-rent-a-car |
| <u>Hertz</u> | 865-342-3232 | 1-800-654-3131 |
| <u>National</u> | 865-342-3240 | 1-800-227-7368 |
| <u>Thrifty</u> | 865-342-3250 | 1-800-367-2277 |

Enterprise in Oak Ridge: 608 Oak Ridge Turnpike, 865-483-8494 or 1-800-325-8007

Limousine Service

Limousine service (telephone 1-800-432-7923 or 865-671-2509) is available from the airport to Oak Ridge. Services must be reserved before you get to the airport (they would like a couple of days advance notice). They will bring you to any hotel in Oak Ridge or to our facility. Service charge is \$40.00 for one way and \$80.00 round trip. Two or more transported together is \$22 each one way.

Taxis

Yellow Cab (Oak Ridge) 865-483-4343
ABC Taxi (at airport) 865-970-4545

There is no bus service in Oak Ridge

GENERAL INFORMATION

Registration will be in the PTP classroom (Room 135). Your schedule indicates the starting time of the course. You should report to ORISE **approximately ten minutes** before this time to complete registration forms and for class to start promptly. There will be a PTP staff member to greet you at the door of the building.

The PTP website will give you complete information about all our classes, schedules, registration, and payment methods.

You may have **mail** sent to you at the following address: Your name, Course Participant, Course Title (optional), Professional Training Programs, Oak Ridge Institute for Science and Education, P.O. Box 117, MS-11, Oak Ridge, TN 37831-0117. Incoming mail service is available twice daily.

Any **telephone calls** or **messages** for you will be received between the hours of 7:30 a.m. and 4:00 p.m. at 865-576-3576. Messages will be taken for you while you are in class (emergency calls will be relayed immediately).

Oak Ridge **banks** will not cash personal or company checks for participants. We encourage you to bring traveler's checks or enough cash for the duration of your visit.

NOTE: Since we will be providing you with course notebooks and materials, you may want to allow room in your suitcases for these resources. If you prefer to ship these notebooks and handouts, boxes will be provided.

You may wish to bring **recreation equipment** for backpacking, lake fishing, camping, tennis, volleyball, basketball, or jogging. During the winter, ski facilities are open in Gatlinburg, approximately 50 miles east of Oak Ridge.

Area Attractions

Great Smoky Mountains National Park / Cades Cove... 69 miles
Dollywood Theme Park ... 60 miles
Gatlinburg / Pigeon Forge / Sevierville ... 58 miles
Ripley's Aquarium of the Smokies (Gatlinburg) ... 58 miles
Museum of Appalachia ... 15 miles
Norris Dam State Park ... 22 miles
Melton Hill Dam ... 6 miles
Blue Ridge State Park ... 27 miles

Frozen Head State Park ... 21 miles
Big South Fork Natural Recreation Area (Oneida) ... 71 miles
Neyland Stadium ... 26 miles
University of Tennessee ... 26 miles
Oak Ridge Arboretum ... 4 miles
The Knoxville Zoo ... 28 miles
American Museum Science and Energy ... 1 mile
Windrock ATV Club (Oliver Springs) ... 8 miles
The Lost Sea (Sweetwater) ... 52 miles
Ocoee Whitewater Rafting ... 92 miles
Tennessee Aquarium (Chattanooga) ... 111 miles
Cumberland County Playhouse in Crossville ... 60 miles
Historic British Colony in Rugby
Biltmore Estate ... 139 miles