



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

(STC-14-098, October, Training, G-205)

October 8, 2014

ALL AGREEMENT STATES

ACCEPTANCE TO THE ROOT CAUSE WORKSHOP (G-205) (STC-14-098)

Purpose: To provide the list of students selected for the U.S. Nuclear Regulatory Commission's (NRC) Root Cause Workshop (G-205).

Background: The 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 sent.

Discussion: Enclosure 1 is the list of students from the States selected to attend the December 8-12, 2014, Root Cause Workshop (G-205) in Chattanooga, Tennessee. Please provide this document to each accepted individual from your program. Students attending this course will be paid travel and per diem by the NRC. Please inform us of any cancellations immediately so that individuals on the waiting list have an opportunity to attend.

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

POINT OF CONTACT: Marcia J. Casby INTERNET: AStrainingandtravel.Resource@nrc.gov
TELEPHONE: (301) 415-6525

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Laura A. Dudes, Director
Division of Material Safety, State, Tribal
and Rulemaking Programs
Office of Nuclear Material Safety
and Safeguards

Enclosures:

1. List of Students
2. Instructions for Students
3. Tentative Schedule

ROOT CAUSE WORKSHOP (G-205)
December 8-12, 2014
Chattanooga, TN

STATE	PARTICIPANTS
CALIFORNIA	Alicia Rodriguez
LOUISIANA	Jarrod Harman Kristen Bonds Farrar Stewart
TENNESSEE	Jerry Bacon Norman Miller William Barnett Andrew
WISCONSIN	Bradley Pitt

INSTRUCTIONS TO STUDENTS

ACCEPTANCE: This is to advise you that those individuals listed in Enclosure 1 have been accepted for participation in the Root Cause Workshop (G-205). This course is scheduled to be presented December 8-12, 2014, at the U.S. Nuclear Regulatory Commission (NRC) Technical Training Center (TTC). The TTC is located at 5746 Marlin Road, Suite 200, Osborne Office Center (near Eastgate Shopping Center) Chattanooga, Tennessee 37411-5677. The facility's telephone number is (423) 855-6500. Please contact Marcia Casby, 301-415-6525 immediately, if you are unable to attend this course.

COURSE: This course starts at 8:00 a.m. on Monday, December 8, 2014, and ends at approximately 2:00 p.m. on Friday, December 12, 2014.

LODGING AND TRAVEL: Please plan to arrive on Sunday, December 7, 2014, and depart on Friday, December 12, 2014. Students must make their own lodging and travel arrangements. If traveling by air, please contact Carlson Travel at 1-800-453-8396 for airline reservations, and indicate that the travel is "Invitational" for the NRC. Please complete the Travel Application Form, located at <http://nrc-stp.ornl.gov/training.html> and return to Marcia Casby, ASTrainingandtravel.Resource@nrc.gov at your earliest opportunity, but no later than November 3. If you have any questions regarding the travel form, please contact Marcia Casby at 301-415-6525. Individuals should request the Federal government rate at the hotels. The per diem for Chattanooga, Tennessee is 94/56/150. This means that lodging/meals/not to exceed the total. If you plan to drive, the Federal mileage reimbursement is 56 cents per mile. Rental cars are not authorized for travel. Students will be reimbursed for transportation between the airport and hotel. A complimentary shuttle has been arranged for transportation between the hotel and the training center for individuals staying at the Residence Inn hotel listed below. Please contact the front desk for details upon arrival. Note that a block of rooms has been set aside for you. Please request the "NRC" rate. Those students who elect to stay at an alternate hotel will be responsible for their own transportation between the hotel and the training center. To reserve a room click on the following link:

[NRC Group Reservations: Residence Inn Chattanooga](#)

Residence Inn Chattanooga
2340 Center Street
Chattanooga, TN 37421
Phone: 1-423-468-7700

DIRECT DEPOSIT: We are very pleased to be offering Direct Deposit for travel reimbursements. If you prefer this method, please complete the form located on our website and link provided here, [Direct Deposit Form](#). Follow the instructions on the form, and return to Mary Matheson at Mary.Matheson@nrc.gov. Once you have signed up for Direct Deposit, you are in the system and will not need to complete a new form unless your banking information changes. When it is time to complete your voucher for reimbursement, in the address box enter "Enrolled for Direct Deposit." If you have any questions regarding direct deposit, please contact Mary Matheson at 301-415-8748.

**G-205 Root Cause /Incident Investigation Workshop
Tentative Course Outline
December 8-12, 2014**

	Day 1	Day 2	Day 3	Day 4	Day 5
8:00 am-12:00pm	<ul style="list-style-type: none"> • 1-Welcome • 2-Initiating the RCA: Significant Operational Event <ul style="list-style-type: none"> ○ NRC Investigation Process ○ Integrating Safety Culture • 3-RCA Techniques <ul style="list-style-type: none"> - Fault tree analysis (FTA) - Event and causal factor analysis (ECFA) - Barrier analysis - Management Oversight and Risk Tree analysis (MORT) - Critical Incident Technique - The 5-Whys technique - Pareto analysis • 4-Event And Causal Factor Analysis <ul style="list-style-type: none"> ○ Overview ○ Fundamentals ○ Start and Stop Rules ○ Procedure for ECFA 	<ul style="list-style-type: none"> • Knowledge Check – Review of previous day's material • 5-Fact Finding Techniques <ul style="list-style-type: none"> ○ Document/record review ○ Interviewing ○ Active Listening • 6-Fault tree analysis <ul style="list-style-type: none"> ○ Basic Concepts ○ Fundamentals ○ Developing the Fault Tree <ul style="list-style-type: none"> - Fault Tree Diagrams - Gates and Events ○ Class Example and Walkthrough • 7-Pareto Analysis <ul style="list-style-type: none"> ○ Overview ○ Advantages ○ Application • 8-The Five-Whys <ul style="list-style-type: none"> ○ Problem statements ○ Answering the questions ○ Problem resolution 	<ul style="list-style-type: none"> • Knowledge Check – Review of previous day's material - 9-The Critical Incident Technique <ul style="list-style-type: none"> ○ Application ○ Five Steps ○ Evaluation - 10-Barrier Analysis <ul style="list-style-type: none"> ○ Hazard-Barrier-Target ○ Barriers and Controls ○ Procedure for Barrier Analysis • 11-Management and Oversight Risk Tree <ul style="list-style-type: none"> ○ Introduction - What is MORT <ul style="list-style-type: none"> - Overview Of The MORT Method ○ General Approach <ul style="list-style-type: none"> - Conventions of the MORT Diagram - MORT Structure - Provisional Assumed Risks 	<ul style="list-style-type: none"> • Knowledge Check – Review of previous day's material • Management and Oversight Risk Tree, Cont'd <ul style="list-style-type: none"> ○ Application of MORT to Investigations - Procedure for MORT Analysis <ul style="list-style-type: none"> ○ Mini-Mort - Overview - Symbols ○ Mort Question Set • 12-Advanced Interviewing <ul style="list-style-type: none"> ○ Asking questions to get the right answers ○ Applying "The Cognitive Interview Process" to recreate the event 	<ul style="list-style-type: none"> • Knowledge Check – Review of previous day's material • 13-Case Study Summary Prepare for Out Brief – 1 hour <ul style="list-style-type: none"> ○ Presentations ○ 30 minutes to present ○ 15 minute "Mgmt review" <ul style="list-style-type: none"> • 10 min Findings Q&A • 5 min. Share one improvement takeaway
Lunch					
1:00 pm-4:30pm	<p>Case Study Assignment and Team Formation.</p> <ul style="list-style-type: none"> • Teaming – Forming, Storming, Norming, Performing • Define Communication • Establish Team roles <p>Case Study Assignment –</p> <ul style="list-style-type: none"> • Review the case study against NRC procedures and AIT Charter. • Develop an action plan. • Apply ECFA+ 	<p>Team Case Study Assignment:</p> <ul style="list-style-type: none"> • Document review and data collection • Apply RCA techniques: FTA, Pareto, 5 Whys, ECFA+ • Identify information gaps and how to fill them • Documents you want to review • Individuals you need to interview • Develop questions to "close the loops" 	<p>Team Case Study Assignment:</p> <ul style="list-style-type: none"> • Document review and data collection • Apply RCA techniques: CIT, H- B-T, MORT, FTA, Pareto, 5 Whys, ECFA+ • Conduct initial interviews 	<p>Team Case Study Assignment:</p> <p>Applying MORT and Barrier Analysis to the RCA and Finalizing the Report</p> <ul style="list-style-type: none"> • Conduct interviews • Demonstrate use of MORT chart • Demonstrate use of two other RCA techniques <p>Prepare draft "Out-Brief" presentation</p>	<p>Team Case Study Assignment:</p> <p>Document review and data collection</p> <ul style="list-style-type: none"> • Apply RCA techniques: Mini-MORT, CIT, H-B-T, MORT, FTA, Pareto, 5 Whys, ECFA+ • Conduct Follow-up interviews • Finalize report <p>Prepare 30 min "Out-Brief" presentation</p> <p style="text-align: right;">FRIDAY - COURSE ENDS AT 2:00 PM</p>