ROSS Quarterly Call

29 June 2023

FEMA

Agenda

- Welcome from FEMA Office of Emerging Threats (OET) – Steve Chase
- Updates from CRCPD HS/ER-4 Committee – Bill Irwin
- Kelly Gillette receiving Type 3 and Type 2 Certifications – ROSS Qualification Review Board (QRB)
- Quarterly Problem Set: a LLNL Responder Training Video – Angela Leek
- Closing Remarks – Steve Chase, FEMA OET

https://www.gao.gov/products/gao-19-164
accessed 2/23/23.

CRCPD

https://www.crcpd.org/
accessed 6/24/23.

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FEMA Office of Emerging Threats

Opening Remarks

Steve Chase

Source: GAO. | www.gao.gov

FEMA OET Updates

- FEMA CBRN is now the FEMA Office of Emerging Threats (OET).
- Working to plan offerings of initial PER-388 ROSS courses and Virtual Evaluation Scenario Tool continuing education courses for FY 24 and beyond with CTOS and FEMA National Training and Education Division.
- New Position Qualification officially added a Type 4 ROSS as the designation upon completion of initial training and its prerequisites. Bill reviews later in slides.
- Working to release ROSS-prepared university educational curriculum in Connecticut and then other institutions.
- Leveraging the RAND study to develop a ROSS sustainment decision paper.

ROSS Program Updates

Bill Irwin, CRCPD Homeland Security/Emergency Response Committee 4

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State ROSS Coordinator/Authority Having Jurisdiction Calls

- Forty-seven State ROSS Coordinators and Authorities Having Jurisdiction attended one of two calls accounting for all but two ROSS States.
- Stimulated a lot of new work, especially to provide states procedural guidance and to plan more initial ROSS training in underserved jurisdictions.
- Working on getting thirtieth state to assign a State ROSS Coordinator.
- It was clear we needed more people in CRCPD HS/ER-4 to help with more work.

State Certifying Officials and State ROSS Coordinators

- Thirty-one states have indicated their interest in having a ROSS Program and identified a State ROSS Coordinator.
- SRCs will help:
  - Help new people become ROSS
  - Trained ROSS get assimilated into the state emergency response and recovery organization, and
  - ROSS connect with task evaluators and the state Certifying Official.

No.	State	Certifying Official	Email	State ROSS Coord.	Email
1	Alabama	Cason Coan	cason.coan@adph.state.al.us	Jerome Coleman	jerome.coleman@adph.state.al.us
2	Arkansas	Bernard Bevill	bernard.bevill@arkansas.gov	Bernard Bevill	bernard.bevill@arkansas.gov
3	California	Anthony Chu, Acting	Anthony.Chu@cdph.ca.gov	Juan Garcia	juan.garcia@@cdph.ca.gov
4	Connecticut	Jeff Semancik	Jeffrey.Semancik@ct.gov	Jeff Semancik	Jeffrey.Semancik@ct.gov
5	Florida	Clark Eldridge	clark.eldredge@flhealth.gov	John Williamson	john.williamson@flhealth.gov
6	Indiana	Courtney Eckstein	ceckstein@dhs.IN.gov	Courtney Eckstein	ceckstein@dhs.IN.gov
7	Iowa	Patty Riesberg	patricia.riesberg@idph.iowa.gov	Scott Wendt	khequ@iastate.edu
8	Kansas	Jason Meinholdt	jason.meinholdt@ks.gov	Jason Meinholdt	jason.meinholdt@ks.gov
9	Kentucky	Matt McKinley	matthew.mckinley@ky.gov	Matt McKinley	matthew.mckinley@ky.gov
10	Louisiana	Jerry Lang	jerry.lang@la.gov	Jessica Walker	jessica.walker@la.gov
11	Maryland	Eva Nair	eva.nair@maryland.gov	Marci Catlett	marci.catlett@maryland.gov
12	Michigan	T.R. Wentworth	wentwortht@michigan.gov	David Skutt	skuttd@michigan.gov
13	Minnesota	Mary Navara	mary.navara@state.mn.us	Brandon Juran	brandon.juran@state.mn.us
14	Missouri	John Langston	john.langston@health.mo.gov	jeremy Wilson	jeremy.wilson@health.mo.gov
15	Nebraska	Becki Harisis	becki.harisis@nebraska.gov	Ahaileas (Larry) Harisis	aharisis@unl.edu
16	Nevada	John Follette	jfollette@health.nv.gov	John Follette	jfollette@health.nv.gov
17	New Hampshire	Augustinus Ong	augustinus.ong@dhhs.nh.gov	Brennen Brunner	Brennen.brunner@dhhs.nh.gov
18	New Jersey	Patrick Mulligan	patrick.mulligan@dep.nj.gov	Patrick Mulligan	patrick.mulligan@dep.nj.gov
19	New York	Alex Damiani	alex.damiani@health.ny.gov	Cynthia Costello	cynthia.costello@health.ny.gov
20	North Carolina	David Crowley	david.crowley@dhhs.nc.gov	Terri Richards	terri.richards@ncdps.gov
21	Ohio	Gene Philips	gene.philips@odh.ohio.gov	William Lohner	william.lohner@odh.ohio.gov
22	Oregon	David Howe	david.m.howe@oha.oregon.gov	Hillary Haskins	hillary.k.haskins@oha.oregon.gov
23	Pennsylvania	Dwight Shearer	dwshearer@pa.gov	David Baracco	dbaracco@pa.gov
24	Rhode Island	Alex Hamm	alexander.hamm@health.ri.gov	Alex Hamm	alexander.hamm@health.ri.gov
25	South Carolina	Susan Jenkins	jenkinse@dhec.sc.gov	Nathan Gauthier	gauthinl@dhec.sc.gov
26	Tennessee	Beth Shelton	beth.shelton@tn.gov	Andrew Holcomb	andrew.holcomb@tn.gov
27	Texas	Lisa Bruedigan	lisa.bruedigan@dshs.texas.gov	Chris Moore	chris.moore@dshs.texas.gov
28	Vermont	William Irwin	william.irwin@vermont.gov	William Irwin	william.irwin@vermont.gov
29	Virginia	Lea Anna Perlas	lea.perlas@vdh.virginia.gov	Brian Iverson	brian.iverson@vdem.virginia.gov
30	West Virginia	Tera Patton	tera.E.Patton@wv.gov	Jason Lively	jason.k.lively@wv.gov
31	Wisconsin	Mark Paulson	mark.paulson@dhs.wisconsin.gov	Charles Adams	charles.adams@dhs.wisconsin.gov

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HS/ER-4 Subcommittee Organization So Far

- We could use more of you as volunteers to help us out.
- You simply join CRCPD as an associate (part of State Radiation Control Program) or affiliate member (not part of State Radiation Control Program).
- You can start here: https://www.crcpd.org/page/MemberApp.
- Volunteer to join the Homeland Security/Emergency Response Committee 4 (HS/ER-4) here: https://www.crcpd.org/general/custom.asp?page=wgform.
- Bill Irwin will invite you to meetings. Contact him with specific questions, sub-committee requests or complaints: william.Irwin@vermont.gov.
- You can see on the next slides we have lots to do and plenty of need for volunteers.

Assumptions about the HS/ER-4 Subcommittees

- CRCPD HS/ER-4 is at top with State ROSS Task Forces at bottom.
- ROSS Steering Committee is National in Orientation
- State ROSS Task Forces guided by national criteria established by ROSS Steering Committee and aided by CRCPD HS/ER-4
- State ROSS Task Forces have flexibility needed for differences between state, but must comply with *National Incident Management System Guideline for the National Qualification System (FEMA 2017)* doctrine.
- Uses NIMS/ICS tenets of span of control and chain of command.

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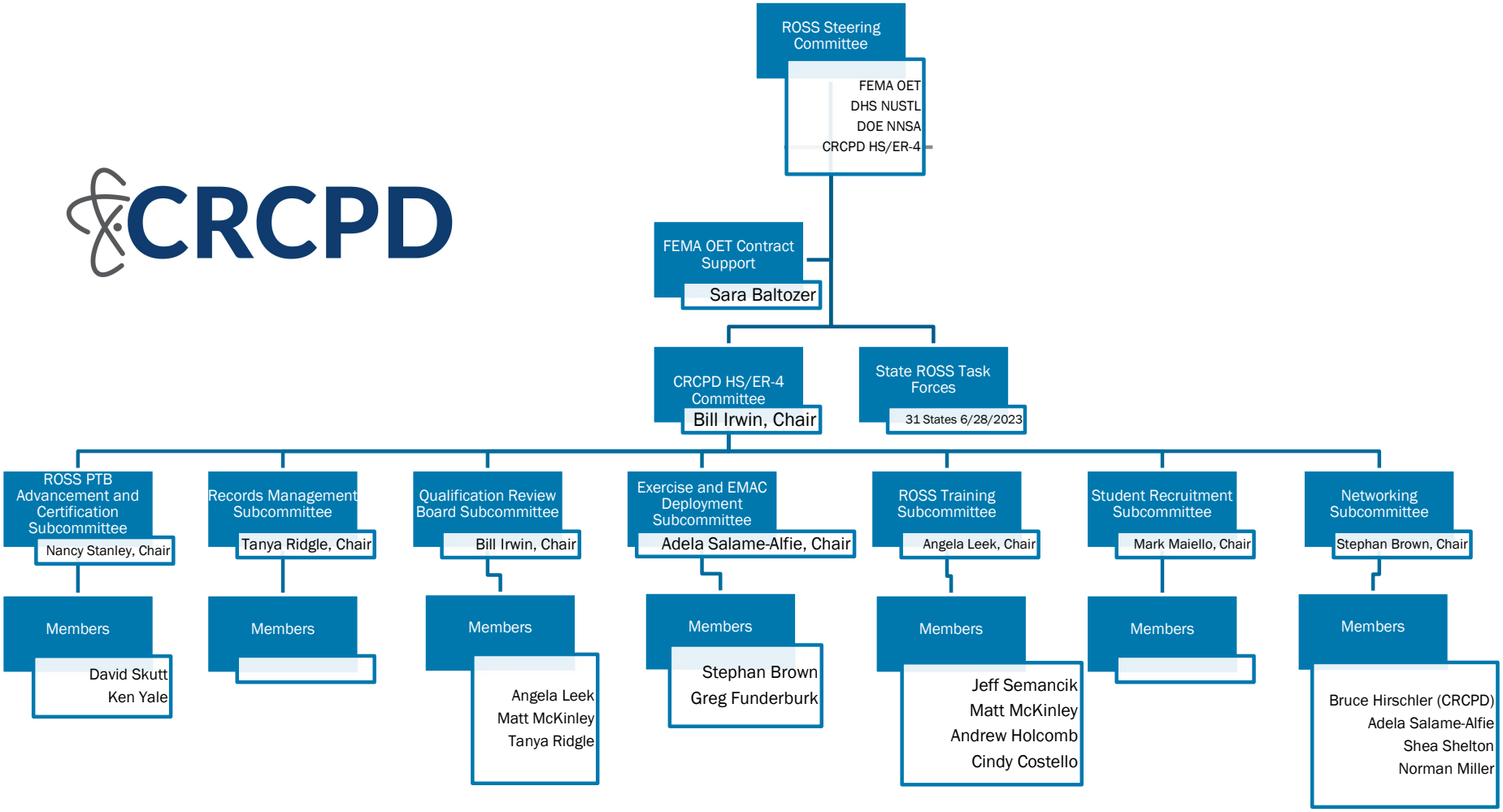
ROSS Steering Committee
FEMA OET
DHS NUSTL
DOE NNSA
CRCPD HS/ER-4
FEMA OET Contract Support
Sara Baltozer
CRCPD HS/ER-4 Committee
Bill Irwin, Chair
State ROSS Task Forces
31 States 6/28/2023
ROSS PTB Advancement and Certification Subcommittee
Nancy Stanley, Chair
Members
David Skutt
Ken Yale
Records Management Subcommittee
Tanya Ridge, Chair
Members
Qualification Review Board Subcommittee
Bill Irwin, Chair
Members
Angela Leek
Matt McKinley
Tanya Ridgle
Exercise and EMAC Deployment Subcommittee
Adela Salame-Alfie, Chair
Members
Stephan Brown
Greg Funderburk
ROSS Training Subcommittee
Angela Leek, Chair
Members
Jeff Semancik
Matt McKinley
Andrew Holcomb
Cindy Costello
Student Recruitment Subcommittee
Mark Maiello, Chair
Members
Networking Subcommittee
Stephan Brown, Chair
Members
Bruce Hirschler (CRCPD)
Adela Salame-Alfie
Shea Shelton
Norman Miller

Working on new ROSS procedure manual

- Sara Baltozer took over as FEMA OET Contract Support in February 2023.
- She has a lot of great ideas and is creating excellent products for us to use.
- We hope to provide all the ROSS, the State ROSS Coordinators (SRC) and the Authorities Having Jurisdiction (AHJ) copies before the next call.
- We will use the manual for additional training of SRC and AHJ.

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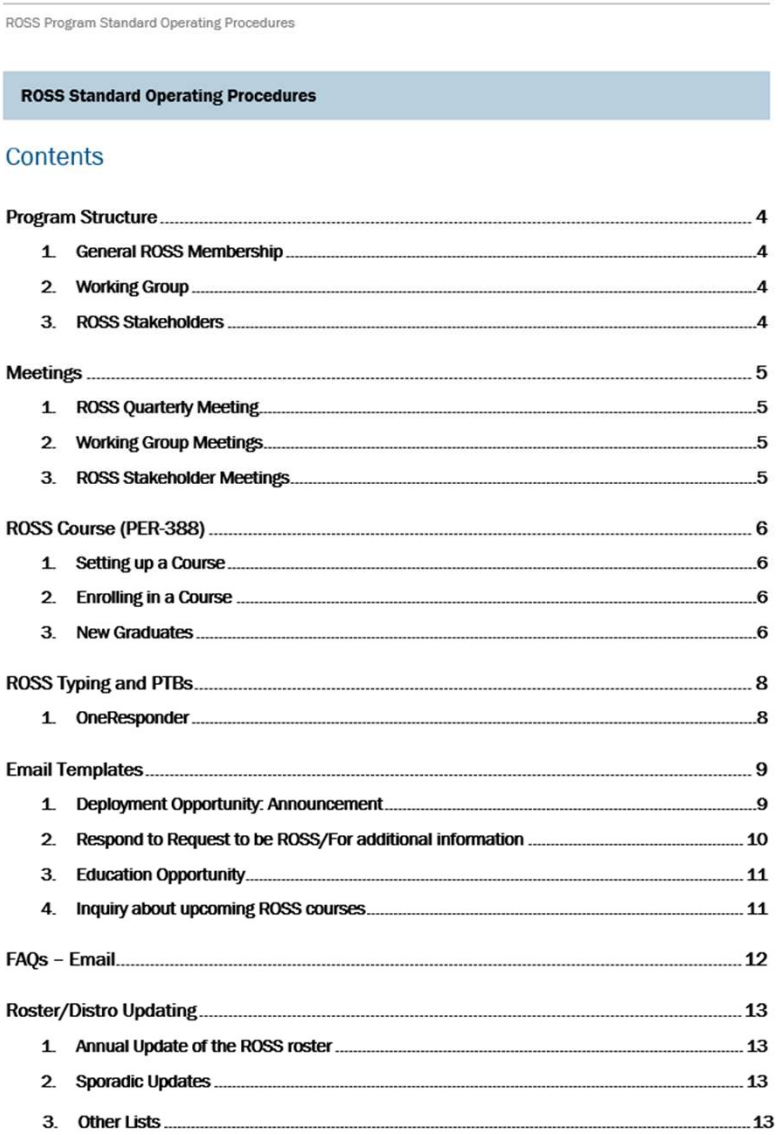


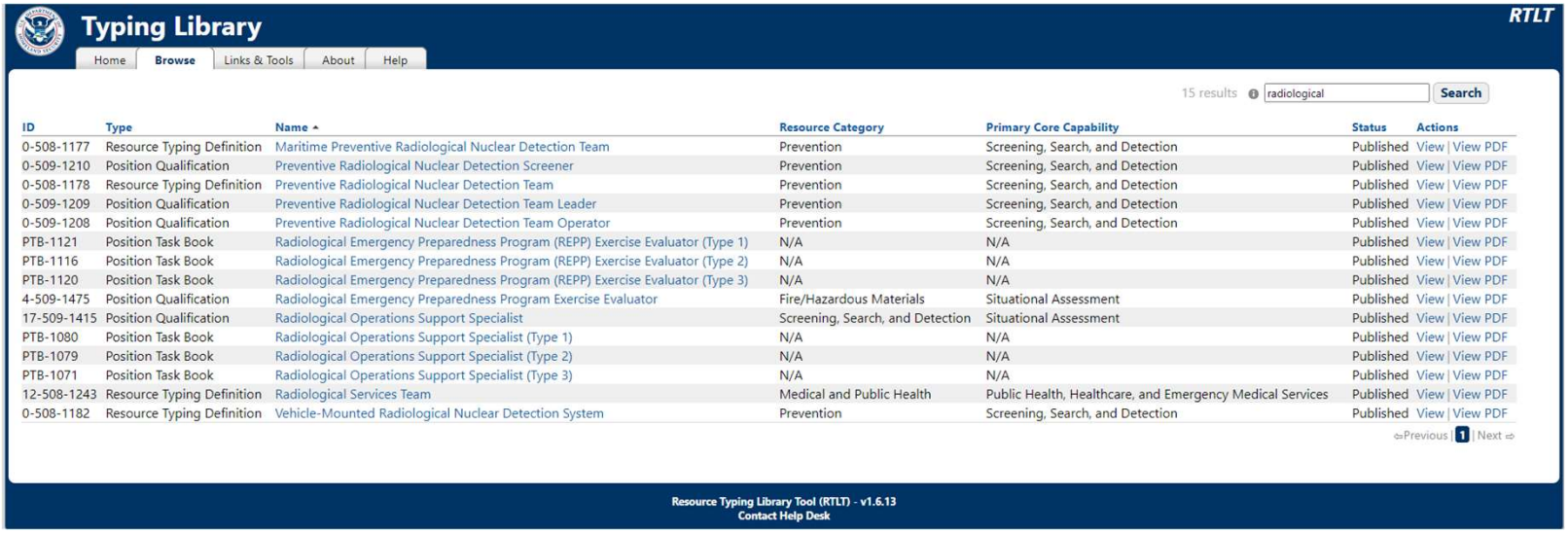
ROSS Program Standard Operating Procedures

ROSS Standard Operating Procedures

Contents

The ROSS Position Qualification (FEMA 509) has been revised

- FEMA National Integration Center approved revision of the ROSS Position Qualification (FEMA 509) on 31 March. 2023.
- Note the PTBs here. They do not have the forms or instructions found in the 2019 version. The forms are needed for evaluation records and certification.



Typing Library

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15 results | radiological | Search

ID	Type	Name	Resource Category	Primary Core Capability	Status	Actions
0-508-1177	Resource Typing Definition	Maritime Preventive Radiological Nuclear Detection Team	Prevention	Screening, Search, and Detection	Published	View | View PDF
0-509-1210	Position Qualification	Preventive Radiological Nuclear Detection Screener	Prevention	Screening, Search, and Detection	Published	View | View PDF
0-508-1178	Resource Typing Definition	Preventive Radiological Nuclear Detection Team	Prevention	Screening, Search, and Detection	Published	View | View PDF
0-509-1209	Position Qualification	Preventive Radiological Nuclear Detection Team Leader	Prevention	Screening, Search, and Detection	Published	View | View PDF
0-509-1208	Position Qualification	Preventive Radiological Nuclear Detection Team Operator	Prevention	Screening, Search, and Detection	Published	View | View PDF
PTB-1121	Position Task Book	Radiological Emergency Preparedness Program (REPP) Exercise Evaluator (Type 1)	N/A	N/A	Published	View | View PDF
PTB-1116	Position Task Book	Radiological Emergency Preparedness Program (REPP) Exercise Evaluator (Type 2)	N/A	N/A	Published	View | View PDF
PTB-1120	Position Task Book	Radiological Emergency Preparedness Program (REPP) Exercise Evaluator (Type 3)	N/A	N/A	Published	View | View PDF
4-509-1475	Position Qualification	Radiological Emergency Preparedness Program Exercise Evaluator	Fire/Hazardous Materials	Situational Assessment	Published	View | View PDF
17-509-1415	Position Qualification	Radiological Operations Support Specialist	Screening, Search, and Detection	Situational Assessment	Published	View | View PDF
PTB-1080	Position Task Book	Radiological Operations Support Specialist (Type 1)	N/A	N/A	Published	View | View PDF
PTB-1079	Position Task Book	Radiological Operations Support Specialist (Type 2)	N/A	N/A	Published	View | View PDF
PTB-1071	Position Task Book	Radiological Operations Support Specialist (Type 3)	N/A	N/A	Published	View | View PDF
12-508-1243	Resource Typing Definition	Radiological Services Team	Medical and Public Health	Public Health, Healthcare, and Emergency Medical Services	Published	View | View PDF
0-508-1182	Resource Typing Definition	Vehicle-Mounted Radiological Nuclear Detection System	Prevention	Screening, Search, and Detection	Published	View | View PDF

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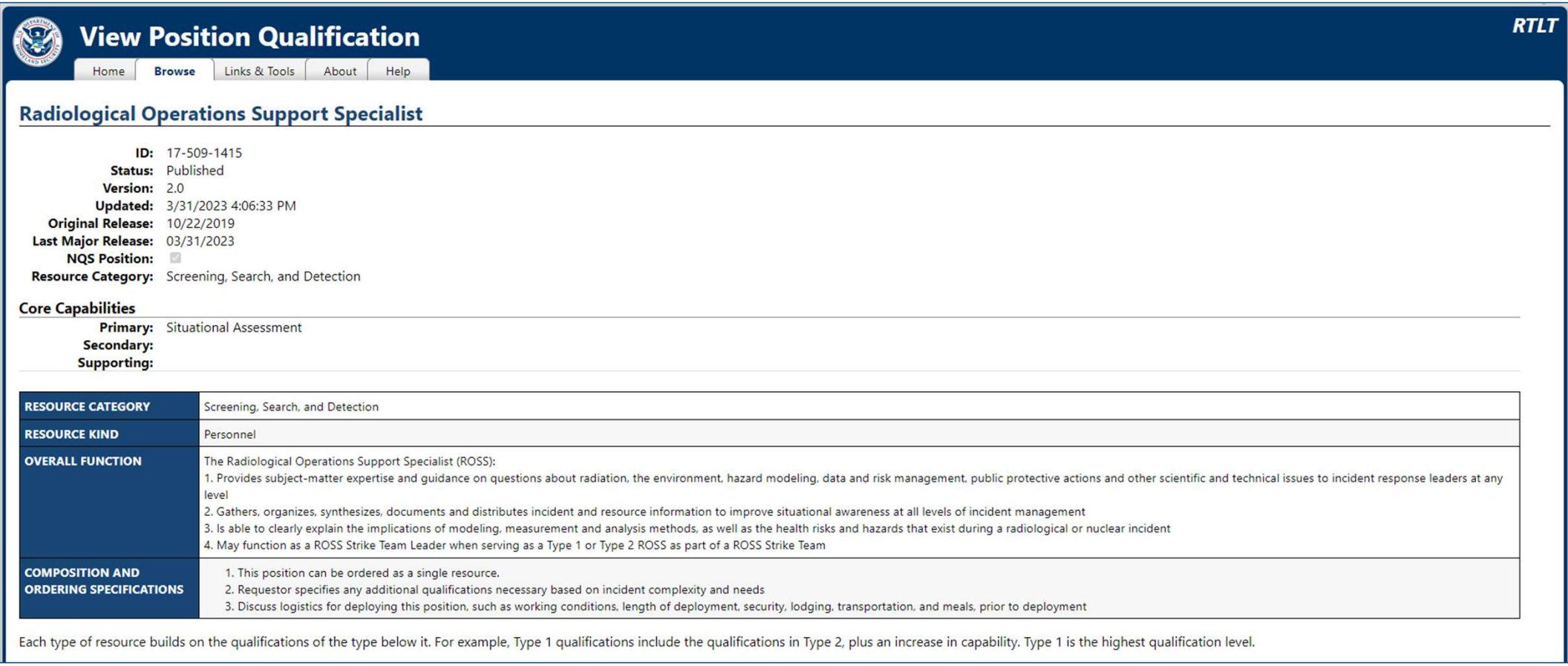
https://rtlt.preptoolkit.fema.gov/Public/Combined?q=radiological



Introduction

COMPONENT	TYPE 1	TYPE 2	TYPE 3	TYPE 4	NOTES
DESCRIPTION	Same as Type 2, PLUS: 1. Has the capacity to work at the Incident Command Post (ICP) and Emergency Operations Center (EOC) levels and to advise Authority Having Jurisdiction (AHJ) and elected officials 2. Helps the AHJ integrate Federal radiological response assets and capabilities from across the government into the response, as necessary 3. Coordinates radiological activities and technical data management with other ROSS staff and Federal response assets across the incident 4. Integrates into a state's EOCs and coordinates with the radiological control authority 5. Supports radiological response preparedness activities and exercises at the state and local levels 6. May manage multiple ROSS Strike Team Leaders engaged in a variety of radiological response activities, including human dose and environmental impact projection and assessment, and maintaining a consistent radiological situational awareness 7. Manages various ROSS Strike Team activities as the AHJ requests, such as: a. Incident response activities b. Public and emergency worker dose data collection and reduction, for dose management in large populations c. Management of geographically and temporally extensive environmental sampling d. Coordination of radiochemical analysis of samples e. Radiological safety guidance to emergency support functions engaged in lifesaving f. Restoration of critical infrastructure g. Decontamination of people and places h. Radioactive waste management	Same as Type 3, PLUS: 1. Creates exposure estimates for a variety of internal and external exposure scenarios 2. Understands key state and Federal radiological response assets, capabilities, and reporting structures, and integrates them into an effective response 3. Communicates complex radiological issues to large groups and senior managers, and supports public message development 4. Helps develop Incident Action Plans (IAP) that balance complex radiological safety concerns with mission priorities 5. Works closely with command staff and emergency management teams 6. Works effectively with other ROSS staff when part of a ROSS Strike Team, or when serving as a ROSS Strike Team Leader, to synthesize large amounts of radiological data from a variety of response and recovery resources to ensure a common radiological operating picture across all affected jurisdictions 7. May coordinate with state and local decision makers to provide necessary radiological assessments of health and environmental impacts	Same as Type 4, PLUS: 1. Works as a technical specialist and advises response personnel and AHJ on issues pertaining to radiological and nuclear (rad/nuc) response 2. Provides radiological incident assessment and resource information through: a. Interpreting and communicating model and measurement results and data products b. Proficient use of the CBRNResponder mobile app and website to collect and share data 3. Has knowledge of state radiation control programs and other radiological emergency preparedness assets, as well as key Federal radiological response assets 4. Exchanges technical information with other ROSS staff in the response and advisory organizations to ensure effective communication of protection guidance 5. When part of a ROSS Strike Team: Reports to a ROSS Strike Team Leader and works within a ROSS Strike Team at an ICP or other incident management center to ensure the use of a common radiological operating picture throughout the response and recovery periods for compatible, effective decision-making across all affected jurisdictions 6. Helps develop command post-level objectives for implementing protective actions and emergency worker protections on a unit-by-unit level 7. Guides radiological aspects of response during the incident by having: a. A working knowledge of radiological protection guidance and best practices, including how best to apply the Environmental Protection Agency (EPA) PAG Manual: Protective Action Guides and Planning Guidance for Radiological Incidents, the Department of Homeland Security (DHS) Radiological Dispersal Device (RDD) Response Guidance, FEMA Improvised Nuclear Device Response and Recovery guidance and other rad/nuc emergency response and recovery guidance b. The ability to obtain updated/additional radiological advice and recommendations from appropriate advisory organizations 8. Helps responding agencies and agency decision makers use the CBRNResponder website to maintain situational awareness of radiological aspects of the incident 9. Communicates radiological issues to nontechnical audiences and provides first responders with just-in-time training on the CBRNResponder mobile app and website, monitoring devices and safety protocols 10. Effectively integrates into the Incident Command System (ICS) structure	The National Incident Management System (NIMS) Type 3 ROSS: Has completed initial ROSS training and can work as a technical specialist under the supervision of a Type 3 or higher ROSS	When serving as part of a ROSS Strike Team, a NIMS Type 1 or Type 2 ROSS may also function as a team leader.

Description

EDUCATION	One of the following: 1. Graduate degree in a radiation-related field 2. Successful completion of part 1 of the American Academy of Health Physics (AAHP) certification exam 3. Equivalent experience, as the AHJ determines	One of the following: 1. Bachelor's degree in science, technology, engineering, mathematics or a radiation-related field, such as health physics, nuclear engineering or radiological science 2. National Registry of Radiation Protection Technologists (NRRPT) certification 3. Equivalent experience, as the AHJ determines	One of the following: 1. Associate degree in a radiation-related field, such as health physics, nuclear engineering or radiological science 2. NRRPT certification	One of the following: 1. Associate degree in a radiation-related field, such as health physics, nuclear engineering or radiological science 2. NRRPT certification	In lieu of an undergraduate degree, a NIMS Type 3 and 4 ROSS may substitute training and five years of experience as a National Fire Protection Association (NFPA) 472 Hazardous Materials Technician Specialist Employee A with a specialty in radioactive materials and/or weapons of mass destruction or equivalent, as the AHJ determines.
TRAINING	Same as Type 2, PLUS Completion of the following: 1. ICS-400: Advanced Incident Command System for Command and General Staff – Complex Incidents 2. LN-200: Federal Radiological Monitoring and Assessment Center (FRMAC) Liaison Skills Lab, or equivalent 3. PER-905: Advanced Radiological Incident Operations, or equivalent	Same as Type 3, PLUS completion of the following: 1. ICS-300: Intermediate Incident Command System for Expanding Incidents 2. E/L/G 0191: Emergency Operations Center/Incident Command System Interface, or equivalent 3. PER-316: Radiological Accident Assessment, or equivalent 4. PER-904: Radiological Emergency Response Operations, or equivalent 5. Training or experience in Turbo FRMAC to the level equivalent to a Department of Energy (DOE) FRMAC Assessment Scientist 6. Nuclear Regulatory Commission (NRC) Radiological Assessment System for Consequence Analysis (RASCAL) course, or equivalent 7. RESRAD-RDD course, or equivalent	Completion of the following: 1. Counterterrorism Operations Support (CTOS) PER-307: Introduction to Improvised Nuclear Device Effects and Response Strategies (web based or instructor led) or equivalent 2. PER-325-W: CBRNResponder Mobile App or equivalent 3. CBRNResponder website version webinars 4. LN-100: FRMAC Liaison Fundamentals, or equivalent 5. Radiation protection/emergency response training in accordance with at least one of the following: a. Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) Part 1910.120: Hazardous Waste Operations and Emergency Response b. Advanced training to the level equivalent to an American National Standards Institute/American Nuclear Society (ANSI/ANS) 3.1 Radiation Protection Technician c. Hazardous Materials Technician Specialist Employee A with a specialty in radioactive materials and/or weapons of mass destruction, as defined in NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents d. Hazardous Materials Specialist III training as defined by the American Federation of State, County, and Municipal Employees (AFSCME)	Completion of the following: 1. IS-100: Introduction to the Incident Command System, ICS-100 2. IS-200: Basic Incident Command System for Initial Response, ICS-200 3. IS-700: National Incident Management System, An Introduction 4. IS-800: National Response Framework, An Introduction 5. IS-836: Nuclear/Radiological Incident Annex or equivalent 6. PER-388: Radiological Operations Support Specialist (ROSS) Training	Not Specified
EXPERIENCE	Same as Type 2, PLUS: Knowledge, Skills, and Abilities: Working knowledge of plume projection/dose assessment modeling and software, such as RASCAL, HotSpot, and RESRAD, as demonstrated in training or exercises Experience: 1. Successful completion of the National Qualification System (NQS) for the National Incident Management System (NIMS) Type 1 Radiological Operations Support Specialist, or equivalent AHJ documentation 2. Three additional years of experience as an operational health physicist, with extensive emergency preparedness and response experience and detailed knowledge of Federal and state radiological response agencies and capabilities 3. Successful development and implementation of at least three additional separate rad/nuc emergency training sessions for first responders or other emergency management personnel	Same as Type 3, PLUS: 1. Successful completion of the National Qualification System (NQS) for the National Incident Management System (NIMS) Type 2 Radiological Operations Support Specialist, or equivalent AHJ documentation 2. Experience in a radiological response and advisory role during national exercises such as Vibrant Response 3. Three years of experience as an operational health physicist or radiation safety officer, with emergency response experience and training in the Federal radiological response framework 4. Successful development and implementation of at least three separate rad/nuc emergency training sessions for first responders or other emergency management personnel	1. Successful completion of the National Qualification System (NQS) for the National Incident Management System (NIMS) Type 3 Radiological Operations Support Specialist, or equivalent AHJ documentation 2. Successful completion of at least two tabletop exercises or other exercises demonstrating the radiological response and advisory role—such as the Silent Thunder series, the Isotope Crossroads series, or FEMA's Radiological Emergency Preparedness (REP) exercises 3. Practical experience working with, and making measurements of, radioactive materials or radiation generating devices 4. Emergency response experience and training in the Federal radiological response framework	Experience in a radiological response and advisory role during radiological emergency preparedness exercises for nuclear power plants, community reception centers or other radiological incidents (such as Vigilant Guardian)	Participation in the tabletop exercises in PER-388 satisfies the Type 4 Experience Requirement.

Education, Training and Experience

Fitness, Currency, Certifications, Notes and References

PHYSICAL/MEDICAL FITNESS	Light	Light	Light	Light	The NIMS Guideline for the NQS defines Physical/Medical Fitness levels for NQS positions.
CURRENCY	Same as Type 4, PLUS: Functions in this position during an operational incident, exercise, drill, simulation, or planned event at least annually	Same as Type 4	Same as Type 4	1. Functions in this position during an operational incident, exercise, drill, simulation, or planned event at least once every two years 2. Maintains currency in all relevant NIMS, ICS, and hazardous materials (HAZMAT) training 3. Attends at least eight hours of ROSS refresher training or continuing education every two years 4. Maintains proficiency in critical tools, including CBRNResponder, the ROSS Toolkit and CMweb	Not Specified
PROFESSIONAL AND TECHNICAL LICENSES AND CERTIFICATIONS	Successful completion of part 1 of the AAHP exam, or equivalent experience	Not Specified	Not Specified	Not Specified	Not Specified

Notes

Nationally typed resources represent the minimum criteria for the associated component and capability.

References

1. FEMA, National Qualification System (NQS) Position Task Book for Radiological Operations Support Specialist, latest edition adopted (October 2019)
2. FEMA, National Incident Management System (NIMS), October 2017
3. FEMA, NIMS Guideline for the NQS, November 2017
4. FEMA, National Response Framework, June 2016
5. FEMA, Improvised Nuclear Device Response and Recovery: Communicating in the Immediate Aftermath, latest edition adopted (June 2013)
6. Department of Homeland Security (DHS) Radiological Dispersal Device (RDD) Response Guidance, latest edition adopted (November 2017)
7. Environmental Protection Agency (EPA) PAG Manual: Protective Action Guides and Planning Guidance for Radiological Incidents, latest edition adopted (January 2017)
8. National Fire Protection Association (NFPA) 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents, latest edition adopted (2018)
9. Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) Part 1910.120: Hazardous Waste Operations and Emergency Response

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Counterterrorism Operations Support Training

- CTOS Initial ROSS Classes
  - Sacramento, California course scheduled for October 23-26, 2023.
  - Los Angeles, California course scheduled for December 11-14, 2023.
- Working with points of contact in Massachusetts, Nebraska, Kentucky and Utah for new classes in FY 2024.
- As noted, plan to pilot the nuclear detonation (Nuc Det) and radiological dispersal device (RDD) Virtual Evaluation Scenario Tool (VEST) in FY 2023.
  - Focus on deep dives into response during didactic and completing tasks through multiple practical exercises.

https://www.ctosnnsa.org/pdfs/NNSS-CTOS-U-0005-Rev02.pdf accessed 2/23/23.

The Qualification Review Board (QRB)

- We have many ROSS who have been working on task completion in their Type 3, 2 and 1 Position Task Books (PTBs).
- The QRB is expecting several to be reviewed between now and the next ROSS Quarterly Call the week of 25 September 2023.
- There are three folks, one for Type 1 and two for Type 3, from Texas already lined up.
- We hope that we can have multiple ROSS certify for advancing type each quarterly call as we go on.

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The Qualification Review Board (QRB) Certification for June 2023

- This quarter, we have one person who has completed certification for Type 3 and Type 2: Kelly Gillette of Iowa.
- In addition to being well known by Angela Leek her past ROSS Mentor, Kelly has been working very closely with many of us on the ROSS continuing education at the 2022 and 2023 NREP and CRCPD conferences.
- Please join me in celebrating the certification of our newest Type 2 ROSS – Kelly Gillette!

Kelly presented yet another way to efficiently document her task completion

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POSITION TASK BOOK FOR THE POSITION OF

National Qualification System
RADIOLOGICAL OPERATIONS SUPPORT SPECIALIST (TYPE 3)

EVALUATOR VERIFICATION

(Do not complete this form unless you are recommending the trainee for all-hazards certification.)

FINAL EVALUATOR VERIFICATION
I verify that Kelly Gillette has successfully completed all tasks as a trainee and should therefore be considered for certification in this position. I also verify that all tasks are documented with appropriate initials.
FINAL EVALUATOR'S SIGNATURE: Scott Wendt
DATE: 3/28/2023
FINAL EVALUATOR'S PRINTED NAME: Scott Wendt
TITLE: Radiation Safety Officer
DUTY STATION: Iowa State University
PHONE NUMBER: 515-294-3314
E-MAIL: khequ@iastate.edu

DOCUMENTATION OF AGENCY CERTIFICATION

DOCUMENTATION OF AGENCY CERTIFICATION
I certify that Kelly Gillette has successfully met all of the criteria set out in the National Incident Management System (NIMS) Job Title/Position Qualifications document for the position and will hereby receive certification of his/her qualification.
OFFICIAL'S SIGNATURE: Patty Riesberg
DATE:
OFFICIAL'S NAME: Patty Riesberg
TITLE: Bureau Chief
DUTY STATION: Bureau of Radiological Health - Iowa Department of Health & Human Services
PHONE NUMBER: 515-371-2255
E-MAIL: patricia.riesberg@idph.iowa.gov

Version: October 2019

Kelly presented yet another new way to document her task completion

Kelly Gillette Evaluation Record Worksheet

Evaluation Record Number	Dates	Tasks
001	October 2005 - Current	Field Team Member • Environmental Sample Collection • Plume Monitoring • Equipment Operational Checks • Air Samples
002	2008 - Current	Field Team Trainer - Topics • Environmental Sampling • Evaluation Criteria for field teams (FEMA REP Manual) • Instrument usage • Ingestion Pathway training
003	2012 - Current	Field Team Coordination • Brief field team members on assignments and risks • Adjust and communicate mission changes. • Relayed measurements and finding to dose assessment team located at State Emergency Operation Center • Assess field team data • Determine environmental sampling locations with SEOC and dose assessment staff • Communication with NPP field team coordination • Back Up Dose Assessment - RASCAL • 2016 Ingestion Pathway Exercise
004	April 2006	RERO – Radiological Emergency Response Operations – Anniston • Incident command • Plume Modeling
005	June 2009	ARIO – Advance Radiological Incident Operations – Anniston • Incident Command • Plume modeling
006	2022	PER-388 ROSS Training • NPP/RDD/Nuc Det • Briefed IC using map products
007	2018	Passed NRRPT Exam
008	October 2005 - Current	Job Health Physicist • Annual Inspection with IDPH • Training radioactive material workers • Coordinate with State on Emergency Response Aspects • Calibrate instruments for Iowa State and outside entities. • Manage Dosimetry program for ISU
009		CTOS Training – Las Vegas Test Site
010	October 2005-Current	HAZWOPER (40 hour) Certification
011	Various	• AWR-140-1 Weapons of Mass Destruction Radiological/Nuclear Awareness Train the trainer course • PER-241 Weapons of Mass Destruction Radiological/Nuclear Hazardous Materials Technicians

Kelly Gillette Evaluation Record Worksheet

		• ICS 100.b Introduction to Incident Command System • ICS-200 ICS for Single Resources and Initial Action Incident • IS-700 National Incident Command System • IS-301 Radiological Emergency Response • IS-003 Radiological Emergency Management • IS-800 National Response Framework, an introduction • IS-2200 Basic Emergency Operations Center Functions • IS-346 Hazardous Materials for Medical Personnel • IS-303 Radiological Accident Assessment Concepts • Nebraska DHRE Region 7 Series 2021 • Nebraska IPX Prep and FRMAC training
012	June 2013	Radiological Series, Training the Trainer - Anniston
013	June 2013	MERRTT Modular Emergency Response Radiological Training Train the Trainer
014	2012	Radon Measurement and Measurement Exam
015	2009	Ludlum Instruments Training Course Sweetwater, TX
016	April 2008	Occupational and Environmental Radiation Protection: Principals and practices Harvard RSO class
017	November 2022	Introduction to Assessment Science - Turbo FRMAC
018	June 2020	DOT/NRC Radioactive Waste Packaging, Transportation and Disposal Training
019	Ongoing	RadResponder • ROSS Tool Kit Review • Enter survey Data via app and website • Create tasks • Create events • Create sample templates • Equipment manager • Assess data points • Download Survey data • Use the map • Add field team traverse points to the Map • Set Thresholds • Submit Samples to Lab for analysis • Webinars multiple • Nation Wide Drills
020	Jan 2020 - Current	Calibration Shop manager • Create new calibration forms • Trained new calibration personnel • Calibrate meters, dosimeters.
021	Aug 2022	CM Web Account approved
022	March 2023	Service Area Coalition training • Training development • TTX Development

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Kelly presented yet another new way to document her task completion

Kelly Gillette Evaluation Record Worksheet

		• Hands on training • SME
023	Various	2022 CRCPD RDD Workshop – Acted as a ROSS Tuscan, AZ • First 100 minutes Guidance 2022 NREP RDD workshop • Assisted during work shop 2023 NREP NucDet workshop • Planning, development, and implementation
024	Various	Provided hands on training • Sioux City Fire • Field Teams • Metro Star • Iowa DOT – Motor Vehicle Enforcement
025	June-July 2022	Community Reception Center Training • Helped Set up equipment • Provided training to community members
026	June 2021	Community Reception Center Exercise • Acted as SME • Answered question for evaluator
027	Various	URI-Rascal Training • NRC office in Chicago • Ames, IA
028	March 2021	RDD Training and Exercise for Central Iowa (State, County, and local partners) • First 100 minutes Guidance • Hot Zone • Shelter in place • 10-point monitoring
029	2022	QCGS MS1 training and exercises • Hands on training • SME

RADIOLOGICAL OPERATIONS SUPPORT SPECIALIST (TYPE 3)

***1. Competency:* Assume position responsibilities**

Description: Successfully assume the role of Radiological Operations Support Specialist (ROSS) and initiate position activities at the appropriate time according to the following behaviors.

***1a. Behavior:* Ensure readiness for assignment**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
1. Demonstrate a working knowledge of the basic functionality of and differences between advanced modeling tools: • Demonstrate a working knowledge of Hazard Prediction and Assessment Capability (HPAC), • Visual Sample Plan (VSP), Turbo FRMAC, HotSpot and the RESRAD suite	C, E, F, I, J, T	17, 16, 3 in person discussion	AL 3/24/2023
2. Demonstrate ability to share information with responders and decision makers using Homeland Security Information Network (HSIN), WebEOC, spreadsheets and other common software: • Demonstrate a working knowledge of HSIN, WebEOC, spreadsheets and other common software	C, E, F, I, J, T	3	AL 3/24/2023
3. Demonstrate an understanding that maps, atmospheric plume modeling, briefing products and technical reports can come from several sources: • Explain functions of IMAAC and types of information and products it provides • Explain functions of NARAC and types of information and products it provides • Explain functions of FRMAC and types of information and products it provides	C, E, F, I, J, T	5, FRMAC training in NE 2019	AL 3/24/2023
4. Demonstrate basic ability to explain Interagency Modeling and Atmospheric Assessment Center (IMAAC), National Atmospheric Release Advisory Center (NARAC) and Federal Radiological Monitoring and Assessment Center (FRMAC) data products: • Interpret and brief at least two data products to an audience	C, E, F, I, J, T	ROSS 6 class + discussion	AL 3/24/2023
5. Demonstrate familiarity with using RadResponder: • Secure a RadResponder login • Demonstrate RadResponder account management functions: updating password and username, editing contact information and recovering a password • Demonstrate ability to navigate to an event and use basic functionality: downloading data, navigating the map, and so on	C, E, F, I, J, T	3 # 19	AL 3/24/2023
6. Explain the difference between providing technical guidance and making recommendations: • Describe how recommendations are alternatives derived from technical guidance	C, E, F, I, J, T	3, 5,	AL 3/24/2023

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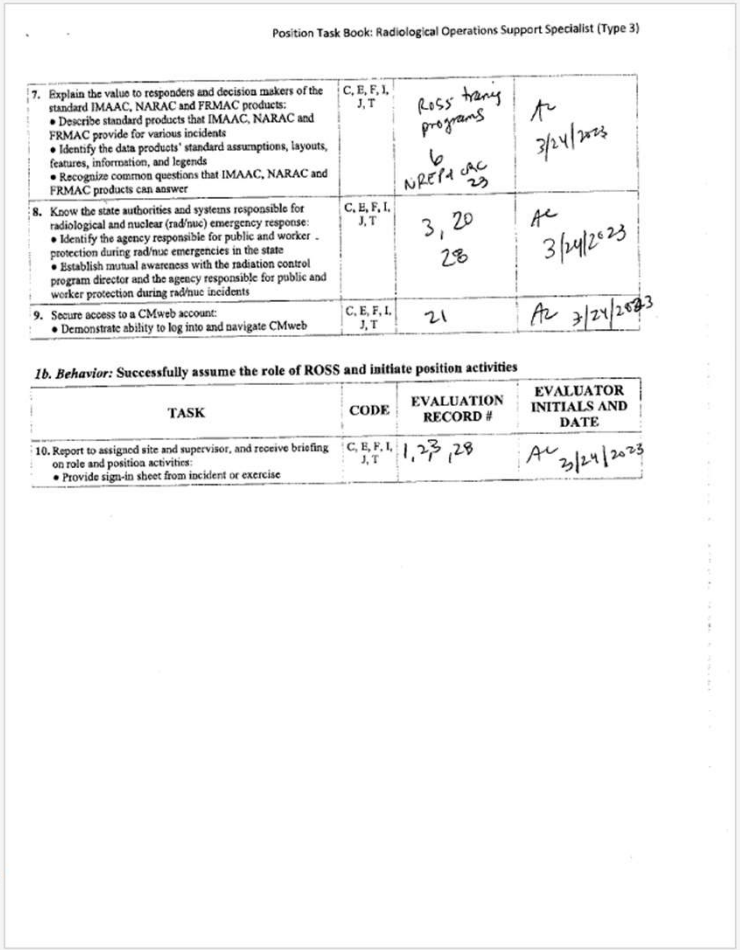
Kelly presented yet another new way to document her task completion



Position Task Book: Radiological Operations Support Specialist (Type 3)

7. Explain the value to responders and decision makers of the standard IMAAC, NARAC and FRMAC products: • Describe standard products that IMAAC, NARAC and FRMAC provide for various incidents • Identify the data products' standard assumptions, layouts, features, information, and legends • Recognize common questions that IMAAC, NARAC and FRMAC products can answer	C, E, F, I, J, T	ROSS training programs 6 NREP1 dac 23	AL 3/24/2023
8. Know the state authorities and systems responsible for radiological and nuclear (rad/nuc) emergency response: • Identify the agency responsible for public and worker protection during rad/nuc emergencies in the state • Establish mutual awareness with the radiation control program director and the agency responsible for public and worker protection during rad/nuc incidents	C, E, F, I, J, T	3, 20 28	AL 3/24/2023
9. Secure access to a CMweb account: • Demonstrate ability to log into and navigate CMweb	C, E, F, I, J, T	21	AL 3/24/2023

1b. Behavior: **Successfully assume the role of ROSS and initiate position activities**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
10. Report to assigned site and supervisor, and receive briefing on role and position activities: • Provide sign-in sheet from incident or exercise	C, E, F, I, J, T	1, 23, 28	AL 3/24/2023

Position Task Book: Radiological Operations Support Specialist (Type 3)

2. Competency: **Communicate effectively**

Description: Use suitable communication techniques to share relevant information with appropriate personnel on a timely basis to accomplish objectives in a potentially rapidly changing environment.

2a. Behavior: **Ensure the exchange of relevant information during briefings and debriefings**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
11. Demonstrate ability to identify opportunities to share information important to responders, incident managers, agencies and stakeholders during an incident: • Identify the right meetings/mechanisms to relay important information to responders, incident managers, agencies and stakeholders • Demonstrate ability to communicate effectively with workers in the field and with senior leadership	C, E, F, I, J, T	20, 24 03	AL 3/24/2023

2b. Behavior: **Communicate incident priorities and operations**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
12. Evaluate the radiological characteristics of the scenario and relate the risks to responders and the public: • Provide radiological perspectives to inform the Incident Action Plan (IAP) • Provide radiological perspectives for incident briefings • Provide content for Public Information Officer (PIO) messages	C, E, F, I, J, T	03, 45, 28	AL 3/24/2023

2c. Behavior: **Effectively gather, produce, apply, distribute, and communicate information**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
13. Demonstrate ability to convey technical information to a nontechnical audience: • Given a topic related to the consequences of a rad/nuc incident, describe it in terms a sixth-grader could understand	C, E, F, I, J, T	24, 25, 22, 29	AL 3/24/2023
14. Demonstrate effective public interaction skills: • Display good eye contact • Use effective, concise language • Display proper body language • Display self-awareness and ability to assess effectiveness of message delivery • Display situational awareness and ability to adapt message to audience	C, E, F, I, J, T	Observed	AL 3/24/2023
15. Provide just-in-time training for responders operating in a radiological environment: • Prepare responder training, including risk communication and how to view the radiological risk in the context of the overall hazard • Deliver training to a group of responders preparing to	C, E, F, I, J, T	3, 24, 22, 28 25, 29	AL 3/24/2023

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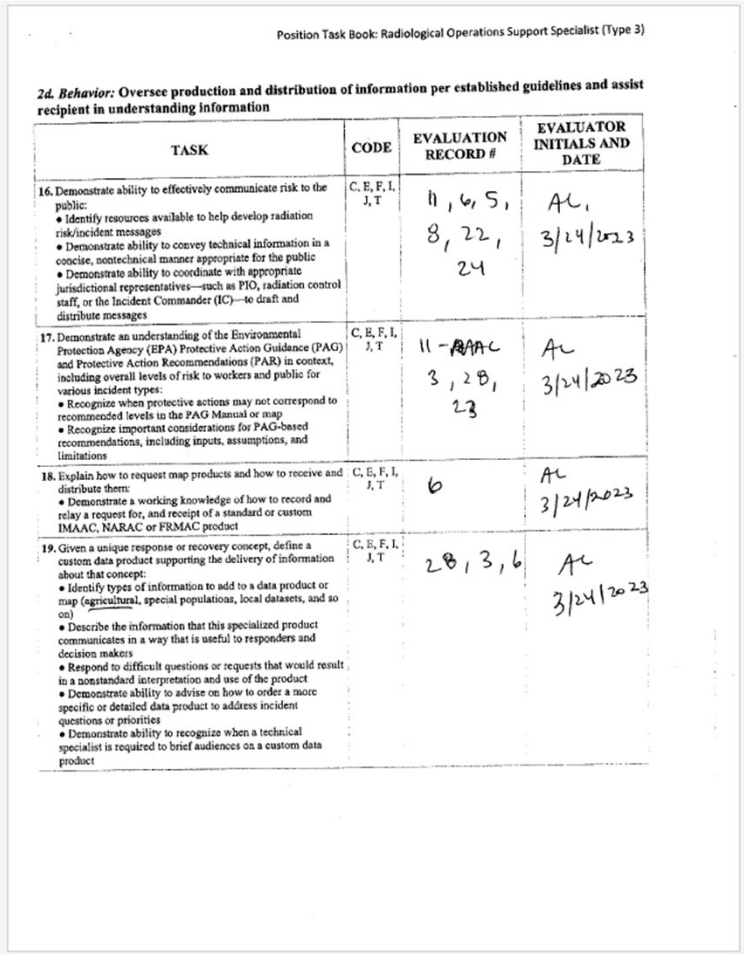
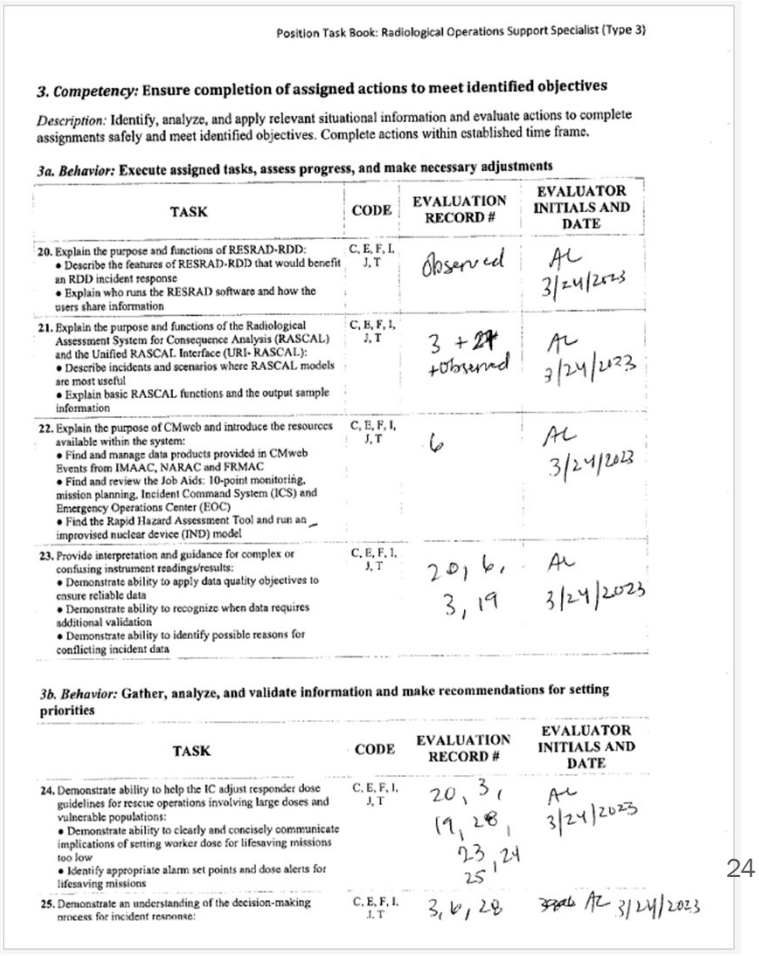
Kelly presented yet another new way to document her task completion



Position Task Book: Radiological Operations Support Specialist (Type 3)

2d. Behavior: **Oversee production and distribution of information per established guidelines and assist recipient in understanding information**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
16. Demonstrate ability to effectively communicate risk to the public: • Identify resources available to help develop radiation risk/incident messages • Demonstrate ability to convey technical information in a concise, nontechnical manner appropriate for the public • Demonstrate ability to coordinate with appropriate jurisdictional representatives—such as PIO, radiation control staff, or the Incident Commander (IC)—to draft and distribute messages	C, E, F, I, J, T	11, 6, 5, 8, 22, 24	AL, 3/24/2023
17. Demonstrate an understanding of the Environmental Protection Agency (EPA) Protective Action Guidance (PAG) and Protective Action Recommendations (PAR) in context, including overall levels of risk to workers and public for various incident types: • Recognize when protective actions may not correspond to recommended levels in the PAG Manual or map • Recognize important considerations for PAG-based recommendations, including inputs, assumptions, and limitations	C, E, F, I, J, T	11 - ~~AAC~~ 3, 28, 23	AL 3/24/2023
18. Explain how to request map products and how to receive and distribute them: • Demonstrate a working knowledge of how to record and relay a request for, and receipt of a standard or custom IMAAC, NARAC or FRMAC product	C, E, F, I, J, T	6	AL 3/24/2023
19. Given a unique response or recovery concept, define a custom data product supporting the delivery of information about that concept: • Identify types of information to add to a data product or map (agricultural, special populations, local datasets, and so on) • Describe the information that this specialized product communicates in a way that is useful to responders and decision makers • Respond to difficult questions or requests that would result in a nonstandard interpretation and use of the product • Demonstrate ability to advise on how to order a more specific or detailed data product to address incident questions or priorities • Demonstrate ability to recognize when a technical specialist is required to brief audiences on a custom data product	C, E, F, I, J, T	28, 3, 6	AL 3/24/2023



Position Task Book: Radiological Operations Support Specialist (Type 3)

3. Competency: **Ensure completion of assigned actions to meet identified objectives**

Description: Identify, analyze, and apply relevant situational information and evaluate actions to complete assignments safely and meet identified objectives. Complete actions within established time frame.

3a. Behavior: **Execute assigned tasks, assess progress, and make necessary adjustments**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
20. Explain the purpose and functions of RESRAD-RDD: • Describe the features of RESRAD-RDD that would benefit an RDD incident response • Explain who runs the RESRAD software and how the users share information	C, E, F, I, J, T	Observed	AL 3/24/2023
21. Explain the purpose and functions of the Radiological Assessment System for Consequence Analysis (RASCAL) and the Unified RASCAL Interface (URI- RASCAL): • Describe incidents and scenarios where RASCAL models are most useful • Explain basic RASCAL functions and the output sample information	C, E, F, I, J, T	3 + ~~24~~ +Observed	AL 3/24/2023
22. Explain the purpose of CMweb and introduce the resources available within the system: • Find and manage data products provided in CMweb Events from IMAAC, NARAC and FRMAC • Find and review the Job Aids: 10-point monitoring, mission planning, Incident Command System (ICS) and Emergency Operations Center (EOC) • Find the Rapid Hazard Assessment Tool and run an improvised nuclear device (IND) model	C, E, F, I, J, T	6	AL 3/24/2023
23. Provide interpretation and guidance for complex or confusing instrument readings/results: • Demonstrate ability to apply data quality objectives to ensure reliable data • Demonstrate ability to recognize when data requires additional validation • Demonstrate ability to identify possible reasons for conflicting incident data	C, E, F, I, J, T	20, 6, 3, 19	AL 3/24/2023

3b. Behavior: **Gather, analyze, and validate information and make recommendations for setting priorities**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
24. Demonstrate ability to help the IC adjust responder dose guidelines for rescue operations involving large doses and vulnerable populations: • Demonstrate ability to clearly and concisely communicate implications of setting worker dose for lifesaving missions too low • Identify appropriate alarm set points and dose alerts for lifesaving missions	C, E, F, I, J, T	20, 3, 19, 28, 23, 24, 25	AL 3/24/2023
25. Demonstrate an understanding of the decision-making process for incident response:	C, E, F, I, J, T	3, 6, 28	~~[illegible]~~ AL 3/24/2023

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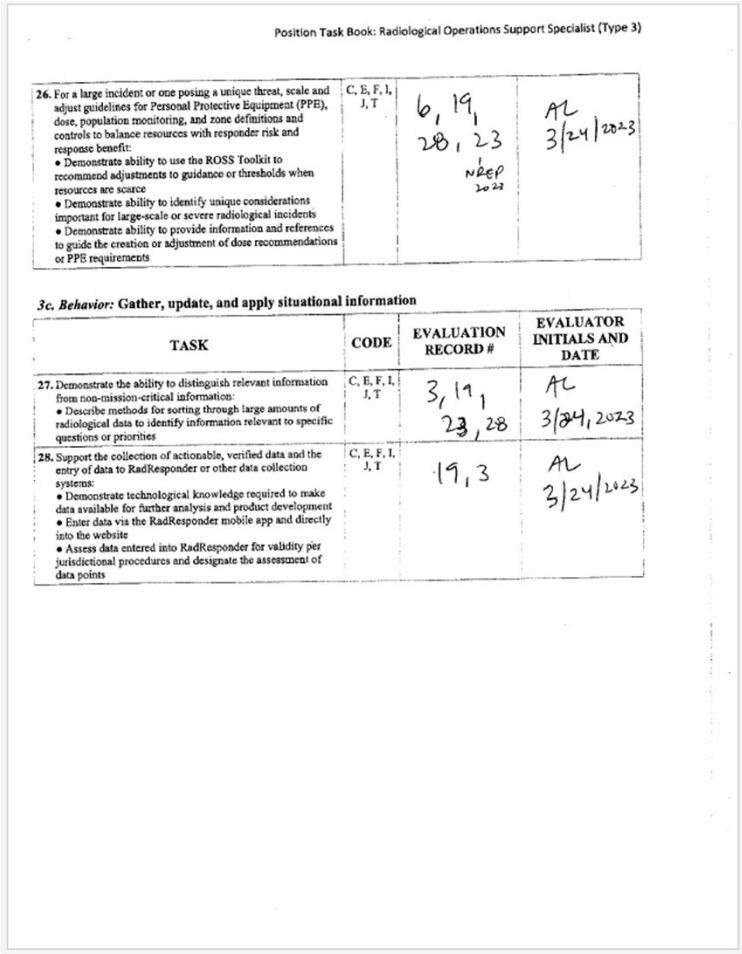
Kelly presented yet another new way to document her task completion

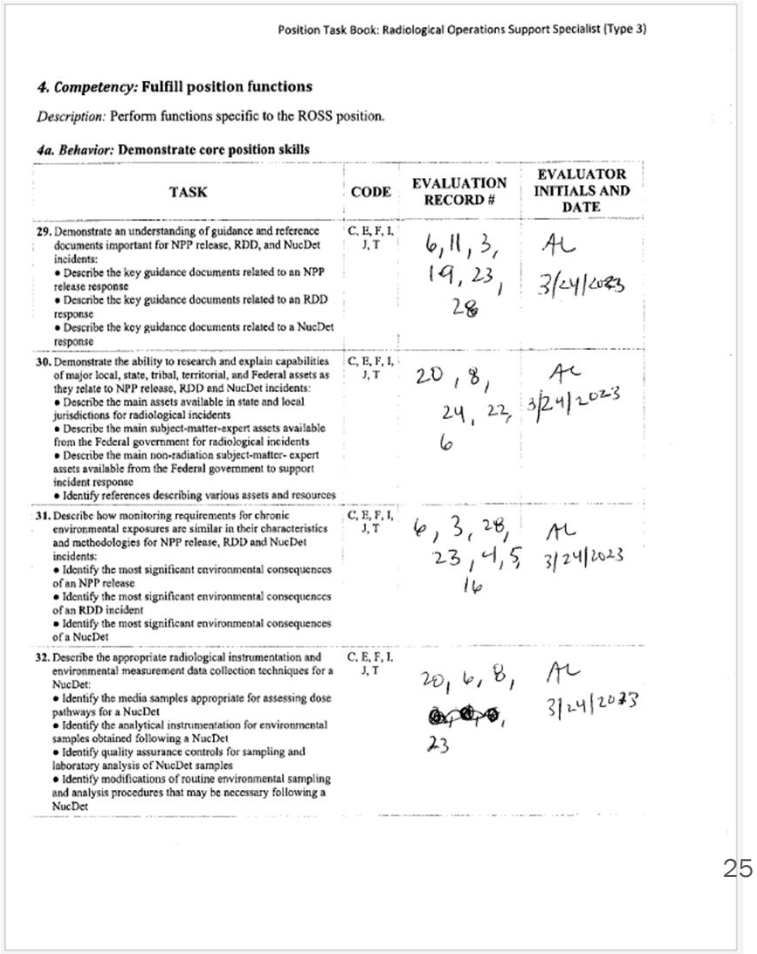


Position Task Book: Radiological Operations Support Specialist (Type 3)

26. For a large incident or one posing a unique threat, scale and adjust guidelines for Personal Protective Equipment (PPE), dose, population monitoring, and zone definitions and controls to balance resources with responder risk and response benefit: • Demonstrate ability to use the ROSS Toolkit to recommend adjustments to guidance or thresholds when resources are scarce • Demonstrate ability to identify unique considerations important for large-scale or severe radiological incidents • Demonstrate ability to provide information and references to guide the creation or adjustment of dose recommendations or PPE requirements	C, E, F, I, J, T	6, 19, 28, 23 NREP 2023	AL 3/24/2023

***3c. Behavior:* Gather, update, and apply situational information**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
27. Demonstrate the ability to distinguish relevant information from non-mission-critical information: • Describe methods for sorting through large amounts of radiological data to identify information relevant to specific questions or priorities	C, E, F, I, J, T	3, 19, 23, 28	AL 3/24/2023
28. Support the collection of actionable, verified data and the entry of data to RadResponder or other data collection systems: • Demonstrate technological knowledge required to make data available for further analysis and product development • Enter data via the RadResponder mobile app and directly into the website • Assess data entered into RadResponder for validity per jurisdictional procedures and designate the assessment of data points	C, E, F, I, J, T	19, 3	AL 3/24/2023



Position Task Book: Radiological Operations Support Specialist (Type 3)

***4. Competency:* Fulfill position functions**

Description: Perform functions specific to the ROSS position.

***4a. Behavior:* Demonstrate core position skills**

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
29. Demonstrate an understanding of guidance and reference documents important for NPP release, RDD, and NucDet incidents: • Describe the key guidance documents related to an NPP release response • Describe the key guidance documents related to an RDD response • Describe the key guidance documents related to a NucDet response	C, E, F, I, J, T	6, 11, 3, 19, 23, 28	AL 3/24/2023
30. Demonstrate the ability to research and explain capabilities of major local, state, tribal, territorial, and Federal assets as they relate to NPP release, RDD and NucDet incidents: • Describe the main assets available in state and local jurisdictions for radiological incidents • Describe the main subject-matter-expert assets available from the Federal government for radiological incidents • Describe the main non-radiation subject-matter- expert assets available from the Federal government to support incident response • Identify references describing various assets and resources	C, E, F, I, J, T	20, 8, 24, 22, 6	AL 3/24/2023
31. Describe how monitoring requirements for chronic environmental exposures are similar in their characteristics and methodologies for NPP release, RDD and NucDet incidents: • Identify the most significant environmental consequences of an NPP release • Identify the most significant environmental consequences of an RDD incident • Identify the most significant environmental consequences of a NucDet	C, E, F, I, J, T	6, 3, 28, 23, 4, 5, 16	AL 3/24/2023
32. Describe the appropriate radiological instrumentation and environmental measurement data collection techniques for a NucDet: • Identify the media samples appropriate for assessing dose pathways for a NucDet • Identify the analytical instrumentation for environmental samples obtained following a NucDet • Identify quality assurance controls for sampling and laboratory analysis of NucDet samples • Identify modifications of routine environmental sampling and analysis procedures that may be necessary following a NucDet	C, E, F, I, J, T	20, 6, 8, [redacted], 23	AL 3/24/2023

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Kelly presented yet another new way to document her task completion

Position Task Book: Radiological Operations Support Specialist (Type 3)

33. Describe the appropriate radiological instrumentation and environmental measurement data collection techniques for an RDD incident: • Identify the media samples appropriate for assessing dose pathways for an RDD incident • Identify the analytical instrumentation for environmental samples obtained following an RDD incident • Identify quality assurance controls for sampling and laboratory analysis of RDD samples • Identify modifications of routine environmental sampling and analysis procedures that may be necessary following an RDD incident	C, E, F, I, J, T	6, 20, 8 28, 23 24	AL 3/24/2023
34. Describe the appropriate radiological instrumentation and environmental measurement data collection techniques for NPP release incidents: • Identify the media samples appropriate for assessing dose pathways for an NPP release • Identify the analytical instrumentation for environmental samples obtained following an NPP release • Identify quality assurance controls for sampling and laboratory analysis of NPP release samples • Identify modifications of routine environmental sampling and analysis procedures that may be necessary following an NPP release	C, E, F, I, J, T	6, 20, 8 1, 2, 3, 4, 5, 17	AL 3/24/2023
35. Differentiate between the radiological risks of NPP release, RDD, and NucDet incidents: • Identify the most likely critical radiological effects of an NPP release, an RDD and a NucDet • Identify the response objectives related to pathways to human exposure for an NPP release, an RDD and a NucDet • Describe the variations in incident scale between an NPP release, an RDD and a NucDet	C, E, F, I, J, T	6, 24, 28, 22	AL 3/24/2023
36. Identify the dose calculations appropriate to NPP release, RDD and NucDet incidents: • Describe the key internal dose calculations and consequences for NPP release, RDD and NucDet incidents • Describe the key external dose calculations and consequences for NPP release, RDD and NucDet incidents • Describe recommendations related to dose consequences to achieve response objectives for NPP release, RDD and NucDet incidents • Describe quality assurance methods to best match dose measurements to incident objectives	C, E, F, I, J, T	6, 3, 4, 5, 11 (AAC) 23, 28	AL 3/24/2023
37. Recognize the appropriate IMAAC, NARAC, and FRMAC data products for NPP release, RDD and NucDet incidents: • Obtain specialized data products from CMweb for NPP release, RDD and NucDet incidents • Describe the unique characteristics of the CMweb data products for NPP release, RDD and NucDet incidents	C, E, F, I, J, T	6, 3, 17, 28, 23	AL 3/24/2023

EVALUATION RECORD FORM

TRAINEE NAME:	Kelly Gillette
TRAINEE POSITION:	NA
Evaluation Record Number:	See attached table
Evaluator's name:	Angela Leek
Incident/office title and agency:	ROSS Type 1 (SummitET)
Evaluator's home unit address and phone:	Norwalk, IA
Name and location of incident or simulation/exercise:	Various - see table attached
Incident kind:	Various - see table attached
Number and kind of resources:	
Evaluation period:	Historical experience documentation - see table
Position type:	Type 2 and 3

Recommendation:
The above named trainee performed the initialed and dated tasks under my supervision. I recommend the following for this trainee's further development:

__X__ The trainee has successfully performed all required tasks for the position. The AHJ should consider the individual for certification.
_____ The trainee could not complete certain tasks or needs additional guidance. See comments below.
_____ Not all tasks were evaluated on this assignment. An additional assignment is needed to complete the evaluation.
_____ The trainee is severely deficient in the performance of tasks and needs further training prior to additional assignment(s) as a trainee for this position.

Additional recommendations/comments:
I have worked with Kelly for several years and observed her directly on many of the activities documented in this table. She has demonstrated proficiency and observed traits necessary of a Type 3 and 2 ROSS.

Date:	3/24/2023
Evaluator's initials:	AL
Evaluator's relevant qualification:	ROSS Type 1

Version: October 2019

FEMA

Let's celebrate more ROSS advancement every quarter!

- We know we have many other people in the pipeline.
- We know it takes time and effort to document this, but it is a national certification requirement.
- Please wrap up your documentation with your evaluator(s) and Authority Having Jurisdiction.
- If you have any questions, let's hear them now.
- The QRB is available to answer questions after this meeting, too.
- Please reach us through me, william.Irwin@vermont.gov.

ROSS Competency Maintenance

Angela Leek, CRCPD Homeland Security/Emergency Response Committee 4

ROSS Quarterly Problem Set – June 2023

ROSS Quarterly Problem Set	June 2023
Answers Due By:	8/31/2023
Submit Answers and Supporting Attachments to:	Your State ROSS Task Force Leader or Angela Leek – angelaleek@summitet.com Bill Irwin – william.irwin@vermont.gov Matt McKinley – matthew.mckinley@ky.gov
Questions about problem:	Angela Leek – angelaleek@summitet.com Phone – (515) 229-8289
Task Sign Off Potential *Successful completion of this quarterly problem allows you to request signoff*	ROSS Position Task Book (PTB) Task #1, 9, 18, 19, 21, 24
Expected Answer Format	Two one- to two-minute briefings presented in person, via live teleconference or recorded in a video and sent to the reviewing ROSS.

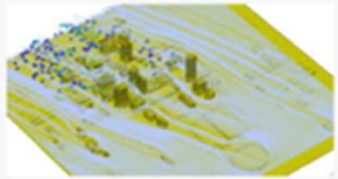
Problem Set Instructions

1. Watch the eight Modeling Products – Web-based training videos at https://responder.llnl.gov/training

Web Based Training

Modeling Concepts

This narrated, self-running course is designed to teach basic modeling concepts for radiological and nuclear release scenarios. By the end of the course, students will understand basic functions of atmospheric plume dispersion and dose models, model benefits and limitations, use of models during an emergency, and how to use modeling products to guide emergency planning and response. Total course time is 2 hours and 5 minutes.



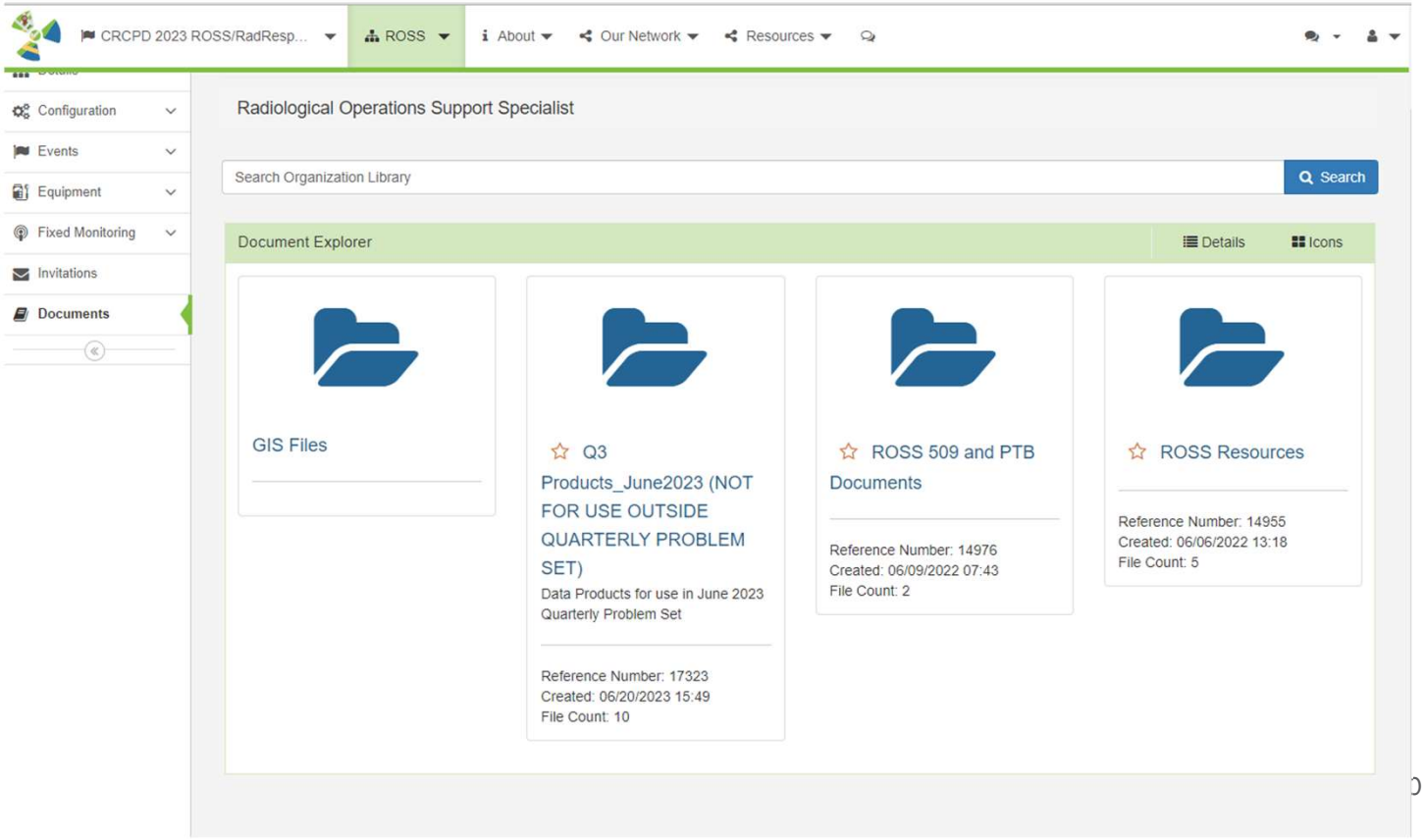
Models help inform response planners of the potential impacts of hazardous material releases.

Course Introduction (2 min)
An overview of the course objectives and outline.

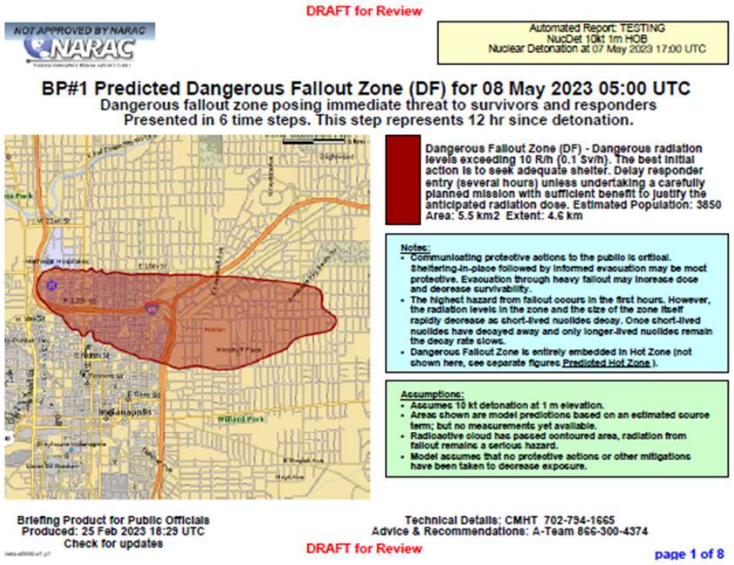
1. Modeling Concepts (14 min)
Learn about the basic elements of atmospheric dispersion models, including model input parameters and assumptions, release characteristics, meteorological conditions, and atmospheric stability.
2. Types of Atmospheric Dispersion Models (14 min)
Learn about five types of atmospheric dispersion models: the Gaussian plume model, the Gaussian puff model, the disk-tosser fallout model, the Lagrangian particle model, and the computational fluid dynamics model.
3. Dose Calculation Models (26 min)
Learn about radiation dose concepts, dose pathways, and model parameters affecting dose calculations.
4. Model Verification, Validation, and Accuracy (7 min)
Learn about verification and validation of dispersion models and causes of uncertainty in dispersion and dose models.
5. Protective Action Guides and Response Levels (11 min)
Learn about protective action guides used in the US and how response levels are derived to convert them to values that can be directly measured in an incident.
6. Use of Measurements with Models (8 min)
Walk through an example of using field measurements to adjust model input parameters in the model-measurement cycle.
7. Model Products (27 min)
Learn about the different types of products that may be developed in a response.
8. Comparison of Different Models (16 min)
Review two examples where different models are used for the same scenario, and learn about the causes of differences in the products developed.

ROSS Quarterly Problem Set – June 2023

2. Access practice data products on radresponder.net under:
   ROSS Organization – Documents – Q3 Products_June2023



ROSS Quarterly Problem Set
June 2023



3. Review the data products available, and select those appropriate to use for a 5-to-10-minute briefing to address the following situation:

It is T+ 3 hours after a nuclear detonation in Anywhere City, USA. The dose assessment team at the Emergency Operation Center has been asked to provide an overview of the standard maps and products that have just been delivered by the IMAAC. The public has currently been advised to shelter in place and workers are planning rescue missions into the affected area. **In addition to providing an overview of where the products came from and what situational awareness gained from the available products**, decision-makers and mission planners have **the following questions that need to be addressed in your presentation and verbal briefing**:

1. What products should we be using or not using at this time
   a. (T+3h and planning for T+12h)

2. Where should emergency workers focus their rescue operations?
   a. Are there any areas they should avoid?
   b. How does timing affect their mission priorities?

3. Should we evacuate the public in a radius around the detonation site now (T+3 hrs)?
   a. If not, why?
   b. When would be the optimal time to consider evacuating people from specific areas?
   c. If yes, what radius distance and where should the people go?

REMEMBER – you can reach out to other ROSS for questions and assistance

Closing Remarks

Steve Chase, FEMA Office of Emerging Threats

FEMA

Any Questions:

Contact FEMA-ROSS@FEMA.DHS.GOV