

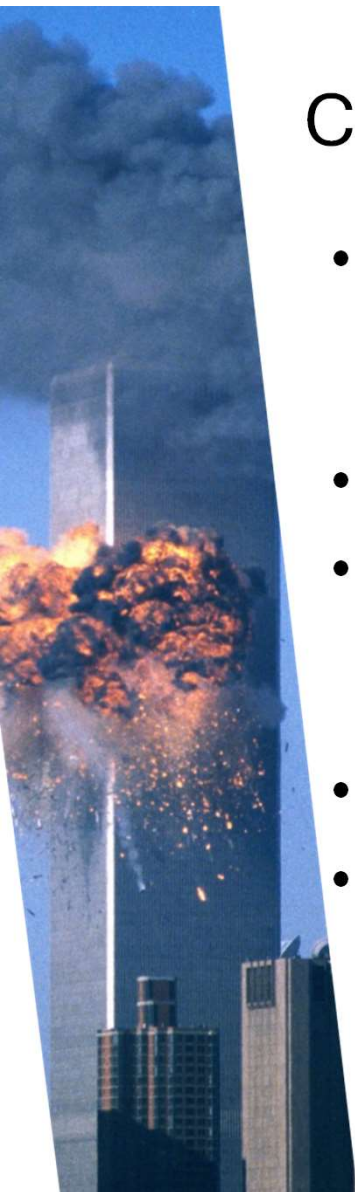
The Radiological Operations Support Specialist



Poster by William Irwin, ScD, CHP, FEMA Type 1
ROSS

CRCPD Homeland Security/Emergency Response
Committee-4 (HS/ER-4) Chair

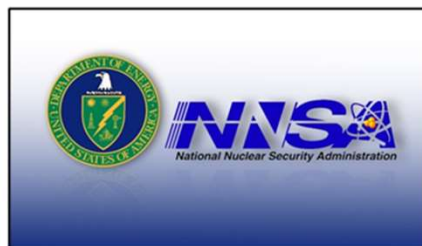
- Vermont Radiation Control Program Director
- FEMA Type 1 Radiological Operations Support Specialist
- Part time contractor to US Department of Energy Nuclear Emergency Support Team
- Council Member, National Council on Radiation Protection & Measurements (NCRP)
- Former CRCPD Board Chair

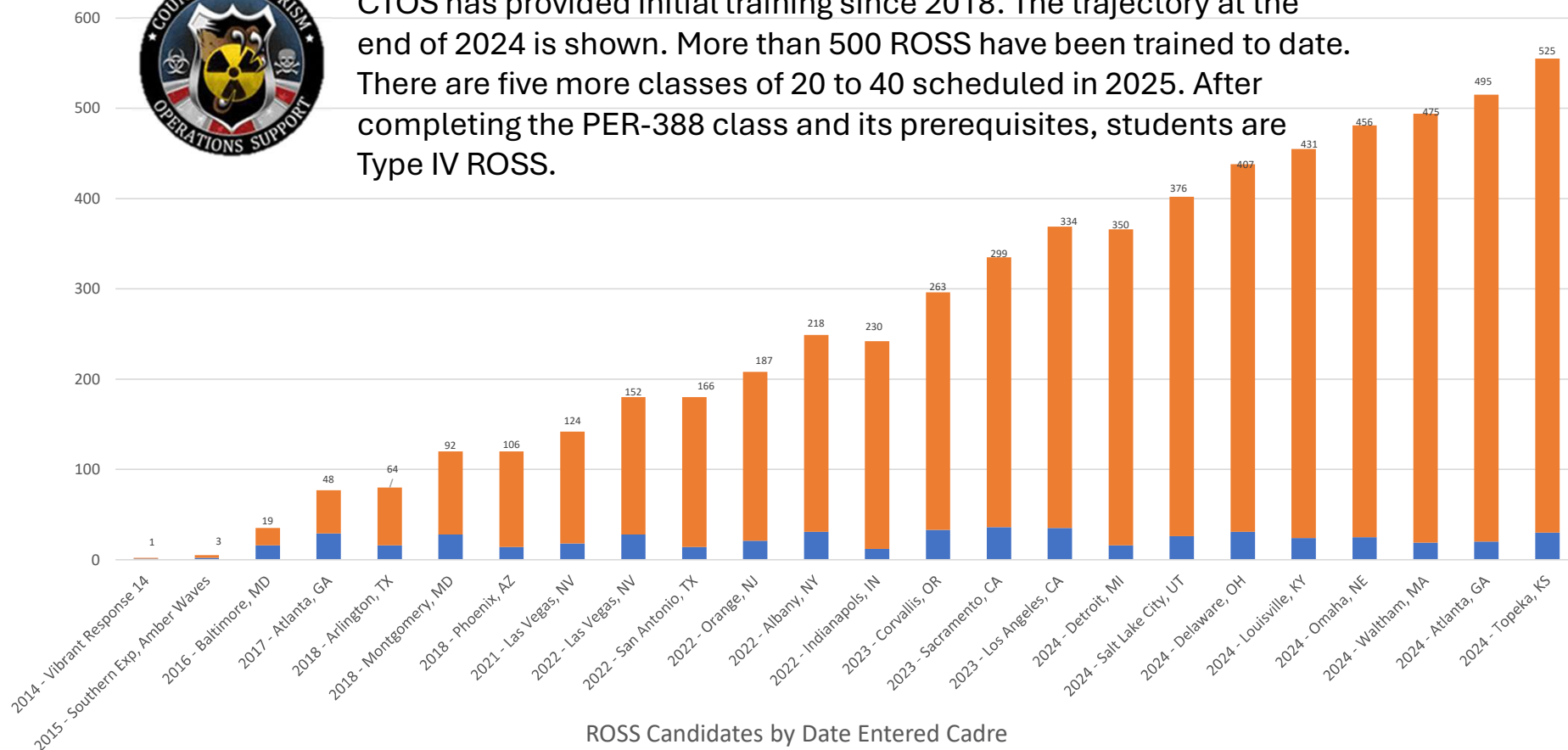
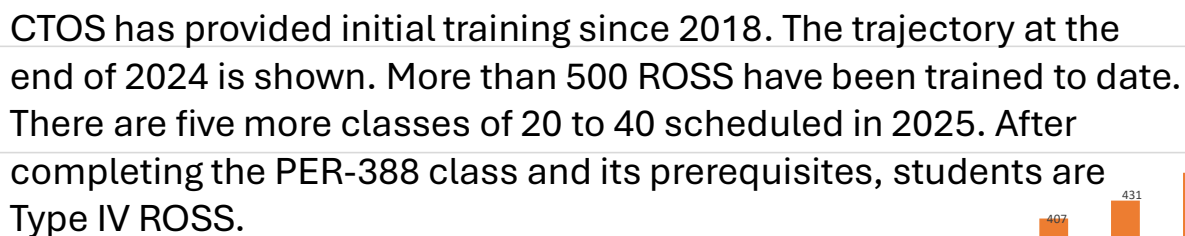


Creation and leadership of the ROSS Program



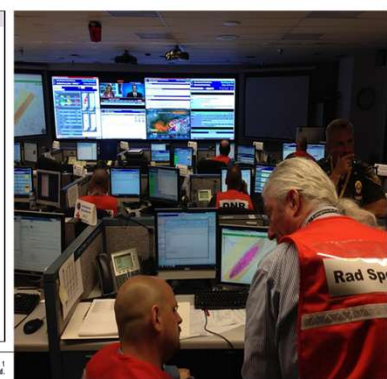
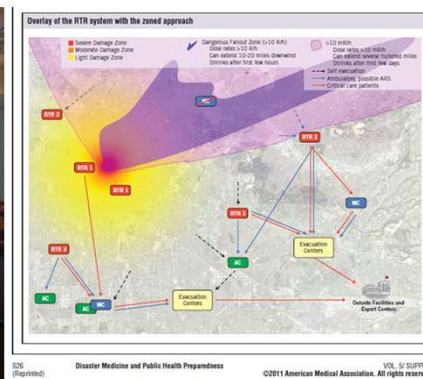
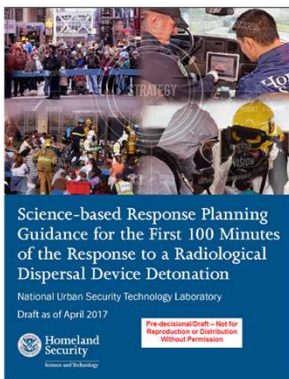
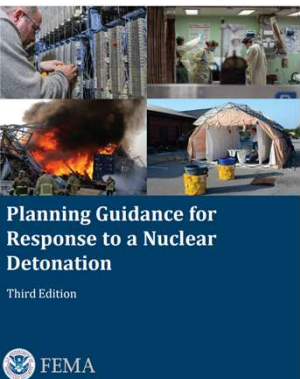
- Created after 9/11 to fill a gap in state and local radiological and nuclear emergency response and recovery subject matter expertise.
- Managed nationally by FEMA Office of Emerging Threats (OET).
- Steering Committee from FEMA OET, DOE National Nuclear Security Administration, DHS Science and Technology Directorate, CRCPD.
- CRCPD HS/ER-4 Committee manages the program for states.
- ROSS trained by Counterterrorism Operations Support.





Years of engagement with potential ROSS and users of ROSS, along with testing of ROSS in national level exercises resulted in a job task analysis and a curriculum of initial training in:

- Radiological and nuclear emergency reference documents and resources,
- Federal interagency and National Council on Radiation Protection & Measurements (NCRP) guidance,
- Effective emergency communications with responders and the public,
- Support of state and local decision-making with actionable and science-based recommendations,
- Use of health physics techniques, tactics and procedures in radiological and nuclear emergencies,
- Interpretation of FRMAC approved data products for accurate situational awareness, and
- How federal, state and local resources prepare, activate, integrate, respond, and recover using the incident management system, especially at state and local Emergency Operations Centers.



FEMA Position Qualification & Position Task Books created in 2019 to guide ROSS certification and selection by type 1, 2, 3 and 4.



Resource Typing Definition for Response
Situational Assessment

**2023 revision describes
Types 1, 2, 3 and 4
experiential, educational,
and training requirements**

RADIOLOGICAL OPERATIONS SUPPORT SPECIALIST

RESOURCE CATEGORY	Radiological and Nuclear Response
RESOURCE KIND	Personnel
OVERALL FUNCTION	The Radiological Operations Support Specialist (ROSS): <ol style="list-style-type: none">1. Provides subject-matter expertise and guidance on questions about radiation, the environment, hazard modeling, data and risk management, public protective actions and other scientific and technical issues to incident response leaders at any level2. Gathers, organizes, synthesizes, documents and distributes incident and resource information to improve situational awareness at all levels of incident management3. Is able to clearly explain the implications of modeling, measurement and analysis methods, as well as the health risks and hazards that exist during a radiological or nuclear incident4. May function as a ROSS Strike Team Leader when serving as a Type 1 or Type 2 ROSS as part of a ROSS Strike Team
COMPOSITION AND ORDERING SPECIFICATIONS	<ol style="list-style-type: none">1. This position can be ordered as a single resource2. Requestor specifies any additional qualifications necessary based on incident complexity and needs3. Discuss logistics for deploying this position, such as working conditions, length of deployment, security, lodging, transportation, and meals, prior to deployment

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

COMPONENT	TYPE 1	TYPE 2	TYPE 3	TYPE 4	NOTES
DESCRIPTION	Same as Type 2, PLUS: <ol style="list-style-type: none">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 officials2. Helps the AHJ integrate Federal radiological response assets and capabilities from across the government into the response, as necessary3. Coordinates radiological activities and technical data management with	Same as Type 3, PLUS: <ol style="list-style-type: none">1. Creates exposure estimates for a variety of internal and external exposure scenarios2. Understands key state and Federal radiological response assets, capabilities, and reporting structures, and integrates them into an effective response3. Communicates complex radiological issues to large groups and senior managers, and supports public message development	Same as Type 4, PLUS: <ol style="list-style-type: none">1. Works as a technical specialist and advises response personnel and AHJ on issues pertaining to radiological and nuclear (rad/nuc) response2. Provides radiological incident assessment and resource information through:<ol style="list-style-type: none">a. Interpreting and communicating model and measurement results and data productsb. Proficient use of the CBRNResponder mobile app and website to collect and share data3. Has knowledge of state radiation control programs and other radiological emergency preparedness assets, as	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.

March 2023
FEMA-509-v20170717

RADIOLOGICAL OPERATIONS SUPPORT SPECIALIST

1 OF 7



FEMA

NATIONAL QUALIFICATION SYSTEM (NQS)

POSITION TASK BOOK
FOR THE POSITION OF

RADIOLOGICAL OPERATIONS SUPPORT SPECIALIST

Version: October 2019

Check the appropriate position type:

☐ Type 1

☐ Type 2

☐ Type 3

POSITION TASK BOOK ASSIGNED TO:

TRAINEE'S NAME:
DUTY STATION:
PHONE NUMBER:
E-MAIL:
POSITION TASK BOOK INITIATED BY:
OFFICIAL'S NAME:
TITLE:
DUTY STATION:
PHONE NUMBER:
E-MAIL:
POSITION TASK BOOK WAS INITIATED:
LOCATION:
DATE:

Version: October 2019

**There are 63
tasks**

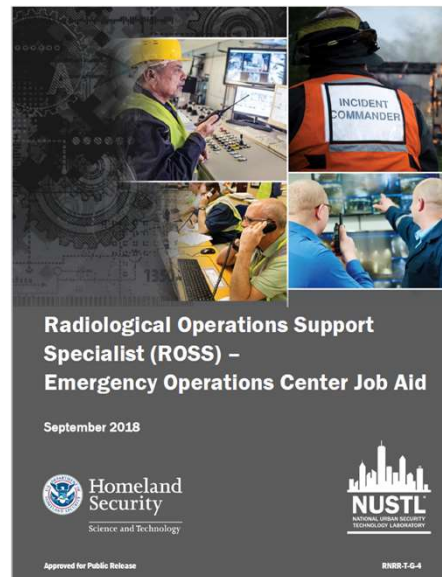
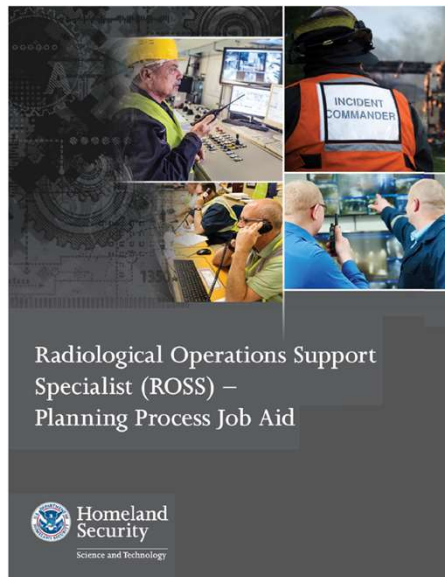
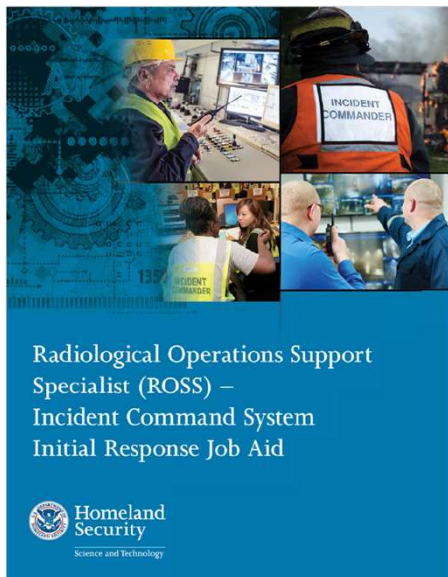
**It takes 41 to
become a
Type 3**

**It takes 15
more to
become a
Type 2**

**It takes 7
more to
become a
Type 1**

**Type 4 must work
under supervision
of Type 1, 2 or 3**

The Department of Homeland Security has funded the development of ROSS tools and they are available in the ROSS Toolkit on RadResponder



All the ROSS Job Aids and the ROSS Toolkit of critical guidance information are in RadResponder



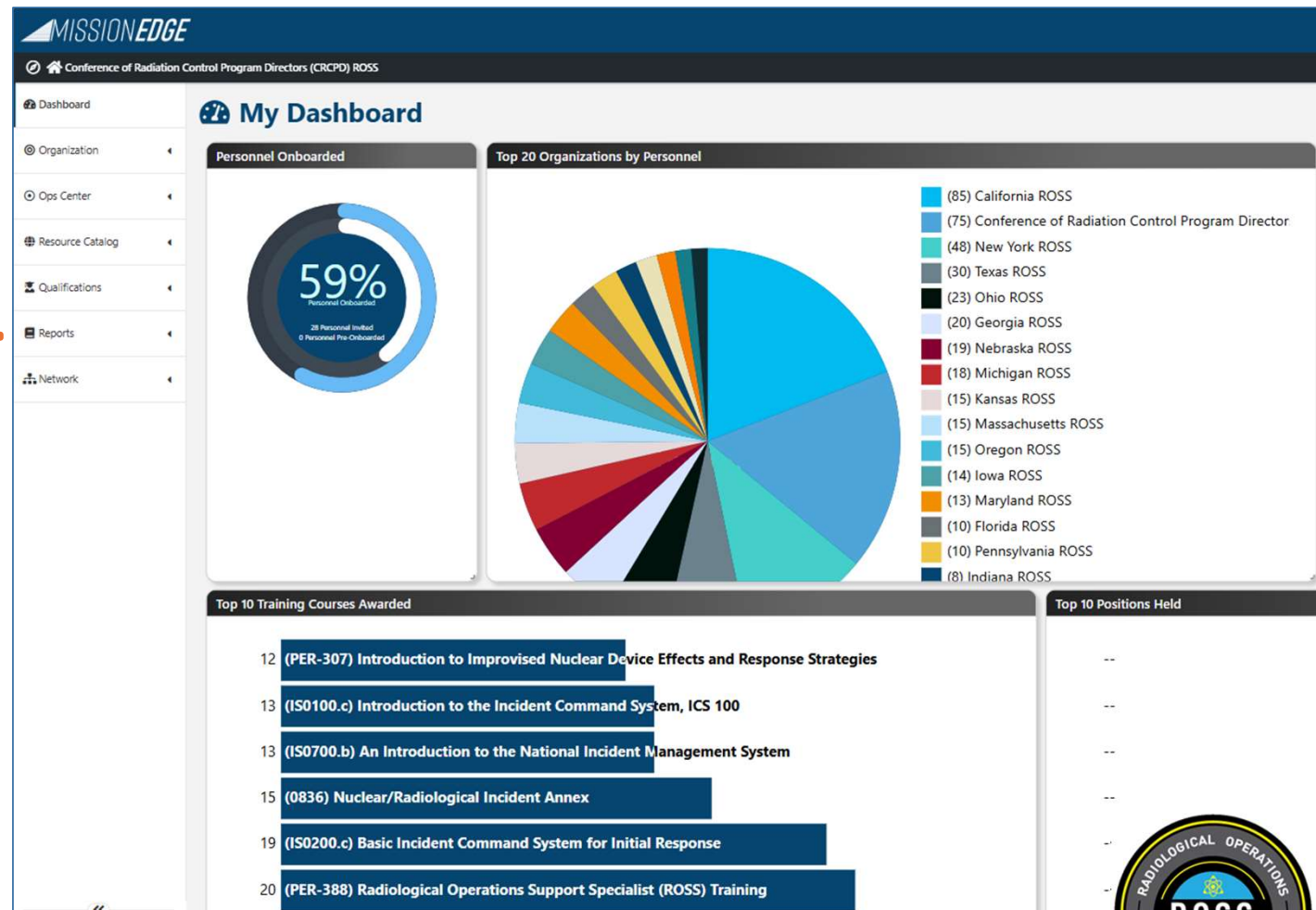
The ROSS Toolkit in RadResponder includes fact sheets and science-based guidance from NCRP, IAEA, ICRP and the federal interagency on:

- Perimeters and zones
- Population Monitoring
- Recovery resources
- Worker safety
- Shelter & Evacuation



With more than 500 people having completed the ROSS initial training, the HS/ER-4 focus is on cadre management.

- We depend on MissionEdge, the Chainbridge Technologies software for personnel certification and deployment.
- We must help ROSS advance through task completion from Type 4 to Type 1.
- The goal is at least one Type 1 ROSS and multiple Type 2 and 3 ROSS in every state.



Critical needs for ROSS cadre management



- State coordination of ROSS with the assistance of the CRCPD.
- Assurance of consistency to national standards among all ROSS across all the states.
- ROSS training and exercises that allow ROSS to complete tasks to advance from Type 3, to Type 2, and to Type 1.
- Seeking and leveraging support for ROSS volunteer endeavors with federal, state and local partnerships.



State ROSS Coordinators - the vital link between the national ROSS program and the State ROSS Certifying

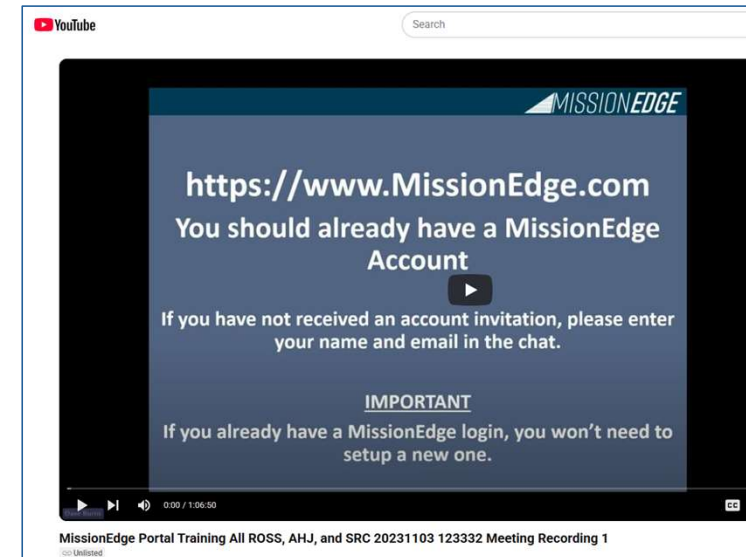


- The Certifying Official is often the State Radiation Control Program Director (RCPD).
- Some RCPDs have indicated that others in emergency management or elsewhere are the authorities having jurisdiction (AHJ).
- Thirteen states do not yet have State ROSS Coordinators.
- ROSS in these states may ask to join a neighboring state's ROSS organization, otherwise, they are assigned to the national CRCPD ROSS organization.

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	Arizona	Brian Goretzki	brian.goretzki@azdhs.gov	Sonia Carpena	Sonia.Carpena@azdema.gov
3	Arkansas	Bernard Bevill	bernard.bevill@arkansas.gov	Bernard Bevill	bernard.bevill@arkansas.gov
4	California	Anthony Chu, Acting	Anthony.Chu@cdph.ca.gov	Juan Garcia	juan.garcia@cdph.ca.gov
5	Connecticut	Jeff Semancik	Jeffrey.Semancik@ct.gov	Jeff Semancik	Jeffrey.Semancik@ct.gov
6	Florida	Clark Eldridge	clark.eldridge@flhealth.gov	John Williamson	john.williamson@flhealth.gov
7	Georgia	David Matos	david.matos@dnr.ga.gov	Shelly Stancil	shelly.stancil2@dnr.ga.gov
8	Indiana	Courtney Eckstein	ceckstein@dhs.IN.gov	Courtney Eckstein	ceckstein@dhs.IN.gov
9	Illinois	Adnan Khayyat	adnan.khayyat@illinois.gov	David Culp	dave.culp@illinois.gov
10	Iowa	Patty Riesberg	patty.riesberg@hhs.iowa.gov	Scott Wendt	khequ@iastate.edu
11	Kansas	Jason Meinholdt	jason.meinholdt@ks.gov	Jason Meinholdt	jason.meinholdt@ks.gov
12	Kentucky	Matt McKinley	matthew.mckinley@ky.gov	Matt McKinley	matthew.mckinley@ky.gov
13	Louisiana	Jerry Lang	jerry.lang@la.gov	Jessica Walker	jessica.walker@la.gov
14	Maine	Nathan Saunders	nathan.saunders@maine.gov	Jay Hyland	jay.hyland@maine.gov
15	Maryland	Eva Nair	eva.nair@maryland.gov	Marci Catlett	marci.catlett@maryland.gov
16	Massachusetts	Jack Priest	jack.priest@mass.gov	Rusty Sorensen	william.lorenzen@childrens.harvard.edu
17	Michigan	T.R. Wentworth	wentwortht@michigan.gov	T.R. Wentworth	wentwortht@michigan.gov
18	Minnesota	Mary Navara	mary.navara@state.mn.us	Amy Hass	amy.hass@state.mn.us
19	Missouri	John Langston	john.langston@health.mo.gov	Jeremy Wilson	jeremy.wilson@health.mo.gov
20	Montana	Ross Barnes	ross.barnes@mt.gov	Brett Lloyd	brett.lloyd@mt.gov
21	Nebraska	Becki Harisis	becki.harisis@nebraska.gov	Ahaileas (Larry) Harisis	aharisis@unl.edu
22	Nevada	John Follette	jfollette@health.nv.gov	John Follette	jfollette@health.nv.gov
23	New Hampshire	Arghya Banerjee	arghya.banerjee@dhhs.nh.gov	Brennen Brunner	Brennen.brunner@dhhs.nh.gov
24	New Jersey	Patrick Mulligan	patrick.mulligan@dep.nj.gov	Nancy Stanley	nancv.stanley@dep.nj.gov
25	New York	Alex Damiani	alex.damiani@health.ny.gov	Cynthia Costello	cynthia.costello@health.ny.gov
26	North Carolina	Louis Brayboy	louis.brayboy@dhhs.nc.gov	Bennifer Pate	bennifer.pate@dhhs.nc.gov
27	Ohio	Gene Philips	gene.philips@odh.ohio.gov	William Lohner	william.lohner@odh.ohio.gov
28	Oregon	David Howe	david.m.howe@oha.oregon.gov	Hillary Haskins	hillary.k.haskins@oha.oregon.gov
29	Pennsylvania	Dwight Shearer	dwshearer@pa.gov	David Baracco	dbaracco@pa.gov
30	Rhode Island	Catherine Perham	catherine.perham@health.ri.gov	Catherine Perham	catherine.perham@health.ri.gov
31	South Carolina	Susan Jenkins	jenkinse@dhcc.sc.gov	Nathan Gauthier	gauthin@dhcc.sc.gov
32	Tennessee	Beth Shelton	beth.shelton@tn.gov	Andrew Holcomb	andrew.holcomb@tn.gov
33	Texas	Lisa Bruedigan	lisa.bruedigan@dshs.texas.gov	Clint Taylor	clint.taylor@dshs.texas.gov
34	Vermont	William Irwin	william.irwin@vermont.gov	William Irwin	william.irwin@vermont.gov
35	Virginia	Lea Anna Perlas	lea.perlas@vdh.virginia.gov	Brian Iverson	brian.iverson@vdm.virginia.gov
36	West Virginia	Tera Patton	tera.E.Patton@wv.gov	Jason Lively	jason.k.lively@wv.gov
37	Wisconsin	Mark Paulson	mark.paulson@dhs.wisconsin.gov	Charles Adams	charles.adams@dhs.wisconsin.gov

Training on MissionEdge and for ROSS, State ROSS Coordinators, and AHJ is available at the CRCPD ROSS Portal.

- Videos are on the CRCPD YouTube Channel at <https://www.youtube.com/@crcpd9207>
- Training slides can be downloaded at the ROSS portal at: <https://crcpd.org/ross-portal/>



ROSS, Authority Having Jurisdiction, and State ROSS Coordinator Training

- Key roles in the ROSS Program
- History of the ROSS
- ROSS Qualification
- State ROSS Coordinators
- Competency maintenance



The slide features a list of topics related to ROSS training. To the right of the list is a circular seal for 'RADIOLOGICAL OPERATIONS ROSS SUPPORT SPECIALIST'. At the bottom right are the logos for FEMA and CBRN.

EMAC tools for mutual aid including the mission ready package (MRP) and an MRP Job Aid are currently being developed for ROSS by HS/ER-4.



-DRAFT-

Developing a Radiological
Operations Support
Specialist (ROSS)
Emergency Management
Assistance Compact
Mission Ready Package
Job Aid



May 2025

Assisting State Emergency Management Mission Reference		(Unique information entered for each individual MRP)	
Resource Provider Tracking Number:		(Unique information entered for each individual MRP)	
NOTE: Development of a Mission Ready Package does not guarantee deployment on an EMAC mission through your state emergency management agency (SEMA). Development of the MRP should be coordinated with your SEMA. NIMS Resource Typing is not a requirement for developing an MRP under EMAC as all resources are valuable. All costs are estimated based on current data and should be validated at the time the MRP is requested. Costs may vary from the costs estimated in the MRP or the actual costs incurred during the deployment. Therefore, the MRP should be maintained in an operational state of readiness to facilitate both deployment and reimbursement requirements.			
1. MRP Title:		Radiological Operations Support Specialist (ROSS) - Type I	
2. Resource Provider / Agency Name:		(Unique information entered for each individual MRP)	
3. Location:	Address:		
	City:		
	State:		
4. Point of Contact:	First Name:		Last Name:
	Phone:		Mobile:
	24-hr Phone:		Email:
5. NIMS Resource Typing (if applicable):			
NIMS Category:	Medical and Public Health	Kind:	Single Resource
		Type:	Type I
Components:	Personnel, guidance and reference documents, analytic tools, resource dedicated computing and communications equipment		
Metrics:			
6. Identify Emergency Support Functions (ESFs) Supported:			
ESF 5 - Emergency Management, ESF 8 - Public Health & Medical Services, ESF 10 - Oil & Hazardous Materials Response, ESF 11 - Agriculture & Natural Resources, ESF 15 - External Affairs			

7. Mission Capabilities:			
Provides subject-matter expertise and guidance on issues related radiation, the environment, hazard modeling, data and risk management, public protective actions.			
8. Detailed Resource Description:			
Provides subject-matter expertise and guidance regarding radiation, the environment, hazard modeling, data and risk management, public protective actions and other scientific/technical issues to incident response leaders at any level. Gathers, organizes, synthesizes, documents and distributes incident and resource information to improve situational awareness at all levels of incident management. Is able to clearly explain the implications of modeling, measurement and analysis methods, as well as the health risks and hazards that exist during a radiological or nuclear incident. May function as a ROSS Strike Team/Taskforce Leader. See FEMA's Resource Typing Definition for Response Situational Assessment for additional information.			
9. Resource is:	Mobile (has transportation component but		
10. Space and Size Requirements Needed to Carry out Mission:			
Single personnel work station (table/desk and chair, 110v electrical power). Network connectivity to on-site computer printer desirable.			
11. Limiting Factors to the Resource:			
(Unique information entered for each individual MRP)			
12. Logistical Support Needed During Mission:			
110 VAC electrical power, access to internet, on-site computer printer access, vehicle fuel and maintenance support, food services, lodging and sanitation facilities, locally compatible portable and/or mobile radio communications (as necessary).			
13. Deployment Timeline			
N+ (Unique information entered for each individual MRP)			
Details and Costs for Travel, Personnel, Equipment, Commodities, & Other:			
14. Travel:			
Enter all Travel cost details under "Travel" tab in worksheet.			
Total Personal Vehicle Costs:	\$ -	Total Rental Vehicle Total Costs:	\$ -
Total Governmental Vehicle Costs:	\$ -	Total Air Travel Costs:	\$ -
Total Expenses Meals & Tips (Receipt):	\$ -	Total Meals & Tips (Per Diem):	\$ -
Total Lodging:	\$ -	Total Parking Fees:	\$ -
Total Shipment and Transportation Costs:	\$ -		
Identify any transportation requirements:			

The ROSS is a volunteer organization that is currently unfunded and self-supported.

We could use your help!

Step 1 - Become a ROSS!

- Contact your State ROSS Coordinator or Certifying Official
- Attend the CTOS initial training, here is where to find the PER-388 course: <https://www.FirstResponderTraining.gov/frts/schedule>.



National Training and Education Division

Training Catalogs ▾ Course Info ▾ Tools ▾ About NTED ▾

Course Schedule

Keyword

PER-388

Reset

- Please note course schedules are subject to change.
- Click on a course number for course schedule details.

Course Number	Course Name	Start Date	End Date	City	State	Training Provider
PER-388	Radiological Operations Support Specialist (ROSS)	2025-05-19	2025-05-22	West Roxbury	Massachusetts	NTS
PER-388	Radiological Operations Support Specialist (ROSS)	2025-06-16	2025-06-19	Austin	Texas	NTS
PER-388	Radiological Operations Support Specialist (ROSS)	2025-08-11	2025-08-14	Harrisburg	Pennsylvania	NTS
PER-388	Radiological Operations Support Specialist (ROSS)	2025-09-30	2025-10-03	Orlando	Florida	NTS

Show 10 ▾ entries

First Previous 1 Next Last

Refine Search

Clear All (1) Filters

From

To

Training Provider

☐ CJI - The University of Arkansas, Criminal Justice Institute

☐ GTRI - Georgia Tech Research Institute

☐ LSU - Louisiana State University

☐ MSU-ASSURE - Mississippi State University - Alliance for System Safety of UAS through Research Excellence

☐ NCDP - Columbia University, National Center for Disaster Preparedness

☐ NCPC - National Cybersecurity Preparedness Consortium

☐ NMT - New Mexico Institute of Mining and Technology

☐ NTS - Nevada Test Site

☐ RDPC - Rural Domestic Preparedness Consortium

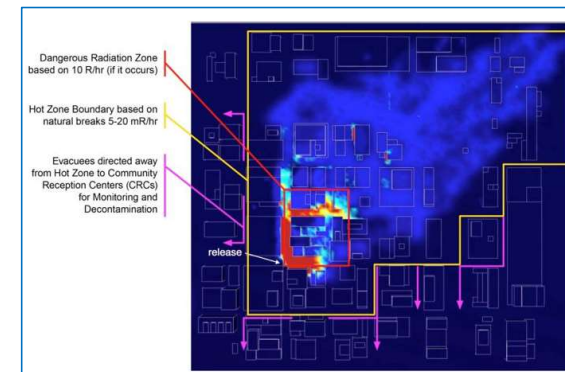
☐ TEEX - Texas Engineering Extension Service

☐ TTCT - Transportation Technology Center, Inc.

☐ UH-NDPTC - University of Hawaii, National Disaster Preparedness Training Center

Why would you want to be ROSS?

- You will learn a lot about the human and environmental effects of a radiological dispersal device, nuclear power plant release, major transportation accident, and a nuclear detonation
- You will help the nation be better prepared for these scenarios so we can respond better and recover faster.
- You will meet and work with some of the most intelligent and interesting people.
- You will expand your level of expertise and enhance your career or retirement.
- You will be invited to play ROSS in exercises, and to train responders and decision-makers.





Exercises ROSS have participated in include:

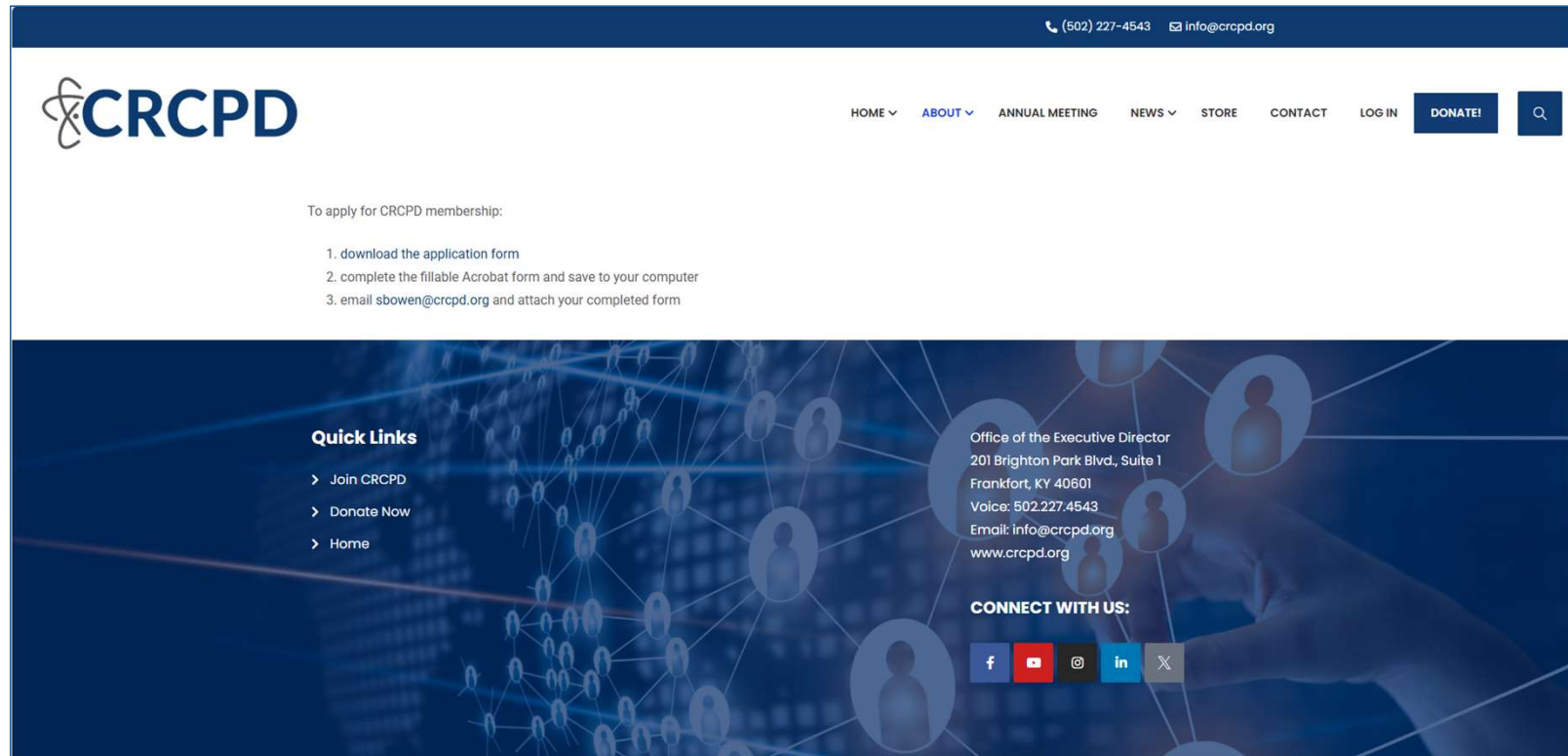
- Vibrant Response 2014 - ND
- Southern Exposure 2015 – NPP
- Vibrant Response 2015 - ND
- Vibrant Response 2016 – ND
- Gotham Shield 2017 - ND
- Vigilant Guardian 2017 – RDD
- Vibrant Response 2019 – ND
- Dense Urban Terrain 2019 – ND
- Cobalt Magnet 2022 – RDD
- Cobalt Magnet 2025 – NPP
- Numerous FEMA-evaluated NPP exercises in Iowa, Connecticut, Massachusetts, and Rhode Island
- Dozens of DOE Office of Radiological Security (ORS) tabletop exercises - Silent Thunder, Isotope Crossroads, RASRex, and CURRIE



Step 2 - Join the CRCPD if not already a member.


It is inexpensive!

- Go to CRCPD.org
- Fill out the online application form and email to sbowen@crcpd.org



Step 3 - Volunteer for the CRCPD Homeland Security/Emergency Response-4 Committee (HS/ER-4)

- Go to <https://crcpd.org/wp-content/uploads/2024/01/WorkingGroupInterestForm.pdf>. For the Working Group Interest Form.
- Fill out the online application form and send to mcremeans@crcpd.org.


CONFERENCE OF RADIATION CONTROL PROGRAM DIRECTORS, INC. (CRCPD)

WORKING GROUP INTEREST FORM

You must be a CRCPD member to serve on a CRCPD Working Group.

Name:
 Organization Name:
 City, State:

My areas of expertise are (select areas 1-2-3, with 1 being your strongest area):

Administration Environmental Monitoring Nonionizing Training/Education	Credentialing Low-Level Waste Radon X-Ray	Emergency Response Mammography Radioactive Materials Communications, Web & Social Media
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Other:

Other professional organizations of which I am a member:

The Working Group(s) on which I would like to serve, in what capacity member or advisor, and in what priority (with 1 as the highest). (For Working Group names/numbers, refer to the list provided. For details regarding any of the Working Groups, contact Mendy Cremeans at CRCPD. For an explanation of the categories, refer to the description provided.)

Working Group	Advisor Only <small>(Does not desire to become a Member)</small>	Advisor - Member <small>(Desires to become a Member when a vacancy occurs—Advisors are given first priority)</small>	Member Only <small>(Does not desire to serve as an Advisor)</small>	Priority
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If you need to identify more Working Groups, please copy this form and provide the additional information as an attachment.

Please send this completed form to:

CRCPD
 Mendy Cremeans at
mcremeans@crcpd.org 201
 Brighton Park Blvd, Suite 1
 Frankfort, KY 40601 Fax:
 502/227-7862 Telephone:
 502/227-4543

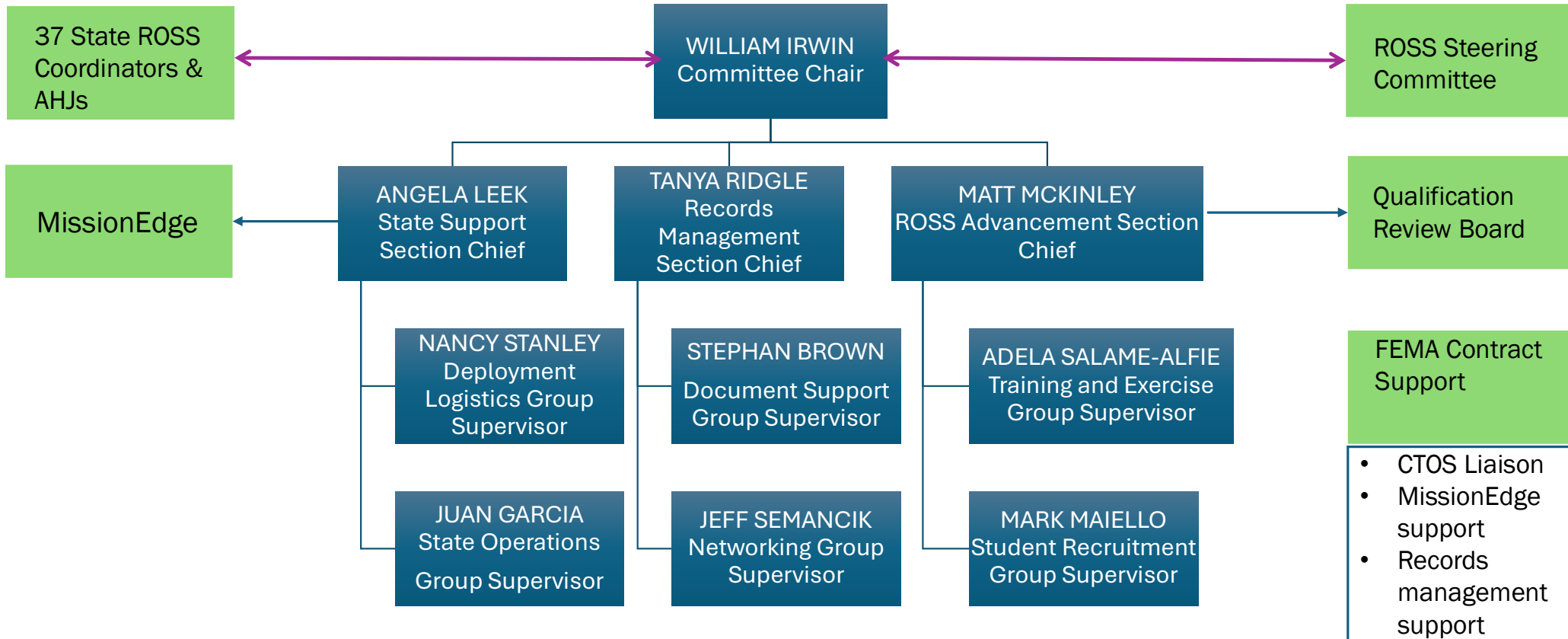
If any of your information has changed from what was previously submitted (Title, Organization Name, Address, Telephone, Fax, E-mail), please provide your new information below:

Why would you want to join HS/ER-4?

- We are leading an effort that is seriously needed and more people are realizing the value of our efforts and results.
- You can employ your intellect and skills using the best new strategies for recruiting, retaining, and sustaining an all-volunteer workforce.
- You get to make a difference in the world with only a few hours a month.
- There are other opportunities that are shared with those that volunteer, and many of these opportunities are likely to enhance your career.
- You get to work on challenging projects with some of the most interesting people in our profession.



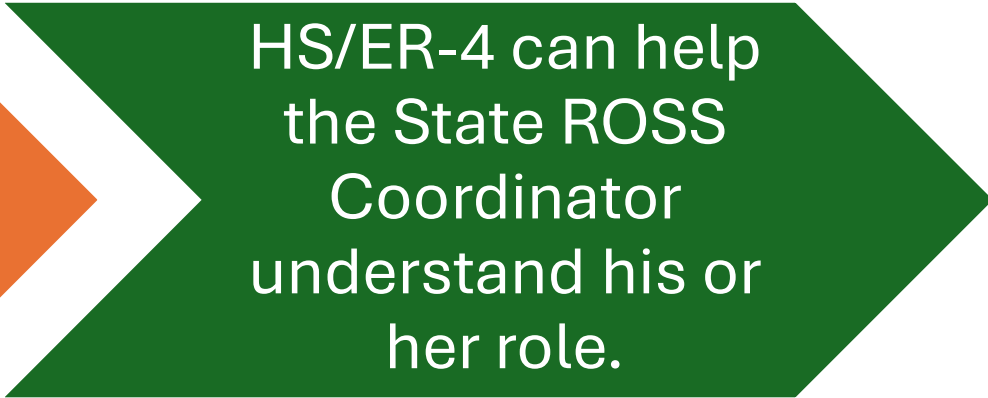
CRCPCD HS/ER-4 Organization Chart



If you want to build a state ROSS Organization,
contact me at william.irwin@vermont.gov.



I can help
Radiation Control
Program Directors
become their state
Certifying Official.



HS/ER-4 can help
the State ROSS
Coordinator
understand his or
her role.

Why would you want to build a state ROSS Organization?

- ROSS are volunteers who can help you:
 - Develop plans for scenarios like
 - A radiological dispersal device
 - Nuclear power plant release
 - Major transportation accident
 - Nuclear detonation
 - Train responders and develop procedures in support of these plans.
 - Augment your staff for exercises and real incidents because you are going to need more people than you have.

