FEMA

Resource Typing Definition for Response
Situational Assessment

RADIOLOGICAL OPERATIONS SUPPORT SPECIALIST

RESOURCE CATEGORY	Radiological and Nuclear Response
RESOURCE KIND	Personnel
OVERALL FUNCTION	The Radiological Operations Support Specialist (ROSS): 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 level 2. Gathers, organizes, synthesizes, documents and distributes incident and resource information to improve situational awareness at all levels of incident management 3. 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 4. 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	1. This position can be ordered as a single resource 2. Requestor specifies any additional qualifications necessary based on incident complexity and needs 3. 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: 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	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	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	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.

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	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	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	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		

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	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		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		
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	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	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	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	Not Specified

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	3. PER-905: Advanced Radiological Incident Operations, 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	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)	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	
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:	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	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	1. 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.

COMPONENT	TYPE 1	TYPE 2	TYPE 3	TYPE 4	NOTES
	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	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	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		
PHYSICAL / MEDICAL FITNESS	Light	Light	Light	Light	The NIMS Guideline for the NQS defines Physical/Medical Fitness levels for NQS positions.

COMPONENT	TYPE 1	TYPE 2	TYPE 3	TYPE 4	NOTES
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

COMMENTS

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