



Resource Typing Definition for Response
Situational Assessment

CHEMICAL OPERATIONS SUPPORT SPECIALIST (COSS)

RESOURCE CATEGORY	Chemical Response
RESOURCE KIND	Personnel
OVERALL FUNCTION	<p>The Chemical Operations Support Specialist (COSS):</p> <ol style="list-style-type: none"> 1. Provides subject matter expertise and guidance on questions pertaining to chemical incidents, the environment, modeling of the hazard(s), data and risk management, public protective actions and other scientific and technical issues to any level of all response organizations on these topics 2. Gathers, organizes, synthesizes, documents and distributes incident and resource information to improve situational awareness at all levels of incident management 3. Provides the expertise necessary to clearly explain the implications of modeling, measurement and analysis methods, as well as health risks and hazards existing during a chemical incident 4. Supports state and local authorities with jurisdiction for chemical emergency response and recovery 5. Assists with effective integration of state and local planning and actions with federal agencies 6. Integrates into the incident command structure and/or defers to a Federal On-Scene Coordinator's authorities, as appropriate, given the specifics of an incident
COMPOSITION AND ORDERING SPECIFICATIONS	<ol style="list-style-type: none"> 1. This position can be ordered as a single resource 2. Discuss logistics for deploying this position, such as security, lodging, transportation, and meals, prior to deployment 3. The position typically works 12 hours per shift, is self-sustainable for 72 hours, and is deployable for up to 14 days

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	<p>Same as Type 2, PLUS</p> <ol style="list-style-type: none"> 1. Works at both the Incident Command Post (ICP) and emergency operations center (EOC) levels 2. Advises and makes recommendations to the authority having jurisdiction (AHJ) and chief elected officials 3. Activates and integrates federal chemical response assets and capabilities from across the federal government into the response 	<p>Same as Type 3, PLUS</p> <ol style="list-style-type: none"> 1. Performs exposure estimates for a variety of exposure routes and scenarios 2. Describes key state and federal chemical response capabilities, assets, and reporting structures, and how to integrate them into a response 3. Communicates complex chemical issues to large groups and/or senior managers and supports 	<p>The COSS Type 3:</p> <ol style="list-style-type: none"> 1. Operates as a technical specialist and advises response personnel and AHJ on issues pertaining to chemical incident response 2. Provides chemical incident assessment and resource information through: <ol style="list-style-type: none"> a. Interpreting and communicating model and measurement results and data products b. Proficient use of the ChemResponder Mobile 	Not Specified	Not Specified



	<ol style="list-style-type: none"> 4. Coordinates chemical activities and technical data management with other COSS team members and federal response assets across the entire incident 5. Integrates into a state, local, tribal or territorial (SLTT) EOC and coordinates with the chemical incident management authority 6. Supports chemical response preparedness activities and exercises at the SLTT level 7. Manages multiple COSS Strike Team Leaders engaged in a variety of chemical response activities including: <ol style="list-style-type: none"> a. Human exposure response b. Ecological exposure response c. Environmental impact projection and assessment 8. Maintains consistent: <ol style="list-style-type: none"> a. Chemical situational awareness b. Management of geographically and temporally extensive environmental sampling c. Chemical analysis of samples d. Chemical safety advisement to emergency support functions engaged 	<p>public message development</p> <ol style="list-style-type: none"> 4. Assists in the building of Incident Action Plans (IAPs) that balance complex chemical safety concerns with mission priorities 5. Works closely with command staff and emergency management teams to accomplish incident objectives 6. Works effectively with other COSSs, within COSS Strike Teams or as a COSS Strike Team Leader to reduce large amounts of diverse chemical data from a wide variety of response and recovery resources to ensure a common chemical operating picture across all affected jurisdictions 	<ol style="list-style-type: none"> 3. Guides chemical aspects of response during the event through: <ol style="list-style-type: none"> a. Working knowledge of chemical protection guidance and best practices, including, but not limited to: US Department of Transportation Emergency Response Guidebook, National Institute of Occupational 	<p>App and website to collect and share data</p> <ol style="list-style-type: none"> c. Awareness of SLTT chemical management programs and other chemical emergency preparedness assets and key federal chemical response assets d. Exchange of technical information with other COSS members in the response and advisory organizations to ensure protection guidance is being properly communicated e. Ability to report to a COSS Strike Team Leader and work effectively within a COSS Strike Team at ICPs and other incident management centers to ensure a common chemical operating picture is used across the entire geographic and time range of response and recovery for compatible and effective decision-making f. Supporting the development of operational objectives for the implementation of protective actions and emergency worker protection on a unit-by-unit level 	
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	<p>in lifesaving activities</p> <ul style="list-style-type: none"> e. Input to the restoration of critical infrastructure f. Decontamination of people and places g. Waste management 		<p>Safety and Health Pocket Guide, Wireless Information System for Emergency Response (WISER), Computer-Aided Management of Emergency Operations (CAMEO), Chemical Companion software and other chemical emergency response and recovery guidance and how they may best be used</p> <ul style="list-style-type: none"> b. Ability to obtain updated/additional chemical advice and recommendations from appropriate advisory organizations c. Assisting responding agencies and agency decision makers in use of ChemResponder website to maintain situational awareness of chemical aspects of the incident d. Communicating chemical issues to a non-technical audience and providing just-in-time training for first responders for the ChemResponder Mobile App and website, monitoring devices and safety protocols e. Effectively integrating into the Incident Command System (ICS) structure 		
<p>EDUCATION</p>	<p>Same as Type 2, PLUS: Graduate degree in chemical, industrial hygiene, or toxicological sciences-related field, passing the American Board of Industrial Hygiene (ABIH) certification exam or equivalent experience as determined by AHJ</p>	<p>Bachelor's degree in chemistry, industrial hygiene, or toxicological sciences-related field, or Certified Safety Professional (CSP), Certified Hazardous Materials Manager (CHMM) certification or equivalent experience as determined by AHJ</p>	<p>Associate degree in a chemical, industrial hygiene or toxicological sciences-related field, or five years' experience as a National Fire Protection Administration (NFPA) 472 Hazardous Materials Specialist employee, technician or equivalent as AHJ determines</p>	<p>Not Specified</p>	<p>Type 3 may substitute training and AHJ-approved experience for a degree</p>



<p>TRAINING</p>	<p>Same as Type 2, PLUS:</p> <ol style="list-style-type: none"> ICS-400 Advanced ICS Crisis Emergency Risk Communications Online Training or equivalent as determined by AHJ 	<p>Same as Type 3, PLUS</p> <ol style="list-style-type: none"> ICS-300: Intermediate ICS for Expanding Incidents R0655: Advanced Science of Hazardous Materials/WMD Response PER373: Hazardous Materials Officer Course R0247: Advanced Life Support Response to Hazardous Materials Incidents or equivalent experience PER-292: Leadership and Management of Surface Transportation Incidents MGT-346: EOC Operations and Planning for All-Hazards 	<ol style="list-style-type: none"> IS-100: Introduction to the Incident Command System IS-200: ICS for Single Resources and Initial Action Incidents IS-700.A: National Incident Management System (NIMS), An Introduction IS-800.D: An Introduction to the National Response Framework PER-XXX-W: ChemResponder Mobile App MGT-955—Chemical Operation Support Specialist (COSS) Training (still in development) Chemical protection/emergency response training in accordance with at least one of the following: <ol style="list-style-type: none"> Occupational Safety and Health Administration (OSHA) 1910.120 HAZMAT Technician Training Hazardous Materials Specialist Employee A as defined in NFPA 472, or Hazardous Materials Technician as defined by the American Federation of State, County and Municipal Employees, or Associate or higher degree in a chemical, industrial hygiene or toxicological sciences-related field G-191—Incident Command System/Emergency Operations Center Interface or equivalent R0233—Chemistry for Emergency Response or equivalent as AHJ determines 	<p>Not Specified</p>	<p>MGT-955: Initial course still in development. Estimated release in Calendar Year 2022.</p>
<p>EXPERIENCE</p>	<p>Same as Type 2, PLUS:</p> <ol style="list-style-type: none"> Successful completion of the National Qualification System (NQS) Position Task Book (PTB) for the National Incident 	<p>Same as Type 3, PLUS:</p> <ol style="list-style-type: none"> Successful completion of the NQS PTB for the NIMS COSS Type 2, or equivalent AHJ documentation 	<ol style="list-style-type: none"> Successful completion of the NQS PTB for the NIMS COSS Type 3 or equivalent AHJ documentation Experience in a chemical response and advisory role in chemical emergency preparedness 	<p>Not Specified</p>	<p>Not Specified</p>



	<p>Management System (NIMS) Chemical Operations Support Specialist (COSS) Type 1, or equivalent AHJ documentation</p> <ol style="list-style-type: none"> 2. Three additional years' experience as an operational industrial hygienist or environmental health and safety officer or similar military or first responder experience with emergency response experience and training 3. Working knowledge of plume projection/dose assessment modeling and software, like ALOHA, MARPLOT, Industrial Source Complex Long-Term model (ISCLT), as demonstrated in training or exercises 4. The development and implementation of at least three additional separate chemical and emergency training sessions for first responders or other emergency management personnel, to include conduct of the training sessions themselves 	<ol style="list-style-type: none"> 2. Experience in a chemical response and advisory role in national, regional or state-level exercises 3. Three years' experience as an operational industrial hygienist or environmental health and safety officer, or similar military experience, or first responder experience with emergency response experience and training 4. Implementation of at least three separate chemical emergency training sessions for first responders or other emergency management personnel to include conduct of the training sessions themselves 	<p>exercises for chemical fixed facilities or other chemical incidents, such as transportation-related or weapons of mass destruction (WMD) attacks and terrorist attacks</p> <ol style="list-style-type: none"> 3. At least two tabletop or other exercises demonstrating the chemical response and advisory role 4. Practical experience working with, identifying, classifying and quantifying chemicals 		
<p>PHYSICAL / MEDICAL FITNESS</p>	<p>Same as Type 2</p>	<p>Arduous</p>	<p>Moderate</p>	<p>Not Specified</p>	<p>The NIMS Guideline for the NQS defines Physical/Medical Fitness levels for NQS positions</p>
<p>CURRENCY</p>	<p>Same as Type 3</p>	<p>Same as Type 3</p>	<ol style="list-style-type: none"> 1. Functions in this position during a qualifying incident, planned event, exercise, drill or simulation at least once every two years 2. Maintains currency in all ICS/NIMS and HAZMAT, industrial hygiene, or toxicological training as determined by the AHJ 	<p>Not Specified</p>	<p>Not Specified</p>



			3. Attend at least eight hours of COSS refresher training/continuing education every two years		
PROFESSIONAL AND TECHNICAL LICENSES AND CERTIFICATIONS	Same as Type 2, PLUS: ABIH certification, or equivalent experience	Same as Type 3, PLUS CSP, CHMM certification, or equivalent experience	NFPA 472 Hazardous Materials Specialist, Technician or equivalent as AHJ determines	Not Specified	Not Specified



COMMENTS

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

REFERENCES

1. Center for Disease Control and Prevention (CDC): <https://www.cdc.gov/training/learning/index.html>
2. Center for Domestic Preparedness (CDP): <https://cdp.dhs.gov/training/courses>
3. Counterterrorism Operations Support (CTOS) Center: http://www.ctosnnsa.org/pages/ctos_overview.htm
4. Emergency Management Insittute (EMI): <https://training.fema.gov/emicourses/>