



FEMA

POSITION TASK BOOK FOR THE POSITION OF

National Qualification System
CHEMICAL OPERATIONS SUPPORT SPECIALIST
(TYPE 2)

CHEMICAL OPERATIONS SUPPORT SPECIALIST (TYPE 2)

1. Competency: Assume position responsibilities

Description: Successfully assume the role of Chemical Operations Support Specialist (COSS) 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 basic ability to interpret release and exposure data products: <ul style="list-style-type: none"> ● Interpret and brief at least two data products to an audience 	C, E, F, I, J, T		
2. Demonstrate ability to share information with responders and decision makers using the Homeland Security Information Network (HSIN), WebEOC, spreadsheets and other common software: <ul style="list-style-type: none"> ● Demonstrate a working knowledge of HSIN, WebEOC, spreadsheets, and other common software 	C, E, F, I, J, T		
3. Demonstrate application that maps, plume modeling (atmospheric, stream, subsurface), briefing products, and technical reports can come from several sources: <ul style="list-style-type: none"> ● Explain functions of software or data product providers, types of information, and product provided 	C, E, F, I, J, T		
4. Demonstrate the ability to interpret the full set of exposure pathway data products for one of the three scenarios (transportation-related, fixed facility, and terrorist/Weapons of Mass Destruction [WMD] chemical incident): <ul style="list-style-type: none"> ● Provide an after-action report or other relevant comprehensive documentation from a previous exercise detailing demonstration of tasks 	C, E, F, I, J, T		
5. Demonstrate working knowledge of the basic functionality and differences between advanced modeling tools: <ul style="list-style-type: none"> ● Demonstrate working knowledge of Visual Sampling Plan (VSP) and Environmental Protection Agency (EPA) environmental monitoring and sampling tools (i.e., Airborne Spectral Photometric Environmental Collection Technology [ASPECT]) 	C, E, F, I, J, T		
6. Explain the differences between providing technical guidance versus making recommendations: <ul style="list-style-type: none"> ● Describe how recommendations consist of specific options derived from technical guidance 	C, E, F, I, J, T		
7. Explain the value to responders and decision makers of the standard Interagency Modeling and Atmospheric Assessment Center (IMAAC) products: <ul style="list-style-type: none"> ● Describe standard products delivered from IMAAC for various incidents ● Identify standard assumptions, layout, features, information, and legends for the data products ● Recognize common questions that the IMAAC products are intended to answer 	C, E, F, I, J, T		
8. Identify the AHJ that is responsible for chemical emergency response in the area to which you are deployed: <ul style="list-style-type: none"> ● Coordinate with the AHJ responsible for public and worker protection during chemical incidents 	C, E, F, I, J, T		

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

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
<p>9. Report to your assigned site and supervisor and obtain briefing on role to begin position activities as COSS:</p> <ul style="list-style-type: none"> ● Provide sign-in sheets documenting your attendance at previous incidents or exercises 	C, E, F, I, J, T		

1c. Behavior: Ensure availability, qualifications, and capabilities of resources to complete assignment

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
<p>10. Demonstrate ability to assess qualifications of COSS strike team members and deploy according to their varying capabilities:</p> <ul style="list-style-type: none"> ● Provide an after-action report or other relevant comprehensive documentation from a previous exercise detailing demonstration of tasks 	C, E, F, I, J, T		

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
<p>11. Demonstrate the ability to identify opportunities for COSS engagement and how to relay the information to important responders, incident managers, agencies, and stakeholders:</p> <ul style="list-style-type: none"> ● Demonstrate ability to communicate effectively with workers in the field as well as with senior leadership ● Identify the right meetings/mechanisms to relay important information to responders, incident managers, agencies, and stakeholders 	C, E, F, I, J, T		

2b. Behavior: Communicate incident priorities and operations

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
<p>12. Demonstrate capacity as described in Incident Command System (ICS) forms (i.e., Health and Safety Plan or other components of an IAP).</p>	C, E, F, I, J, T		
<p>13. Evaluate the chemical characteristics of the scenario and relate the risks to the responders, environment, and the public:</p> <ul style="list-style-type: none"> ● Provide content for Public Information Officer (PIO) messaging ● Provide chemical perspectives for development of the Incident Action Plan (IAP) ● Provide chemical perspectives for incident briefing 	C, E, F, I, J, T		

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

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
<p>14. Demonstrate ability to convey technical information to a non-technical audience:</p> <ul style="list-style-type: none"> ● Given a topic related to the consequences of a chemical incident, describe it in terms understandable by a sixth-grader 	C, E, F, I, J, T		
<p>15. Demonstrate effective public interaction skills:</p> <ul style="list-style-type: none"> ● Effective and concise language ● Good eye contact ● Proper body language ● Self-awareness to recognize effectiveness of message delivery ● Situational awareness and ability to adapt message to audience 	C, E, F, I, J, T		

<p>16. Provide just-in-time training for responders operating in a chemical environment:</p> <ul style="list-style-type: none"> ● Deliver training to a group of responders preparing to deploy for a chemical incident ● Prepare training for responders to include risk communication and perspectives to put the chemical risk in perspective with overall hazards 	C, E, F, I, J, T		
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2d. Behavior: Oversee production and distribution of information per established guidelines and ensure recipient understands information

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
<p>17. Demonstrate ability to effectively relate risk to public:</p> <ul style="list-style-type: none"> ● Demonstrate ability to convey technical information in a non-technical and concise manner appropriate for the public ● Demonstrate ability to coordinate with appropriate representatives (e.g., PIO, chemical management, Incident Commander) in a jurisdiction to draft and distribute messages ● Identify resources available to assist in developing chemical risk or incident messaging 	C, E, F, I, J, T		
<p>18. Demonstrate application of the DOT ERG, NIOSH Pocket Guide, WISER, EPA AEGs, CAMEO, ChemResponder and other chemical emergency response and recovery guidance in context of varying levels of risk to workers and the public based on incident type:</p> <ul style="list-style-type: none"> ● Recognize important considerations for recommendations, including inputs, assumptions, and limitations ● Recognize where protective actions may not correspond to the recommended guidance 	C, E, F, I, J, T		
<p>19. Given a unique response or recovery concept, define a custom data product supporting the delivery of information about that concept:</p> <ul style="list-style-type: none"> ● 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 specialty is required to brief on a custom data product ● Describe the information that this specialized product is communicating in a meaningful way that is useful to the responders/decision makers ● Identify types of information that can be added to a data product or map (agricultural, special populations, local datasets, etc.) ● Respond to difficult questions or requests that would result in non-standard interpretation and use of products 	C, E, F, I, J, T		
<p>20. Identify how to request map and data products and how to receive and distribute them:</p> <ul style="list-style-type: none"> ● Describe working knowledge of how to record and relay a request for and receipt of a standard or custom IMAAC product 	C, E, F, I, J, T		
<p>21. Interpret an EPA/ASPECT data product:</p> <ul style="list-style-type: none"> ● Describe how the EPA National Response Center may be contacted to request EPA/ASPECT data ● Describe how the EPA/ASPECT can provide measurements of actual contamination over a wide area early in a response effort 	C, E, F, I, J, T		

22. Record and relay a request for and receipt of a standard or custom IMAAC product.	C, E, F, I, J, T		
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3. Competency: Conduct operations and ensure completion of assigned tasks

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

3a. Behavior: Demonstrate core position skills

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
<p>23. Demonstrate ability to research and explain capabilities of the major federal and SLTT assets as they relate to transportation-related, fixed facility, and terrorist/WMD chemical incidents:</p> <ul style="list-style-type: none"> ● Describe the main resources for chemical incidents available in federal and SLTT jurisdictions ● Describe the main chemical subject-matter expert (SME) assets available from the federal and SLTT government for chemical incidents ● Identify references where the various assets and resources are described 	C, E, F, I, J, T		
<p>24. Demonstrate application of guidance and reference documents important for transportation related, fixed facility, and terrorist/WMD chemical incident:</p> <ul style="list-style-type: none"> ● Describe the guidance documents related to response to a transportation accident ● Describe the guidance documents related to response to a fixed facility contamination incident ● Describe the guidance documents related to response to a terrorist/WMD incident 	C, E, F, I, J, T		
<p>25. Demonstrate the ability to lead a strike team of COSS engaged in transportation related, fixed facility OR terrorist/WMD chemical incident or exercise:</p> <ul style="list-style-type: none"> ● Provide an after-action report or other relevant comprehensive documentation from a previous exercise detailing demonstration of task 	C, E, F, I, J, T		
<p>26. Describe environmental assessments for human health protection common to transportation related, fixed facility, and terrorist/WMD chemical incident incidents.</p>	C, E, F, I, J, T		
<p>27. Describe how the environmental monitoring requirements for a transportation related, fixed facility, and terrorist/WMD chemical incident for chronic exposures in the environment are similar in their characteristics and methodologies:</p> <ul style="list-style-type: none"> ● Identify the environmental consequences of transportation related chemical incident ● Identify the environmental consequences of fixed facility contamination incident ● Identify the environmental consequences of terrorist/WMD related chemical incident 	C, E, F, I, J, T		

<p>28. Describe the appropriate chemical instrumentation and environmental measurement data collection technique for a terrorist/WMD incident:</p> <ul style="list-style-type: none"> ● Identify modifications of routine environmental sampling and analysis procedures that may be necessary following a terrorist/WMD incident ● Identify quality assurance controls for sampling and laboratory analysis for samples obtained after terrorist/WMD incident ● Identify the analytical instrumentation for environmental samples obtained following a terrorist/WMD incident ● Identify the media samples appropriate to assessing exposure pathways for a terrorist/WMD incident 	C, E, F, I, J, T		
<p>29. Describe the appropriate chemical instrumentation and environmental measurement data collection technique for fixed facility contamination incident:</p> <ul style="list-style-type: none"> ● Identify modifications of routine environmental sampling and analysis procedures that may be necessary following a fixed facility contamination incident ● Identify quality assurance controls for sampling and laboratory analysis for samples obtained after a fixed facility contamination incident ● Identify the analytical instrumentation for environmental samples obtained following a fixed facility contamination incident ● Identify the media samples appropriate to assessing exposure pathways for a fixed facility contamination incident 	C, E, F, I, J, T		
<p>30. Describe the appropriate chemical instrumentation and environmental measurement data collection technique for transportation related chemical incident:</p> <ul style="list-style-type: none"> ● Identify modifications of routine environmental sampling and analysis procedures that may be necessary following transportation related chemical incident ● Identify quality assurance controls for sampling and laboratory analysis for samples obtained after transportation related chemical incident ● Identify the analytical instrumentation for environmental samples obtained following transportation related chemical incident ● Identify the media samples appropriate to assessing exposure pathways for transportation related chemical incident 	C, E, F, I, J, T		
<p>31. Differentiate the chemical risks of transportation related, fixed facility, and terrorist/WMD chemical incident:</p> <ul style="list-style-type: none"> ● Identify objectives of response related to the specific release and pathways to human exposure for transportation related, fixed facility, and terrorist/WMD chemical incident ● Describe the variations in incident scale between transportation related, fixed facility, and terrorist/WMD chemical incident ● Identify the most critical chemical effects likely from transportation related, fixed facility, and terrorist/WMD chemical incident 	C, E, F, I, J, T		

<p>32. Identify the exposure calculations appropriate to transportation related, fixed facility, and terrorist/WMD chemical incident:</p> <ul style="list-style-type: none"> ● Describe quality assurance methods to best correlate exposure measurements to the success of incident objectives ● Describe response objectives-oriented recommendations relative to the exposure calculations needed for transportation related, fixed facility, and terrorist/WMD chemical incident ● Describe the exposure calculations from all pathways and their consequences for transportation related, fixed facility, and terrorist/WMD chemical incident 	C, E, F, I, J, T		
<p>33. Recognize the appropriate IMAAC data products for transportation related, fixed facility, and terrorist/WMD chemical incident:</p> <ul style="list-style-type: none"> ● Describe the unique characteristics of each of the data products available for transportation related, fixed facility, and terrorist/WMD chemical incident ● Obtain the different data products from for transportation related, fixed facility, and terrorist/WMD chemical incident 	C, E, F, I, J, T		
<p>34. Recognize the critical role of exposure related recordkeeping in response to transportation related, fixed facility, and terrorist/WMD chemical incidents:</p> <ul style="list-style-type: none"> ● Describe methods to ensure and preserve the quality and integrity of exposure related records ● Describe the types of exposure related records to be obtained and maintained in response to transportation related, fixed facility, and terrorist/WMD chemical incident ● Identify uses of exposure related records to individual, group, and incident management purposes 	C, E, F, I, J, T		
<p>35. Recognize the potential health impacts related to a fixed facility contamination incident:</p> <ul style="list-style-type: none"> ● Describe the physical, environmental, societal, and human effects of a fixed facility contamination incident ● Describe the roles COSS can play in minimizing or mitigating the physical, environmental, societal, and human effects of a fixed facility contamination incident ● Explain to an audience the specific sources of chemical exposure in the early and later phases of a fixed facility contamination incident 	C, E, F, I, J, T		
<p>36. Recognize the potential health impacts related to a terrorist/WMD incident:</p> <ul style="list-style-type: none"> ● Describe the physical, environmental, societal, and human effects of a terrorist/WMD incident ● Describe the roles COSS can play in minimizing or mitigating the physical, environmental, societal, and human effects of a terrorist/WMD incident ● Explain to an audience the specific sources of chemical exposure in the early and later phases of a terrorist/WMD incident 	C, E, F, I, J, T		

<p>37. Recognize the potential health impacts related to a transportation related chemical incident:</p> <ul style="list-style-type: none"> ● Describe the physical, environmental, societal, and human effects of a transportation related chemical incident ● Describe the roles COSS can play in minimizing or mitigating the physical, environmental, societal, and human effects of a transportation related chemical incident ● Explain to an audience the complexities of minimizing or mitigating the physical, environmental, societal, and human effects of a transportation related chemical incident where resources are scarce and conditions are austere ● Explain to an audience the specific sources of chemical exposure in the early and later phases of a transportation related chemical incident 	<p>C, E, F, I, J, T</p>		
<p>38. Recognize the variety of environmental monitoring methods appropriate for assessing the exposure pathways following a transportation related, fixed facility, and terrorist/WMD chemical incident:</p> <ul style="list-style-type: none"> ● Describe the sampling priorities and analysis methods for samples obtained following transportation related, fixed facility, and terrorist/WMD chemical incident incidents ● Explain to an audience the primary exposure pathway resulting in exposure to humans from transportation related, fixed facility, and terrorist/WMD chemical incident incidents 	<p>C, E, F, I, J, T</p>		
<p>39. Recognize the varying levels of chemical control in the COSS toolkit useful in response to transportation related, fixed facility, and terrorist/WMD chemical incident:</p> <ul style="list-style-type: none"> ● Describe other chemical and nuclear emergency response resources in the COSS toolkit useful in response to transportation related, fixed facility, and terrorist/WMD chemical incident ● Describe the considerations and criteria related Shelter and Evacuation in the COSS toolkit useful in response to transportation related, fixed facility, and terrorist/WMD chemical incident ● Describe the considerations and criteria related to Population Monitoring in the COSS toolkit useful in response to transportation related, fixed facility, and terrorist/WMD chemical incident ● Describe the controls related to Perimeters and Zones in the COSS toolkit useful in response to transportation related, fixed facility, and terrorist/WMD chemical incident ● Describe the controls related to Worker Safety in the COSS toolkit useful in response to transportation related, fixed facility, and terrorist/WMD chemical incident 	<p>C, E, F, I, J, T</p>		

4. Competency: Competency: Ensure completion of assigned actions

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.

4a. Behavior: Execute assigned tasks, assess progress, and make necessary adjustments

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
<p>40. Demonstrate use of ACE to support response:</p> <ul style="list-style-type: none"> • Demonstrate the ability to complete an ACE analysis for an exercise or incident from start of the scenario through at least the first 24 hours of exposure • Provide an after-action report or other relevant comprehensive documentation from a previous exercise detailing demonstration of task 	C, E, F, I, J, T		
<p>41. Demonstrate use of EPA CAMEO Suite to support response:</p> <ul style="list-style-type: none"> • Demonstrate the creation of an Areal Locations of Hazardous Atmospheres (ALOHA) plume, plotted for a specific location, using Mapping Application for Response, Planning, and Local Operational Tasks (MARPLOT) for one or more chemicals from EPA CAMEO Suite to support at least one exercise or incident • Provide an after-action report or other relevant comprehensive documentation from a previous exercise detailing demonstration of task 	C, E, F, I, J, T		
<p>42. Explain the purpose and functions of EPA CAMEO Suite:</p> <ul style="list-style-type: none"> • Describe the features of EPA CAMEO Suite that would benefit response to a wide-area contaminating incident • Explain how the EPA CAMEO Suite information would be shared 	C, E, F, I, J, T		
<p>43. Explain the purpose and functions of the Assessment of Chemical Exposures Program (ACE):</p> <ul style="list-style-type: none"> • Describe incidents and scenarios where ACE models are most useful • Explain basic functions of ACE and output information provided from system 	C, E, F, I, J, T		
<p>44. Provide interpretation and guidance for confounding instrument readings/results:</p> <ul style="list-style-type: none"> • Demonstrate ability to apply data quality objectives to ensure reliable data • Demonstrate ability to identify possible reasons for conflicting data in an incident • Demonstrate ability to recognize when data requires additional validation 	C, E, F, I, J, T		
<p>45. Use ChemResponder mobile app and/or website to support response:</p> <ul style="list-style-type: none"> • Obtain ChemResponder Train the Trainer Certification in all four user roles: Generalist, Data Collection, Event Manager and Organization Administrator • Provide an after-action report or other relevant comprehensive documentation from exercise detailing demonstration of task 	C, E, F, I, J, T		

4b. Behavior: Make appropriate decisions based on analysis of gathered information

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
46. Integrate state, local, tribal, and territorial (SLTT) capabilities with federal assets to meet objectives: <ul style="list-style-type: none"> ● Provide evidence that you have coordinated with federal and SLTT response partners in at least one exercise/incident to maintain a common chemical operating picture and situational awareness 	E, F, I, T		
47. Match multiple capabilities of federal and SLTT assets to objectives: <ul style="list-style-type: none"> ● Explain to an audience the main non-chemical assets available from the Federal government to support incident response 	C, E, F, I, J, T		

4c. Behavior: Gather, analyze, and validate information and make recommendations for setting priorities

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
48. Demonstrate ability to help the incident commander adjust responder exposure guidelines for rescue operations involving large exposures and vulnerable populations: <ul style="list-style-type: none"> ● Clearly and concisely communicate implications of setting worker exposure for lifesaving missions too low ● Identify appropriate alarm set points/exposure alerts 	C, E, F, I, J, T		
49. Demonstrate application of decision-making process for incident response: <ul style="list-style-type: none"> ● Describe positions and agencies typically involved in decision-making for chemical incidents ● Explain how non-technical factors (geographical, social, etc.) can inform protective action decisions 	C, E, F, I, J, T		
50. Describe the reasons why higher exposure thresholds are considered appropriate by recommending bodies (such as the Center for Disease Control and Prevention [CDC], the Occupational Safety and Health Administration [OSHA], and the EPA) and when these could be applied.	C, E, F, I, J, T		
51. Explain capabilities of the chemical portfolio of the Department of Defense (DOD) Chemical, Biological, Radiological, and Nuclear (CBRN) Response Enterprise: <ul style="list-style-type: none"> ● Explain to an audience the DOD assets important to chemical incident response, their mission, capabilities, footprint and expected response times ● For decision makers, describe the best application of the Chemical Response Enterprise (CRE) assets and when they should be requested or activated 	C, E, F, I, J, T		
52. Explain capabilities of the primary federal and SLTT chemical response and recovery assets: <ul style="list-style-type: none"> ● Explain to an audience the federal and SLTT assets important to chemical incident response, their mission, capabilities, footprint and expected response times ● For decision makers, describe the best application of the federal and SLTT assets and when they should be requested or activated 	C, E, F, I, J, T		

53. Explain to an audience how non-technical factors (geographical, social, etc.) can inform protective action decisions.	C, E, F, I, J, T		
54. For a large or unique threat or incident, scale and adjust guidelines for personal protective equipment (PPE), exposure, population monitoring, and zone definitions and controls to balance resources with responder risk and response benefit: <ul style="list-style-type: none"> ● Demonstrate ability to identify unique considerations important for large-scale/severe chemical incidents ● Demonstrate ability to provide information and references to guide establishment or adjustment of exposure recommendations or PPE requirements ● Demonstrate ability to use COSS Toolkit to provide recommendations for adjustments to guidance/thresholds when resources are scarce 	C, E, F, I, J, T		

4d. Behavior: Gather, update, and apply situational information

TASK	CODE	EVALUATION RECORD #	EVALUATOR INITIALS AND DATE
55. Demonstrate ability to recognize release and modeling resources most appropriate for the scenario: <ul style="list-style-type: none"> ● Describe the differences between several modeling products, including ALOHA, WISER/ERG and IMAAC, and explain why one might be better applied in certain situations 	C, E, F, I, J, T		
56. Demonstrate the ability to distinguish relevant information from other non-mission essential information: <ul style="list-style-type: none"> ● Describe the reasons and methods for sorting through large amounts of chemical data and information to identify those that are relevant to specific questions or priorities 	C, E, F, I, J, T		
57. Support the collection and upload/entry of actionable, verified data on ChemResponder or other data collection systems: <ul style="list-style-type: none"> ● Assess data entered into ChemResponder for validity per jurisdictional procedures and designate the assessment of the data point appropriately ● Demonstrate knowledge of equipment details required to allow data to be used for further analysis and product development ● Enter data using both the ChemResponder mobile app and the desktop version of the website 	C, E, F, I, J, T		