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Emergency Responder Health and Safety Manual

Chapter 3

Medical Surveillance Program

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U.S. Environmental Protection Agency

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LIST OF ACRONYMS

ACIP	Advisory Committee on Immunization Practices
ALT	Alanine aminotransferase
AST	Aspartate aminotransferase
BUN	Blood urea nitrogen
CFR	Code of Federal Regulations
CPR	Cardiopulmonary resuscitation
ECG	Electrocardiogram
EPA	U.S. Environmental Protection Agency
ERT	Environmental Response Team
FOH	Federal Occupational Health
HASP	Health and safety plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HDL	High density lipid
HSPC	Health and Safety Program Contact
HQ	Headquarters
Hz	Hertz
LDH	Lactate dehydrogenase
LDL	Low density lipid
MCH	Mean corpuscular hemoglobin
MCHC	Mean corpuscular hemoglobin concentration
MCV	Mean corpuscular volume
CMAT	Consequence Management Advisory Team (formerly called National Decontamination Team (NDT))
OLEM	Office of Land and Emergency Management (formerly called Office of Solid Waste and Emergency Response (OSWER))
OMSP	Occupational Medical Surveillance Program
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PPD	Purified protein derivative
PPE	Personal protective equipment
RDW	Red cell distribution width
SGOT	Serum glutamic oxaloacetic transaminase
SGPT	Serum glutamic pyruvic transaminase
SHEMP	Safety, Health, and Environmental Management Program
SSD	Safety and Sustainability Division (formerly called Safety, Health and Environmental Management Division (SHEMD))

1.0 INTRODUCTION

1.1 Background Information and Regulatory Basis

EPA Order 1460.1 of April 2010 establishes the purposes (see Text Box 1) of EPA's Occupational Medical Surveillance Program (OMSP). The OMSP is decentralized; each organization is responsible for executing its own program. This chapter provides information on the type of medical surveillance support EPA's emergency responders require and has been written to:

- Ensure that consistent medical examinations are provided to all EPA emergency responders.
- Ensure that the OMSP is consistent with:
  - 29 CFR 1910.120(f) (the medical surveillance requirements listed in the Hazardous Waste Operations and Emergency Response [HAZWOPER] standard).
  - 29 CFR 1910.134 (the Respiratory Protection standard).
  - 29 CFR 1910.1030 (the Bloodborne Pathogen standard).
  - 29 CFR 1910.95 (the Occupational Noise Exposure standard).
- Identify the Agency-wide requirements for basic medical tests for all EPA emergency responders, as well as chemical-specific monitoring/measuring and medical surveillance requirements for individuals who have the potential to be exposed to specific substances regulated under OSHA standards 29 CFR 1910.1001 through 1053.
- Outline immunizations made available to emergency responders.
- Ensure that emergency responders have access to antibiotics if biological hazards exist.
- Ensure that emergency responders have access to nerve agent antidote kits.
- Ensure that emergency responders receive medical surveillance awareness training.
- Ensure that consistent recordkeeping practices are implemented and that readily accessible medical monitoring records are maintained across the Agency.

Text Box 1
Purposes of EPA Order 1460.1
Occupational Medical Surveillance Program

- Provide a mechanism for the ongoing systematic collection, analysis, and interpretation of health data for the purpose of improving employee health and safety.
- Detect deviations in employees' health status at the earliest possible time when intervention strategies are most effective; determine if the deviations are related to exposures to occupational stressors; and, if so, notify appropriate officials so that hazard identification and mitigation can be performed expeditiously on affected employees and steps can be taken to prevent other employees from being similarly affected.
- Ensure that employees are physically capable of performing their regularly assigned duties and tasks without endangering their own safety and health and that of their co-workers and the general public.
- Ensure, to the extent feasible, that EPA employees subject to extraordinary physical demands or hazardous exposures (e.g., divers, emergency responders, and laboratory personnel) have not suffered injuries or adverse health effects from workplace exposures.
- Ensure that work site monitoring, administrative and engineering controls, and operating procedures and practices are reducing EPA employees' risk of exposure. If not, ensure that improved work practices (such as product substitution or stricter administrative and engineering controls) are implemented immediately.
- Ensure that employee exposures are adequately captured through industrial hygiene monitoring or modeling assessments and that appropriate medical surveillance testing is performed.

- Ensure that program evaluations are performed to assess how well the OMSP is working and to determine whether any measures need to be taken to address deficiencies.

1.2 Instructions for Users

In accordance with OSWER Directive 9285.3-12, this chapter must be implemented across all EPA regions, the Environmental Response Team (ERT), the Consequence Management Advisory Division (CMAD), and Headquarters (HQ). This means that each EPA organization must adopt the minimum Agency requirements and management practices listed in this chapter and produce a customized version of the chapter that is reviewed/updated on an annual basis.

To customize the chapter, users must (1) complete Appendix A and (2) insert organization-specific information into the blank spaces (highlighted in yellow) that appear throughout the chapter. If organizations advocate additional policies and procedures exceeding the minimum requirements, they must document them in Appendix B. Tools developed to support this chapter include a glossary (Appendix C). This chapter also provides information about OMSP-related topics that must be addressed in site-specific health and safety plans (HASPs) (Appendix D).

See the Introduction to this manual for details on customizing and posting an organization's medical surveillance program to EPA's Web site (http://www.epaosc.net/_HealthSafetyManual).

2.0 ROLES AND RESPONSIBILITIES

Health and Safety Program Contacts (HSPCs), Removal Managers, Safety, Health and Environmental Management Program (SHEMP) Managers, individual emergency responders or On-Scene Coordinators (OSCs), and physicians have roles and responsibilities in successfully implementing an OMSP. Appendix A details the tasks that these key personnel must perform. If an organization wishes to delegate a task to someone other than the default assignment presented in the appendix, users can do so when they customize Appendix A and when they fill in the yellow-highlighted areas that appear through the chapter's text.

3.0 MEDICAL EXAMINATIONS

EPA emergency responders who are involved with emergency response activities with the potential for exposure to occupational hazards and/or physical stressors (e.g. member of a HAZMAT team) are required to participate in the OMSP and to undergo required medical examinations. The SHEMP Manager (or another designated person) and the HSPC (or another designated person) must assist the Removal Manager (or another designated person) in ensuring that employees receive required examinations and, if necessary, in scheduling the examinations. Medical examinations are performed to establish an employee's baseline health status and to determine if employees' health status changes over time because of occupational exposures. In addition, medical examinations are used to determine whether employees are capable of performing their duties while wearing personal protective equipment (PPE) under conditions (e.g., temperature extremes) that might be expected at a work site. Examinations must be performed by or under the supervision of a physician, who (at a minimum) is licensed in medicine and possesses specific training or expertise in occupational medicine and has experience performing medical surveillance examinations.

This chapter provides information on (1) the type of background material that must be provided to physicians before an examination, (2) the frequency with which medical examinations must be

performed, and (3) the specific elements that must be included in medical examinations. In addition, this chapter describes the procedures that physicians must use to report their findings and to indicate whether employees are medically cleared to perform their job duties or whether work restrictions are warranted.

3.1 Collecting Background Information for Medical Examinations

Working with EPA, physicians must determine what level of medical testing is necessary to monitor an employee's health. To assist with the process, the SHEMP Manager (or another designated person) must provide the physician with the following:

- A copy of the HAZWOPER standard (29 CFR 1910.120) and its appendices and other chemical-specific and program standards and appendices as required.
- A basic characterization of the workplace, employee duties, and potential hazards.
- An exposure assessment that meets the unique requirements of the relevant chemical-specific regulations, and includes definitive exposure profiles relative to occupational exposure levels for other hazards.
- A description of any PPE that the employee has used or plans to use in the future. (For example, physicians must be given information about the type and weight of the respirator that an employee is expected to wear, along with information on how long and how frequently the employee is expected to use the respirator.)

3.2 Types of Medical Examinations

Medical exams include baseline, periodic, episodic, and exit exams.

- *Baseline exams*. These exams, which must be performed before an emergency responder is sent into the field, are performed **to establish whether emergency responders are fit to perform their duties** and to characterize the health of employees before they go on assignment.
- *Periodic exams*. EPA emergency responders must receive follow-up medical exams on an annual basis. (If the examining physician determines that an increased frequency of examination is medically necessary for particular employees, EPA will support the additional evaluations.) Not all of the tests included in the baseline exam are repeated during each annual follow-up exam. For example, chest x-rays do not need to be performed during annual follow-up exams unless: (1) there is concern that an employee has been exposed to a hazardous substance, like asbestos (in which case the employee must obtain a chest x-ray once every 3 to 5 years), or (2) the employee has developed problematic symptoms (e.g., shortness of breath, coughing, or chest tightness) that indicate a need for further evaluation. Other tests, however, provide useful information regarding an employee's ongoing health status and his/her ability to perform job functions while wearing PPE, such as hearing tests, pulmonary function tests, and cardiovascular surveillance. These tests may be repeated more frequently, at the discretion of the examining physician.
- *Episodic exams.* Episodic exams occur outside the required annual exams and are only scheduled if there is reason to believe that an employee has been exposed to a chemical, biological, radiological, or nuclear agent, or a physical stressor. For example, examinations would be scheduled as soon as possible upon notification by an employee that he/she had (1) been injured or exposed above permissible exposure limits or published exposure levels, or (2) developed signs or symptoms indicating possible exposure to hazardous substances or health hazards.

- *Exit exams*. These exams are performed at the termination of employment or reassignment to an area where the employee would no longer be required to be in the OMSP. *(Note: In such cases an examination is required if the employee has not received an exam within the last 6 months.)* Exit exams must include the elements of the baseline medical exam and any additional tests that might be indicated based on an employee's work history and exposure reports.

3.3 The Content of Medical Examinations

EPA established a list of elements that must be included in medical examinations performed on emergency responders for basic medical monitoring and chemical-specific monitoring.

3.3.1 Basic Medical Surveillance

As part of an emergency responder's basic medical examination, physicians must obtain a medical and work history (or update a history if one already exists in the employee's file) and perform physical examinations and laboratory tests. Tables 1 and 2 list the elements that must be covered as part of basic medical exam and indicate how frequently specific medical tests must be performed. In addition, physicians have the discretion to perform additional tests if deemed necessary based on an employee's medical and exposure history. *(Note: Details about radiation exposure monitoring are described in the Radiation Safety Program chapter of this manual. Information regarding an employee's radiation exposure must, however, be included in his/her work history.)*

Table 1
Elements That Must Be Included in Basic Medical Examinations Administered to EPA's Emergency Responders

Exam Element	Frequency[a]	Additional Comments
Medical History	• Filled out during baseline exam. • Updated during annual exams. • Updated during exit exam.	To promote consistency across the Agency, physicians must use the most recent *EPA Medical Evaluation Form* provided through EPA's interagency agreement with the Federal Occupational Health (an example is provided in the "Forms" section of the manual's website.
Physical Examination	• Performed during baseline exam. • Performed during annual exams. • Performed during exit exam.	
Review of Potential Exposure History	• Filled out during baseline exam. • Updated during subsequent annual or episodic exams. • Performed during exit exam.	
Purified Protein Derivative (PPD) Test for Tuberculosis	• Performed during baseline exam. • Performed during subsequent annual or episodic exams if indicated. • Performed during exit exam.	
Eye Exams		
Visual acuity testing (with and without corrective lenses)	• Performed during baseline exam. • Performed during all subsequent annual exams. • Performed during exit exam.	Patient's near and distance vision must be tested.
Visual field testing	• Performed during baseline exam. • Performed once every 5 years thereafter. • Performed during exit exam.	
Intraocular pressure	• Performed annually for employees over the age of 40.	
Color vision	• Performed during baseline exam. • Performed during exit exam.	

Exam Element	Frequency[a]	Additional Comments
Hearing Tests	• Performed during baseline exam. • Performed during all subsequent annual exams. • Performed during exit exam.	Testing should be provided for the following frequencies: 500 hertz (Hz), 1,000 Hz, 2,000 Hz, 3,000 Hz, 4,000 Hz, 6,000 Hz, and 8,000 Hz.
Chest X-ray	• Performed during baseline exam. • Performed during subsequent annual or episodic exams if indicated. • Performed during exit exam.	X-rays must be taken of: • Posterior-anterior • Left lateral • Right lateral
The 12-Lead Resting Electrocardiogram (ECG) Test	• Performed during baseline exam. • Performed during subsequent annual or episodic exams if indicated. • Performed during exit exam.	EPA recommends ECGs initially, at age 40, and every 5 years thereafter.
Respiratory Protection Evaluation	• Performed during baseline exam. • Performed during annual exams.	As indicated in OSHA's 29 CFR 1910.134(e), all of the questions found on OSHA's Respirator Medical Evaluation Questionnaire must be addressed for employees who wear respirators. (See Section 3.2 of the Respiratory Protection Program chapter for details.)
Pulmonary Function Tests[c]		
Simple spirometry test	• Performed during baseline exam. • Performed during subsequent annual or episodic exams if indicated. • Performed during exit exam.	
Volume measurements	• Performed during baseline exam. • Performed during subsequent annual or episodic exams if indicated. • Performed during exit exam.	
Lung diffusion capacity test	• Performed during baseline exam. • Performed during subsequent annual or episodic exams if indicated. • Performed during exit exam.	

Exam Element	Frequency[a]	Additional Comments
Laboratory Testing Urinalysis Complete blood counts Blood chemistry	All of these tests must be: • Performed during baseline exam. • Performed during all subsequent annual exams. • Performed during exit exam.	The list of analytes that should be evaluated is presented in Table 2. (The same set of analytes must be evaluated during the baseline, annual, and exit exams.)
Special Tests Acetylcholinesterase Heavy metal screen Polychlorinated biphenyls	All of these tests should be: • Performed during baseline exam. • Performed during annual or episodic exams if there is reason to believe an employee has been exposed to these specific contaminants. • Performed during exit exam.	
Chemical-specific regulations	See Section 3.3.2 for more information.	
Other (non-OSHA-regulated) chemicals	See Section 3.3.2 for more information.	

[a] The frequencies listed represent the minimum recommendations. Attending physicians have the discretion to increase the frequency of testing if they believe an employee has risk factors that warrant a more aggressive monitoring schedule.

[b] EPA emergency responders are expected to perform activities that are consistent with the U.S. Department of Labor's physical demand level classifications of "medium" to "heavy" workloads—categories that require oxygen consumption ranging from about 0.8 to 1.8 liters per minute and energy expenditures ranging from about 3.6 to 7.5 METS.

[c] Physicians must follow the recommendations put forth by the American College of Occupational and Environmental Medicine.

Table 2
Blood and Urine Analytical Requirements
Tests to Be Performed During Baseline, Annual, and Exit Examinations

Analytes	
• Lipid panel Triglycerides Cholesterol, total HDL-cholesterol LDL-cholesterol Cholesterol/HDLC ratio • Bilirubin, direct • Gamma glutamyl transferase • Lactate dehydrogenase (LDH) • Alanine aminotransferase (ALT), also known as serum glutamic pyruvic transaminase (SGPT) • Comprehensive metabolic panel without CO_2 • Glucose • Blood urea nitrogen (BUN) • Creatinine • Sodium • Potassium • Chloride • Calcium • Protein, total • Albumin/globulin ratio • Bilirubin, total • Alkaline phosphatase • Aspartate aminotransferase (AST), also known as serum glutamic oxaloacetic transaminase (SGOT) • Complete blood count (includes differential/platelets) • White blood cell count	• Red blood cell count • Hemoglobin • Hematocrit • Mean corpuscular volume (MCV) • Mean corpuscular hemoglobin (MCH) • Mean corpuscular hemoglobin concentration (MCHC) • Red cell distribution width (RDW) • Platelet count • Absolute neutrophils • Absolute lymphocytes • Absolute monocytes • Absolute eosinophils • Absolute basophils • Neutrophils % • Lymphocytes % • Monocytes % • Eosinophils % • Basophils % • Urinalysis Color Appearance Specific gravity pH Glucose Bilirubin Ketones

3.3.2 Medical Surveillance for Chemical Concerns

- As noted in one of the last rows of Table 1, additional medical evaluations might be warranted if there is concern that an employee may be exposed to a chemical having its own chemical-specific OSHA standard. All the chemical-specific standards (29 CFR 1910.1001 through 1053) specify the occasion and frequency of exams and the exam elements the physician must provide. Except for the 13 carcinogens (1910.1003) all the chemical-specific standards also require:
- The organization to provide to the physician:
  - The chemical-specific standard and certain appendixes;
    - Sometimes there are other related requirements, such as assurance the physician has read and is familiar with these references.

    - The vinyl chloride standard is the only exception; neither the standard nor appendixes must be provided.
  - A description of the individual's duties;
    - Sometimes other related descriptions, such as former, current, and anticipated duties must also be provided.
  - And the exposure level.
    - Some chemical-specific standards allow objective data (e.g. models, surrogate data, etc.) to be used with or instead of sampling to determine the exposure level.
    - If operations are laboratory scale (see 29 CFR 1910.1450), sampling only must be conducted when there are signs that the PEL might be "routinely exceeded". Except for certain uses of formaldehyde there are no other requirements for baseline sampling in laboratories.
    - Each chemical-specific standard has its own definition of what constitutes representative sampling, when/if initial and periodic sampling can be terminated, etc.
    - Some chemical-specific standards have requirements for additional exposure determinations, e.g. former, current, and anticipated exposure levels, or estimated exposure where there has been an emergency.
- The organization to provide the employee exposure sampling results within 15 working days of obtaining them (within 5 working days of receipt under the asbestos construction standard).

EPA employees also have the potential to be exposed to chemicals that are not currently covered under these chemical-specific OSHA standards. In such cases, the SHEMP Manager (or another designated person) and the examining physician must determine if medical tests have been developed to assess the possibility of exposure to that chemical and whether an evaluation should be performed for a specific individual based on the exposure assessment.

3.4 Issuing Medical Clearances or Medical Restrictions

After completing a baseline, annual, or episodic examination, the examining physician must render an opinion regarding whether the employee is medically cleared to perform his or her job tasks. To do so, the physician must fill out the information requested on page 9 of the *EPA Medical Evaluation Form* (see the "Forms" section of the manual's website) and submit this information to EPA's Medical Review Officer, who will in turn, complete a *Medical Clearance Statement* (i.e., page 10 of the *EPA Medical Evaluation Form*) and submit it to the SHEMP Manager (or another designated person). Using this form, the Medical Review Officer will let EPA know if an employee's health status puts him or her at an increased risk of experiencing adverse health effects from working in hazardous waste operations or emergency response situations or from using a respirator. If the Medical Review Officer does have such concerns, he or she must recommend placing limitations upon the employee's assigned work. The Medical Review Officer must only provide his or her summary opinion about whether employees are cleared for their duties. No medically confidential information should be disclosed on the *Medical Clearance Statement*. The SHEMP Manager (or another designated person) must inform the employee and their supervisor of the Medical Review Officer's opinion on the employee's health status as soon as the clearance statements are received. The supervisor must consider the information provided in *Medical Clearance Statements* when assigning work. Employees may contact EPA's Employee Counseling and Assistance Program (ECAP) (http://intranet.epa.gov/ohr/benefits/ecap/index.htm) to obtain help with any health concerns.

4.0 OTHER COMPONENTS OF THE OMSP IMMUNIZATION PROGRAM, ISSUANCE OF ANTIBIOTICS, AND ISSUANCE OF NERVE AGENT ANTIDOTE KITS

4.1 Immunization Program

EPA's immunization program has two objectives: (1) tracking the immunization status of EPA's emergency responders and (2) requiring vaccinations for any unprotected workers in accordance with ACIP's recommendations. Although the OSHA General Industry standards (29 CFR 1910) do not require employees to receive vaccinations, EPA believes it is important (from a readiness perspective) to support efforts that protect workers from biological hazards or infectious agents that they might encounter in the field. Text Box 3 provides more information about the importance of immunization.

All EPA organizations must establish an immunization program as part of their OMSP and make both vaccinations and follow-up vaccinations (booster shots) available to their emergency responders. EPA, however, cannot force its employees to receive vaccines. The decision about whether or not to receive a vaccine must be made on an individual basis, in view of potential exposures, and in consultation with a physician (during the baseline and subsequent medical examinations, the examining physician may determine that there are medical contraindications to having an employee receive vaccinations). If employees decline to receive recommended vaccines, they must sign a statement acknowledging that fact (see the "Forms" section of the manual's website). The SHEMP Manager (or other designated person) is responsible for making sure that written statements are obtained and copies are kept on file with the Agency.

Text Box 3
Objective of EPA's Immunization Programs

It is imperative for EPA to maintain an emergency response work force that is available and ready to respond to a wide variety of situations when needed, including those that may involve potential exposures to common contagious illnesses, such as the mumps, measles, and varicella. While EPA employees are less likely to have direct encounters with patient populations than health care providers do, the protection and viability of the Agency's workforce remains a concern. Knowledge and documentation of past vaccinations and tracking of any newly administered vaccines will assist EPA in protecting emergency responders and evaluating risks from exposures if they occur.

Upon entering the OMSP, emergency responders must provide adequate documentation of childhood and other previous vaccinations. Physicians must only accept written, dated records as evidence of vaccination. If records cannot be found, employees must attempt to locate missing records by contacting previous health care providers. If individual records cannot be located, these persons must be considered susceptible and started on an age-appropriate vaccination schedule. As an alternative, information concerning an employee's immunization status to certain antigens (e.g., measles, mumps, rubella, varicella, tetanus, diphtheria, hepatitis A, hepatitis B, and poliovirus) may be obtained through simple blood tests.

Table 3 provides information about vaccines that EPA recommends for its emergency responders. If an employee lacks a recommended vaccine, the SHEMP Manager (or another designated person) must ensure that the employee either receives the vaccine or signs a *Vaccination Declination Form* (see the "Forms" section of the manual's website). Physicians must record and track immunizations that they administer on a *Vaccine Administration Record* (see the "Forms" section of the manual's website and Section 6.3 for more details). As will be described in Section 6.3, the SHEMP Manager, the examining physician, and individual emergency responders all play a role in maintaining immunization records.

Table 3
Vaccination Recommendations for EPA's Emergency Responders

Vaccination	Recommended	Provided by EPA
Influenza A	Yes	Yes
Hepatitis A	Yes	Yes
Hepatitis B	Yes	Yes
Tetanus-diphtheria	Yes	Yes
Anthrax	Yes	Yes
Smallpox	No	No
Plague	No	No
Hantavirus	No	No

4.2 Issuance of Antibiotics

In the event EPA's emergency responders are required to work in an environment where biological hazards may be present, EPA has instituted a plan to ensure that antibiotics will be available to prevent the development of disease (i.e., chemoprophylaxis). **No EPA organization is allowed to stockpile antibiotics at its facility.** Employees must remember that antibiotics cannot protect them from all biological hazards (Text Box 4) and antibiotics are not required in advance of a potential exposure to a biological agent. Text Box 5 provides current guidance on protecting workers exposed to anthrax.

Text Box 4
Protecting Workers against Biological Hazards

Antibiotics will not make an individual impervious to the effects of a biological agent. They are complimentary with an emergency responder's first line of defense against exposure to a biological agent. The first line of defense remains work practices, training, administrative and engineering controls, and PPE. EPA has specifically developed its training and professional development plan for emergency responders to ensure they are highly trained, skilled, and have access to appropriate PPE to handle all anticipated operational contingencies in the field.

During an employee's baseline and annual medical examinations, the examining physician must determine whether the employee is medically cleared to use antibiotics. If cleared, the examining physician will sign a prescription that will be sent directly to the SHEMP Manager (or other designated person) for "safe" keeping until needed. The physician must not only inform employees about the uses and risks associated with taking the antibiotics at the time of an examination, but they should also prepare a letter to store with the prescriptions that explains this information. If a competent authority, such as the Removal Manager (or another designated person) determines that there is a risk of potential exposure to a biological agent, he or she will instruct the SHEMP Manager (or another designated person) to distribute the prescriptions to the assigned employees, along with the letter that explains the medication's uses and potential risks. Employees can fill these prescriptions at their local pharmacy. The prescribed antibiotics are not specialty drugs and are readily available at any pharmacy. Prescriptions are valid for 1 year from the date they are issued. If needed, employees can call their physician to request additional antibiotics.

Before employees go to their next annual medical examination, they must retrieve their prescription from the SHEMP Manager (or other designated person) and present it to the physician. The physician will reevaluate the employees' ability to take antibiotics and, if cleared, will issue a new prescription that will be sent to the SHEMP Manager (or other designated person). Examining physicians will NOT issue a new prescription without the employee returning the prior year's prescription (unless of course the prescription has been filled).

In the event that the prescription is filled for a legitimate work-related purpose during the prior year, the SHEMP Manager (or other designated person) will provide the employee with documentation to present to the physician.

Text Box 5
Protecting Workers Exposed to Anthrax

If called on to respond to an incident involving anthrax, EPA plans to follow the post-exposure prophylaxis guidance developed by expert advisory panels. If EPA emergency responders are assigned work at an aerosolized (wide-area dissemination) anthrax incident, all exposed or potentially exposed employees should receive both a vaccination and a 60-day course of antibiotics. A 30-day course of antibiotics is recommended for partially vaccinated responders, fully vaccinated responders who do not wear PPE, and fully vaccinated responders whose PPE has been disrupted. Ideally emergency responders will begin their antibiotics either immediately before or at the time of exposure. It is important to remember, however, that individuals have up to 48 hours to receive antibiotics after being exposed.

4.3 Issuance of Nerve Agent Antidote Kits

EPA's emergency responders are sometimes required to work in environments where they might be exposed to nerve agents or organophosphate or carbamate pesticides. Due to the potential harmful effects of nerve agents (see Text Box 6), EPA has issued Directive OSWER-9200.51 to provide guidance on the proper storage, training, use, and disposal of nerve agent antidote kits. The Department of Health and Human Services' Federal Occupational Health (FOH) has also developed medical guidelines for using these kits. EPA has an interagency agreement with FOH to provide medical services. FOH will purchase the kits and assist in the disposal of any used or expired kits. OEM's Duodote® Program Manager will coordinate FOH requirements for an annual inventory, a list of program participants and those in oversight roles, and an annual training roster. OEM's Duodote® Program Manager will also notify the reviewing medical officer (RMO) or other designated FOH medical POC if there is an environmental incident requiring deployment of the kits, and will work with the EPA FOH Program Manager and the SSD to ensure funding of future kits. Each organization's HSPC and SHEMP Manager (or other designated person) will be responsible for issuing nerve agent kits to emergency responders and managing the storage, use, training, and disposal of these kits.

Mark 1™ Nerve Agent Antidote Kits, referred to as Mark 1 Kits, or the Duodote® auto-injector are common nerve agent antidote products used to provide life-saving treatment. **Nerve agent antidote kits must never be used as a prophylactic**

Text Box 6
The Effects of Nerve Agents

The central nervous system controls body functions by secreting chemical transmitters that act as "instructors" to nerves, muscles, and glands. Neurological instructions can either stimulate (to move or work) or relax (to stop or rest) the central nervous system. Nerve agents interfere with chemical transmitters that direct the nerves, muscles, or glands to relax, resulting in overstimulation of the nervous system and the emergence of the following symptoms:

- Salivation (excessive drooling)
- Lacrimation (tearing)
- Urination
- Defecation/diarrhea
- Gastrointestinal upset (cramps)
- Emesis (vomiting)
- Muscle twitching or spasms
- Difficulty breathing
- Agitation and central nervous system signs (confusion, agitation, seizures, coma)

measure or as a measure taken before attempting a rescue. Both products contain atropine and 2-pralidoxime chloride, but the Mark 1 Kit contains a cartridge of each antidote whereas the Duodote® contains both antidotes in one cartridge. Both atropine and 2-pralidoxime chloride must be administered to counter the full effects of a nerve agent. **Nerve agent antidote kits must only be used based on an assessment of the victim's symptoms.** Although adverse reactions to the nerve agent antidote may occur, there are NO contradictions to treating a symptomatic victim. As indicated in Directive OSWER-9200.51, whenever feasible, properly trained medical support should be available at an incident to administer the nerve agent antidote. If medical support is not available, however, EPA emergency responders may administer the nerve agent antidote to other EPA employees or EPA contractors.

If a nerve agent antidote kit is administered, the following individuals must be notified as soon as possible: the site Safety Officer, the victim's supervisor, the SHEMP Manager (or another designated person), the Duodote® Program Manager, and the Safety and Sustainability Division (SSD). Moreover, administration of the nerve agent antidote kit must be properly documented and all documentation must accompany the victim to the hospital. An example of a documentation tag is included as an appendix to the guidance attached to Directive OSWER-9200.51. Expired nerve agent antidote kits must be disposed of as regulated medical waste and placed in a closable, leak-proof, and puncture-proof container. (EPA may return expired nerve agent antidote kits to FOH.) Refer to Sections 3.2.9 and 3.2.10 of the Bloodborne Pathogen Exposure Control Plan chapter for instructions on how to properly dispose of and label regulated biohazard waste.

Emergency responders must be trained in the proper use of nerve agent antidote kits in order to administer the antidote in the absence of medical support. See Section 5.2 for detailed information about these training requirements.

5.0 TRAINING

EPA emergency responders are **required** to take medical surveillance awareness training (see Section 5.1) and training on how to use nerve agent antidote kits (see Section 5.2). The Agency also recommends that emergency responders take a first aid and cardiopulmonary resuscitation (CPR) course and participate in first aid/CPR renewal courses every 2 years.

The SHEMP Manager (or other designated person) is responsible for (1) organizing and/or delivering training, (2) ensuring that training requirements are properly documented (see Section 6.4), (3) tracking employee training requirements via Field Readiness, and (4) making sure that the Removal Manager (or other designated person) is aware of which employees have/have not completed their training requirements. The HSPC (or other designated person) may assist with these tasks. The Removal Manager (or other designated person) must (1) provide the resources (including time and monetary support) needed to complete the training modules and (2) prevent employees who have **not** completed their training requirements from working in the field.

5.1 Medical Surveillance Awareness Training

Medical surveillance awareness training, about 1 hour in length, must provide information about the OMSP to ensure that employees have an understanding of the basic tests required under the program, circumstances under which additional special testing might be warranted, vaccinations that EPA requires, the procedures that will be followed to issue antibiotics and administer nerve agent antidote kits, and

recordkeeping requirements that must be met. As part of the initial awareness training, employees will also be reminded of the importance of maintaining their physical fitness.[1]

The Agency must offer awareness training to each employee before, or at the time of, his or her enrollment into the OMSP. Also, because the OMSP is being updated, those employees who are currently enrolled in the program must receive the awareness training. Participants will not be tested at the conclusion of the training and they will not have to take an annual refresher course specifically devoted to OMSP-related topics. If any changes are implemented to the OMSP after an employee has taken the awareness training, this will be communicated to them as part of their annual 8-hour HAZWOPER health and safety refresher course.

5.2 Training on Nerve Agent Antidote Kit Administration

Emergency responders must be trained in the proper use of nerve agent antidote kits in order to administer the antidote in the absence of medical support. The training consists of three parts: initial training, annual refresher training, and competency evaluations.

Initial training must be 2 hours in length and cover the information contained in:

- *Use of Auto-Injectors by Civilian Emergency Medical Personnel to Treat Civilians Exposed to Nerve Agents*. PowerPoint presentation, instructor's guide, and study guide. (Lockheed Martin Energy Research Corporation, 1997)
- Nerve Agent Treatment - Autoinjector Instructions (USACHPPM, 2014)
- "EPA Best Practices for the Storage, Training, Use, and Disposal of Mark 1 Kits." (Attached to Directive OSWER-9200.51)

Annual refresher training on nerve agent antidote kits can be covered in the annual 8-hour OSHA HAZWOPER refresher training.

Competency evaluations must be given during initial training and repeated during annual refresher training. At a minimum, the evaluations must assess an emergency responder's understanding of the materials covered in the initial training. The *Instructor's Guide for the Use of Auto-Injectors by Civilian Emergency Medical Personal to Treat Civilians Exposed to Nerve Agents* provides examples of review questions that can be used to assess competency. All training (and the successful completion of competency evaluations) must be documented in Field Readiness.

6.0 RECORDKEEPING

Table 4 summarizes the recordkeeping requirements associated with EPA's OMSP. Proper recordkeeping is essential so that consistent, readily accessible records are maintained across the Agency to document the results of medical examinations, employee medical clearance status, vaccination histories, training certification, and occupational exposure data. As explained below, some of these records are considered private medical information, and as such, must be treated as confidential records in accordance with the

[1] Given that EPA emergency responders could be required to don Level A PPE in the field, EPA recommends that employees have access to an Agency-sponsored fitness program.

procedures outlined in EPA Order 1460.1 and the Privacy Rule under the Health Insurance Portability and Accountability Act (HIPAA). Employee medical records and employee exposure records must be retained for the duration of employment plus 30 years.

Table 4
Record Retention Requirements for an OMSP

Required Record	Specified Forms	Completed By[a]	Retained By[a]
Medical, Occupational, and Exposure History/ Examination Results/ Other Medical Records	• Pages 1–9 of the *EPA Medical Evaluation Form* (see the "Forms" section of the manual's website) • Other information collected during exam (e.g., OSHA's Respirator Medical Evaluation Questionnaire)	• Physician • Employee	• Physician • SHEMP Manager[b]
Medical Clearance Statement/ Identification of Limitations	Page 10 of 10 of the *EPA Medical Evaluation Form* (see the "Forms" section of the manual's website)	EPA Medical Review Officer	• EPA Medical Review Officer • SHEMP Manager • Supervisor • Employee
Vaccinations	*Vaccine Administration Record* (see the "Forms" section of the manual's website)	Physician	Physician
	Pocket-sized vaccination card	Physician	• Physician • SHEMP Manager • Employee
	Vaccine Declination Statement (see the "Forms" section of the manual's website)	Employee	• Physician • SHEMP Manager • Employee
Training Certification	Letter (see the "Forms" section of the manual's website)	SHEMP Manager	• SHEMP Manager • Employee
Occupational Exposures	*Exposure, Injury, and Dosimetry Tracking Form* (see the "Forms" section of the manual's website)	Employee	• SHEMP Manager • Employee
	OSHA & EPA 301—Injury, Illness & Near Miss Report (EPA Form 1340-1) (see the "Forms" section of the manual's website)	• Employee • Supervisor	• Employee • Supervisor • SHEMP Manager
Medical Surveillance Program Evaluation Form	Checklist (see the "Forms" section of the manual's website)	SHEMP Manager (with assistance of Removal Manager and HSPC)	SHEMP Manager

[a] The recommended assignments listed in the table have been made with regional audiences in mind, and as a result, the positions listed might not be applicable to all organizations. Users can change the assignments when they insert organization-specific information into the yellow-highlighted spaces in Sections 6.1 through 6.6 of this chapter and customize Appendix A.

[b] Medical data may be released to the SHEMP Manager or his/her designee to support program evaluation efforts, but personal identifiers must be removed prior to data release.

Storage and access to relevant medical records by employees and their designated representatives must be conducted in accordance with OSHA 29 CFR 1910.1020 *("Access to employee exposure and medical records")* or other standards as applicable.

6.1 Medical History, Examination Results, or Other Medical Information

For each medical examination performed, emergency responders and the examining physician must work together to complete the *EPA Medical Evaluation Form* (see the "Forms" section of the manual's website). This form asks for information on medical, occupational, and exposure history, and diagnostic results. In addition, the physician must complete the OSHA Respirator Medical Evaluation Questionnaire. The physician and occupational health center must maintain the baseline and subsequent examination records, as they are considered confidential medical records and subject to customary patient-physician confidentiality restrictions, as well as completed versions of the OSHA Respirator Medical Evaluation Questionnaire. EPA managers and supervisors will **not** have access to completed medical examination forms. As discussed in Section 6.2, only the *Medical Clearance Statement* (which appears as page 10 of 10 of the *EPA Medical Evaluation Form*) will be provided to the SHEMP Manager (or another designated person), the employee's supervisor, and the employee.

6.2 Medical Clearance Statements/Identification of Limitations

As described in Section 3.4, EPA's Medical Review Officer prepares *Medical Clearance Statements* (i.e., page 10 of the *EPA Medical Evaluation Form*) and submits them to the SHEMP Manager (or another designated person), who retains copies of these forms for each emergency responder and provides copies to an employee's supervisor and the employee upon receipt. These records must not include specific medical information; results and recommendations must be expressed in general terms and not include diagnostic information.

6.3 Vaccination Records

Whenever a vaccine is administered to an emergency responder, the physician must document this event on a *Vaccine Administration Record* (see the "Forms" section of the manual's website) that will be retained in his or her files. In addition, a complete record of an individual's vaccination history must also be recorded on a pocket-sized card. The card must be updated and certified by the medical provider annually or as appropriate. A copy of this vaccination card must be kept on file with the medical provider and the SHEMP Manager (or another designated person), but also retained by the employee. EPA recommends that emergency responders carry the card to work sites. If employees decline to receive vaccinations, they must sign a *Vaccine Declination Statement* (see the "Forms" section of the manual's website), which will be retained by the physician and the SHEMP Manager (or another designated person).

6.4 Training Certification

The SHEMP Manager (or another designated person) must provide a form of documentation to each employee who completes (1) a medical surveillance awareness course and (2) training on using nerve agent antidote kits. Documentation must be retained by the SHEMP Manager (or another designated person) and the individual employee. Variation in documentation format is acceptable across EPA organizations. The "Forms" section of the manual's website provides one example of a training certification letter that could be used to document completion of the medical surveillance awareness course. In addition, EPA organizations must document the completion of all employee training (and any associated competency tests) in Field Readiness (see Section 5.3 of the Introduction).

6.5 Tracking Occupational Exposures

Emergency responders who experience any type of occupational exposure must report the exposure immediately to their direct supervisor. Procedures that emergency responders must follow when they encounter non-life threatening exposures are summarized in the Quick Reference Guide for Emergency Responders: Medical Surveillance; employees must ensure that they have a copy of these procedures with them when working in the field. Moreover, in the event of an exposure, injury, or illness, employees and their supervisors must complete EPA Form 1340-1, *OSHA & EPA 301—Injury, Illness & Near Miss Report* (see the "Forms" section of the manual's website) within the month in which the incident occurred. The SHEMP Manager (or another designated person) must provide a summary of the exposures, injuries, and illnesses reported on EPA Form 1340-1 to SHEMD on a quarterly basis. Employees may also complete the form themselves and submit it to the SHEMP Manager (or another designated person) anonymously. The SHEMP Manager (or another designated person) must retain the forms, ensure that any other required forms are filled out, and ensure that any other necessary parties are notified (as required) of the occupational exposure. In addition, the SHEMP Manager (or another designated person) must investigate any reported accidents, injuries, illnesses, or near misses and follow up with an independent report.

If employees report an accident or illness, it is their responsibility to consult the SHEMP Manager (or another designated person) for advice and to inform their supervisor and SHEMP Manager if they want or need a follow-up medical evaluation, treatment, or time off from work. In conjunction with the physician and with the assistance of the HSPC (or another designated person), the SHEMP Manager (or another designated person) must initiate procedures for follow-up care or workers' compensation as warranted. The employee's supervisor must retain approval authority in workers' compensation and follow-up medical care cases. In an emergency in which immediate medical care is warranted, the appropriate forms may be submitted after emergency medical care has been provided.

6.6 Evaluation Form

As described in Section 7, the SHEMP Manager (or another designated person) must complete the *Medical Surveillance Program Evaluation Form* (see the "Forms" section of the manual's website) annually and retain copies of completed forms in his or her files for a minimum of 5 years.

7.0 PROGRAM EVALUATIONS

An evaluation of each organization's OMSP (the customized version of this chapter) must be performed to ensure the procedures are being implemented consistently and are performing satisfactorily across the Agency.

7.1 Internal Evaluations

As noted in Section 5.4.1 of the manual's Introduction, EPA organizations must assess their health and safety programs annually. Table 5 identifies the topics that should be evaluated when organizations evaluate their OMSP.

7.2 External Evaluations

Once a year, representatives from the Core ER Audit Team evaluate each EPA organization to examine the elements of the organization's health and safety program, including each organization's OMSP, to ensure that the program is being implemented in a consistent fashion across the Agency. EPA

organizations must provide the Core ER Audit Team members with the information they require to complete their evaluation.

Table 5
Internal Program Evaluation Objectives

Activity	Sample Evaluation Questions
Ensure that the OMSP is being implemented in accordance with the national requirements identified in this chapter	The Medical Surveillance Program Evaluation Form provides a list of questions that must be answered to determine whether the procedures outlined in this chapter are being followed (see the "Forms" section of the manual's website).
Detect changes in employee health status	• Is the SHEMP Manager (or another designated person) analyzing the data presented in EPA Form 1340-1? • Are appropriate follow-up actions being taken based on findings of the medical examinations?
Identify employees that are unable to safely perform their job duties	• Are *Medical Clearance Statements* submitted in a consistent way and on a timely basis? • Is the organization following up appropriately based on physician opinion?
Evaluate trends in disease and injury incidence and identify any needed interventions	• Are reported diseases/injuries correlated with exposures? • Were illnesses or injuries properly investigated to determine causes and to make necessary changes to the program? • Did reported exposures, diseases, or injuries trigger appropriate follow-up action or testing? • Do emerging trends suggest the need to modify the program? • Are mechanisms in place to develop a plan of action to follow up on the trend and decide if changes need to be made to the program?

APPENDIX A

Medical Surveillance Program: Designation of Roles and Responsibilities

Instructions for Users

Appendix A provides a place for users to insert organization-specific information into the Medical Surveillance Program chapter. This appendix presents a list of tasks that must be performed to ensure the smooth operation of an OMSP. The tasks are listed in rows. EPA position titles (e.g., the Removal Manager or the Health and Safety Program Contact) are listed in columns. Each task has been assigned to a default position. For some of the tasks, check marks have been placed in two or more columns to indicate that more than one person assumes responsibility for that task. **Please note that users can re-delegate tasks**.

Users must take the following steps to customize Appendix A:

- Fill in the background information requested at the top of page A-3. For example, indicate when the table is being updated and who is doing the updating.
- Fill in actual names under the position titles.
- Add columns to include additional key players (if necessary).
- Add rows to the table (if necessary) to provide information about activities that exceed the minimum requirements already included in Appendix A. (See Appendix B for a list of your organization's additional policies and procedures related to physical stress management.)
- Determine whether any of the recommended task assignments must be delegated to another person. (If so, move the check marks to re-assign the task.)
- Ensure that each task has been assigned to a specific person.

ATTENTION ERT, CMAT, and HQ Users: The tasks and position titles that appear in Appendix A have been written with regional audiences in mind. ERT, CMAD, and HQ users should modify the language that appears in the rows and column headers to reflect the needs of

APPENDIX A
Task Chart for Implementing the Medical Surveillance Program Chapter

This table has been customized for: Region 4.
Last updated on: March 2, 2017.
Updated by: Kevin Eichinger

TASKS ▼ / ROLES ►	Who Is Responsible for Each Task or Action?						
	Removal Manager	SHEMP Manager	Health and Safety Program Contact	Physicians	Emergency Responders*	Supervisors	Other
Name of person in role ►	See Appendix A-2 in the Introduction chapter for the names of personnel that fill these roles.						
General Manager Tasks Performed to Support an OMSP							
1. Customize the chapter with organization-specific information and review/update the customized version at least annually. Post the customized chapter to the manual's Web site and inform stakeholders of its availability.	✓	✓	✓				
2. Administer the OMSP in accordance with the Agency-wide requirements outlined in this chapter.	✓	✓	✓				
3. Ensure that EPA emergency responders with a potential for exposure are enrolled in the OMSP.	✓	✓					
4. Serve as the point of contact on all medical-surveillance-related issues for emergency responders. (Facilitate and coordinate communication between the managers who administer the OMSP and the emergency responders subject to the program.)			✓				
Tasks Associated with Medical Examinations (Section 3.0)							
5. Participate in baseline, periodic, episodic, and exit medical examinations. Provide information about your medical history and exposure profile to the examining physician.					✓		
6. Ensure that emergency responders receive baseline, periodic, episodic, and exit examinations. Assist in setting up the examinations if necessary.	✓	✓	✓				
7. Serve as liaison (if necessary) between employees and the SHEMP Manager (or another designated person) in addressing special requests for medical examinations or testing.			✓				
8. Provide the following to physicians: (1) a copy of the HAZWOPER standard, (2) a description of the employee's duties and how these duties might lead to potential exposures, (3) information on the employee's exposure levels or anticipated exposure levels, and (4) a description of the PPE that the employee has used or plans to use in the future.		✓					

TASKS ▼ / ROLES ►	Who Is Responsible for Each Task or Action?						
	Removal Manager	SHEMP Manager	Health and Safety Program Contact	Physicians	Emergency Responders*	Supervisors	Other
Name of person in role ►	See Appendix A-2 in the Introduction chapter for the names of personnel that fill these roles.						
9. Determine what level of medical monitoring is necessary to evaluate an employee's health based on his or her medical history and exposure profile.	✓	✓		✓			
10. Perform medical examinations on emergency responders. Ensure that the basic examination elements (see Table 1 and Table 2 of this chapter) are administered during the examinations and comply with medical surveillance requirements for relevant chemical-specific standards and obtain exposure assessments from the SHEMP manager (or other designated individual) if there is concern that a worker has been excessively exposed to a hazardous chemical, biological or physical stressor. Also, recommend additional testing based on case-specific circumstances.		✓		✓			
11. Complete the *EPA Medical Evaluation Form* (see the "Forms" section of the manual's website) each time an emergency responder receives a medical exam. Keep these forms on file and ensure that they are treated as confidential medical records.				✓			
12. EPA's Medical Review Officer will develop an opinion regarding whether an employee is medically fit to perform his/her job duties and will complete the *Medical Clearance Statement* (page 10 of the *EPA Medical Evaluation Form (*see the "Forms" section of the manual's website) and submit it to the SHEMP Manager (or another designated person).				✓			
13. Give emergency responders copies of the *Medical Clearance Statements* that have been written on their behalf upon receipt. Provide copies to their supervisors as well. Highlight any restrictions placed upon their assigned work.		✓					
14. Retain records of completed *Medical Clearance Statements*.		✓			✓	✓	
Tasks Associated with the Immunization Program (Section 4.1)							
15. Share information about your immunization status with your physician. Give physicians adequate documentation of childhood and other previous vaccinations. If records are not easily found, attempt to locate missing records by calling previous health care providers. Or if necessary, allow physicians to perform simple blood tests to determine whether you have immunity against certain diseases.					✓		
16. Record and certify workers' vaccination history on a pocket-sized card. Update and re-certify this card annually or as appropriate.				✓			
17. Keep copies of the cards on file.		✓		✓			

TASKS ▼ / ROLES ►	Who Is Responsible for Each Task or Action?						
	Removal Manager	SHEMP Manager	Health and Safety Program Contact	Physicians	Emergency Responders*	Supervisors	Other
Name of person in role ►	See Appendix A-2 in the Introduction chapter for the names of personnel that fill these roles.						
18. Inform emergency responders of which vaccines they must have administered. *(Note: EPA-recommended vaccines are listed in Table 4 of this chapter.)* Make it clear that the Agency cannot force employees to be vaccinated.		✓	✓				
19. If employees decline to receive the recommended vaccines, ensure that they sign a *Vaccine Declination Statement* (see the "Forms" section of the manual's website).		✓					
20. Obtain all recommended vaccinations or sign a *Vaccine Declination Statement.*					✓		
21. Administer recommended vaccines to EPA employees and fill out information on the type of vaccine given and the date it was administered on a *Vaccine Administration Record* (see the "Forms" section of the manual's website) and retain this record.				✓			
Tasks Associated with the Issuance of Antibiotics (Section 4.2)							
22. Take responsibility for implementing the plan to issue antibiotics to emergency responders.		✓					
23. Determine whether EPA employees are medically cleared to use antibiotics.				✓			
24. Sign antibiotic prescriptions and send them to the SHEMP Manager (or another designated person).				✓			
25. If there is a risk of potential exposure to a biological agent, instruct the SHEMP Manager (or another designated person) to distribute the prescriptions to the assigned employees.	✓	✓					
26. Fill the prescriptions at a local pharmacy.					✓		
27. Prior to an annual medical examination, retrieve prescriptions from the SHEMP Manager (or another designated person) and present them to the examining physician.		✓			✓		
28. Reevaluate an employee's ability to take antibiotics, and if cleared, issue a new prescription and send it to the SHEMP Manager (or another designated person).				✓			
29. If prescriptions are filled for legitimate work-related reasons during the prior year, provide employees with documentation to present to the physician.		✓					
Tasks Associated with the Issuance of Nerve Agent Antidote Kits (Section 4.3)							
30. Manage the storage, use, training, and disposal of nerve agent antidote kits.		✓	✓				
31. Purchase the kits and assist in the disposal of any used or expired kits.							✓

TASKS ▼ / ROLES ►	Who Is Responsible for Each Task or Action?						
	Removal Manager	SHEMP Manager	Health and Safety Program Contact	Physicians	Emergency Responders*	Supervisors	Other
Name of person in role ►	See Appendix A-2 in the Introduction chapter for the names of personnel that fill these roles.						
32. Notify the site Safety Officer, the employee's supervisor, the SHEMP Manager (or another designated person), and SSD if a nerve agent antidote kit is administered.	✓	✓	✓	✓	✓	✓	✓
33. Document the administration of the nerve agent antidote kit and make sure the documentation accompanies the victim to the hospital.					✓	✓	✓
Tasks Associated with Medical Surveillance Awareness Training (Section 5.0)							
34. Organize and deliver medical surveillance awareness training and ensure that it is made available to all emergency responders. Use training certificates (see the "Forms" section of the manual's website) or other forms to document that employees have met their medical surveillance training requirements. Provide copies of the documentation to employees. Use Field Readiness to keep track of who has (or has not) met the training requirements.		✓	✓				
35. Participate in medical surveillance awareness training.					✓		
36. Organize and deliver training on the proper use of nerve agent antidote kits, including initial and annual training and the administration of competency evaluation. Issue documentation that employees have met their training requirements. Provide copies of documentation to employees. Use Field Readiness to keep track of who has (or has not) met the training requirements and who has passed competency tests.		✓	✓				
37. Participate in nerve agent antidote kit training.					✓		
38. Retain copies of completed training documentation.		✓			✓		
39. Alert the Removal Manager (or another designated person) if an emergency responder has not received awareness training.		✓					
40. Make sure that emergency responders have completed their training requirements before allowing them to engage in response activities.	✓						
41. Encourage emergency responders to take first aid and CPR courses.		✓	✓				
Tasks Associated with Addressing and Tracking Occupational Exposures (Section 6.0)							
42. Carry customized versions of the *Quick Reference Guide* (that should be included in the Field Guide) when in the field. Follow the procedures in Appendix D if exposure occurs.					✓		

TASKS ▼ / ROLES ►	Who Is Responsible for Each Task or Action?						
	Removal Manager	SHEMP Manager	Health and Safety Program Contact	Physicians	Emergency Responders*	Supervisors	Other
Name of person in role ►	See Appendix A-2 in the Introduction chapter for the names of personnel that fill these roles.						
46. Notify your direct supervisor and your SHEMP Manager (or another designated person) if you know (or suspect) that you have been exposed to hazardous substances. Also, fill out EPA Form 1340-1, *OSHA & EPA 301—Injury, Illness & Near Miss Report* (see the "Forms" section of the manual's website). Submit these forms to your SHEMP Manager (or another designated person). In addition, consult the SHEMP Manager (or another designated person) for advice and inform your supervisor if you think you need follow-up medical evaluation, treatment, or time off work.		✓			✓	✓	
47. Collect EPA Form 1340-1 from emergency responders who have experienced any type of known excessive occupational exposure. Complete the forms for the employees and provide copies to the SHEMP Manager (or another designated person).						✓	
48. Ensure that any other required forms are filled out and that other necessary parties are notified of excessive occupational exposures that have occurred. Investigate any reported accidents, injuries, or illnesses and follow up with an independent report. If necessary, initiate procedures for follow-up medical care or workers' compensation.		✓					
49. In conjunction with the physician, assist in helping emergency responders obtain appropriate follow-up services in the event of an injury or exposure.		✓	✓			✓	
Tasks Associated with Program Evaluations (Section 7.0)							
50. Perform internal program evaluations on an annual basis to determine if the OMSP is: • Being implemented in accordance with the requirements identified in this chapter. • Meeting its objectives (see Table 5). As part of that effort, fill out the *Medical Surveillance Program Evaluation Form* (see the "Forms" section of the manual's website).	✓	✓	✓				
51. Retain copies of the *Medical Surveillance Program Evaluation Form.*		✓					
52. Correct any program deficiencies that are identified during internal evaluations. If necessary, seek assistance from a senior manager.	✓	✓					
53. Upon request, provide information about the OMSP to Core ER representatives when they visit the organization to perform an annual health and safety evaluation.	✓	✓	✓				
Additional Tasks That Reflect Organization-Specific Procedures (Appendix B)							
Attention users: Add rows if necessary.							

TASKS ▼ ROLES ►	Who Is Responsible for Each Task or Action?						
	Removal Manager	SHEMP Manager	Health and Safety Program Contact	Physicians	Emergency Responders*	Supervisors	Other
Name of person in role ►	See Appendix A-2 in the Introduction chapter for the names of personnel that fill these roles.						

*Note: A list of the organization's emergency responders is provided in Appendix A-2 of the Introduction chapter.

APPENDIX B

Medical Surveillance Program: Documentation of Additional Policies and Procedures

The procedures and tasks outlined in this chapter represent the **minimum requirements** that each EPA organization must meet to comply with the Agency's medical surveillance program. If users advocate the use of additional policies and procedures, they must also:

- Add information about additional tasks into the rows at the end of Appendix A and ensure that each task is assigned to a specific individual; and
- Ensure that the additional policies and procedures are mentioned in the main text of the chapter. This can be accomplished by either (1) inserting the additional policies and procedures directly into the relevant portions of the main body of the chapter or (2) adding a sentence within the main text that directs readers to Appendix B for more information.

Topic	**Please document the additional elected policies and procedures required for Region 4 here.**
Section 3.0 Medical Examinations	See R4 ERRB Standard Operating Guidelines at https://response.epa.gov/hsmanualregion4 1. SOG A101: Medical Countermeasures Program, Biological Agent Prescription Procedures 2. SOG T102: Nerve Agent Antidote Kit Procedures
Section 3.1 Collecting Background Information	
Section 3.2 Frequency of Medical Examinations	
Section 3.3 The Content of Medical Examinations	
Section 3.4 Issuing Medical Clearances or Medical Restrictions	
Section 4.1 Immunization Program	
Section 4.2 Issuance of Antibiotics	
Section 4.3 Issuance of Nerve Agent Antidote Kits	
Section 5.0 Training	
Section 6.0 Recordkeeping	
Section 7.0 Program Evaluations	
Other topics _____ _____ _____	

APPENDIX C

Glossary

GLOSSARY

Acetylcholinesterase
Acetylcholinesterase is an enzyme that degrades the neurotransmitter acetylcholine in the brain and other tissues of the body. Acetylcholine is a chemical substance that sends signals between nerve cells (called neurotransmitters). Neurotransmitters are secreted by neurons (nerve cells) into the space between neurons called the synapse. Acetylcholine is a primary neurotransmitter in the brain, and is associated with memory and cognition.

Chemoprophylaxis
Chemoprophylaxis refers to the administration of a medication (e.g., antibiotics) to prevent disease or infection.

Electrocardiogram test (EKG or ECG)
An ECG is a recording of the electrical activity of the heartbeat and it aids in the diagnosis of heart disease. With each beat, an electrical impulse (or "wave") travels through the heart. This wave causes the muscle to squeeze and pump blood from the heart. ECG is used to measure the rate and regularity of heartbeats as well as the size and position of the chambers, the presence of any damage to the heart, and the effects of drugs or devices used to regulate the heart (such as a pacemaker).

Examining physicians
Examining physicians must be licensed in medicine; have specific training, expertise, or certification in occupational or environmental medicine; and be experienced in the performance of medical surveillance examinations.

Immunization
A technique used to cause an immune response resulting in resistance to a specific disease, especially an infectious disease. Immunization (through vaccinations) works by stimulating the immune system, the natural disease-fighting system of the body. The healthy immune system is able to recognize invading bacteria and viruses and produce substances (antibodies) to destroy or disable them. Immunizations prepare the immune system to ward off a disease. In addition to the initial immunization process, it has been found that the effectiveness of immunizations can be improved by periodic repeat injections of vaccines or "boosters."

Lung diffusion capacity test
The lung diffusion capacity test is a pulmonary function test that measures how your lungs and airways function. This test measures how well gases (oxygen) move through the lungs and into the bloodstream. The test involves exhaling completely into a mouthpiece, inhaling completely, holding your breath for a short time, and then exhaling.

Medical monitoring
Medical monitoring is the early detection and treatment of injury or illness in individual workers.

Medical record
A medical record is a written or electronic account of a patient's medical, occupational, and exposure history, diagnoses, or prognoses, or a record that pertain to a patient's medical condition. Medical records, which are authenticated by the physician's signature, are legal documents that a patient is entitled to read.

Medical Review Officer
An occupational physician who is responsible for ensuring the accuracy of the collection, analysis, and interpretation of the information that is generated via medical surveillance evaluations.

Medical surveillance
Medical surveillance is the strategy used to determine if common experiences exist within specific categories or classes of injury/illness. If common experiences are identified, then intervention, control, or additional investigation can be initiated if needed. Medical surveillance focuses on the population rather than on individual workers.

Medical surveillance evaluations
Medical examinations that physicians conduct on individual EPA employees who are participating in the OMSP.

Nerve agents
Nerve agents interfere with chemical transmitters that direct the nerves, muscles, or glands to relax, resulting in overstimulation of the nervous system and the emergence of a variety of symptoms, including excessive drooling, tearing, urination, defecation/diarrhea, cramping, vomiting, muscle twitching, difficulty breathing, and agitation and central nervous system signs (confusion, agitation, seizures, coma).

Nerve agent antidote kits
Nerve agent antidote kits counter the harmful effects of nerve agents, and have the potential to save lives. Common products include Mark 1™ Nerve Agent Antidote Kits, referred to as Mark 1 Kits, and DuoDote auto-injectors.

PPD test
The PPD (purified protein derivative) test is used in the diagnosis of tuberculosis infection. The PPD extract is injected into the most superficial layer under the skin (usually the forearm), resulting in blistering of the skin in individuals who currently have tuberculosis or were exposed to it in the past. Because the reaction will take 48 to 72 hours to develop, patients must return to their health care providers within that time for a proper evaluation of the test site. A reaction is measured in millimeters of induration (hard swelling) at the site.

Spirometry
Spirometry is a lung function test that measures how much (volume) and how fast (flow) air moves into and out of a person's lungs.

APPENDIX D

Instructions for Site-Specific HASP Development: Medical Surveillance Program

Emergency responders can use information from the customized version of their Medical Surveillance Program chapter to develop site-specific health and safety plans (HASPs). For example, emergency responders can do the following when developing their HASP:

- **Insert customized versions of the following sections into the HASP:**

Section 3.1	Collecting Background Information Before Performing Medical Evaluations
Section 3.3.2	Chemical-Specific Monitoring
Section 4.1	Immunization Program
Section 4.2	Issuance of Antibiotics
Section 4.3	Issuance of Nerve Agent Antidote Kits
Appendix A	Medical Surveillance Program: Designation of Roles and Responsibilities
Appendix B	Medical Surveillance Program: Documentation of Additional Policies and Procedures
"Forms" section of the manual's website	Quick Reference Guide for EPA Emergency Responders: Medical Surveillance
"Forms" section of the manual's website	Exposure, Injury, and Dosimetry Tracking Form

Note: These sections might contain more background information than is necessary for a HASP. Thus, emergency responders are encouraged to streamline and edit these sections to meet their needs.

- **Insert additional site-specific information into the HASP**. For example, if emergency responders determine that the potential for exposure to a chemical or biological agent exists, with concurrence from a physician and the SHEMP Manager, additional chemical-specific monitoring or immunizations may be required for employees prior to working at a site.