

## **EMERGENCY RESPONSE SITE SAFETY AND HEALTH PLAN**

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### **INTRODUCTION**

The Department of Environmental Management (DEM) recognizes that safety is an integral part of every employee's job. The DEM will not intentionally ask an employee or contractor to take unnecessary risks in order to accomplish a job assignment. All duties and responsibilities undertaken by Emergency Response (ER) Staff should be possible to perform in a safe manner.

Nevertheless, ER personnel should anticipate dangers during the course of performing their duties in the field. Exposure can be minimized through technical knowledge of the hazards, common sense, and adherence to strict personal protection training.

This plan is not intended to replace other health and safety manuals or training materials, but to complement them, stressing those areas that are specifically relevant to the DEM's emergency response responsibilities. It is important that ER Staff are as familiar as possible with procedures for protection of health and safety.

## PURPOSE

This *Emergency Response Site Safety and Health Plan* provides guidance to all personnel, including contractors and state, local and federal regulatory personnel, conducting work at an emergency site.

This plan includes discussion of potential hazards anticipated in and around a site and control measures to assure individual safety. Because each emergency is unique, it is not possible to address in advance all specific situations that might occur. As information about the emergency becomes available, this plan should be adapted to suit the circumstance. Consult supplements available in this plan: "Personal Equipment," "Respirator Plan," and "Specific Hazard Attachments" (for all-hazard, animal bites, benzene, cold stress, confined space entry, drums, heat stress, helicopter, hydrogen sulfide, insect bites and stings, plants and marine animals, pregnancy, small boats, and vehicle operation).

Any questions about the applicability of this plan should be addressed to the Designated On-Scene Safety Officer (DOSSO).

## DISTRIBUTION AND APPLICATION

All DEM ER staff will follow the provisions of this DEM *ER Site Safety and Health Plan* as a minimum recommendation. Since work activities vary with particular emergency conditions, more stringent health and safety measures may be required at their discretion.

As required by law, the On-Scene Safety Officer or his/her designee (the DOSSO) will make a copy of this plan available to all contractors hired for on-site work. Each contractor, sub-contractor, and their staff members who is expected to work on this site should read the plan. Nevertheless, contractors/sub-contractors are responsible for the health and safety of their own employees and for meeting all requirements under applicable state, federal, and local regulations.

## ER STAFF RESPONSIBILITIES

All ER Staff -- DEM employees or contractors who engage in emergency response -- are expected to comply with this plan, applicable state and federal OSHA regulations, and other appropriate health and safety standards. ER Staff are responsible for identifying and promptly reporting recognized work hazards, risks, or unsafe working conditions. It should be emphasized that no work assignment is so important that it should be undertaken in a manner that would endanger the health or safety of the individual.

The duties of all ER STAFF include:

- Read and certify consent to the Site Safety and Health Plan.
- Check all personal safety equipment to ensure that it is in good working condition prior to enter the site.
- Report any accidents/illness, unsafe conditions or suspicious odors to the Designated On-Scene Safety officer (DOSSO).

The duties of the DESIGNATED ON-SCENE SAFETY OFFICER (DOSSO) include:

- Coordinate the distribution, implementation, and modification of the ER Site Safety and Health Plan.
- Coordinate communication of safety and health requirements to Incident Command, field personnel, and contractors/sub-contractors
- Provide ER staff with information and training as required in relevant occupational health and safety regulations.
- Respond to field requests for assistance in health and safety.
- Determine appropriate monitoring, if necessary, so that ER site workers

are not exposed to levels that exceed established Permissible Exposure Limits (PEL) for hazardous substances.

- ❑ Monitor site conditions during work activities where hazardous materials may be present.
- ❑ Record any variances in safety and health conditions.
- ❑ If monitoring detects the presence of a potentially hazardous substance at concentrations at or about the established Permissible Exposure Limits (PEL), immediately notify Incident Command and any contractors' health and safety manager.
- ❑ Record any illness, disease, injury, pulmonary disorder, or death to any person on-scene.
- ❑ Consult with Incident Command or its designee regarding new or unanticipated site conditions.
- ❑ Perform safety record keeping
- ❑ Verify that relevant medical monitoring and training has been performed.

## **HAZARD RECOGNITION AND EVALUATION**

Many hazards may be present at an emergency site. It is important to understand the fundamentals of each hazard and their interrelationships so that effective safety practices can be employed to reduce the risk to personnel.

Each DEM employee who is engaged in an ER field activity should know what their duty is and what safety procedures apply to the performance of that duty. In addition, the employee is to be appropriately trained, equipped, and medically monitored by the DEM Office of Human Resources (OHR) or its agent, in accordance with the employee's involvement in field activities.

DEM ER Staff are prohibited from extending any activity beyond their training, equipment and medical monitoring classification. In the event that an employee inadvertently encounters a situation that exceeds the employee's training, equipment, or medical monitoring classification, the employee is authorized immediately to retreat to a safe area and to report the situation to an appropriate supervisor or official. No one is authorized to order or permit an employee or contractor to participate in or conduct any field activity that is known or reasonably suspected to be more hazardous than that for which the person is trained, equipped, or medically monitored.

Examples of potential employee hazards include, but are not limited to, exposures in one or more of the following areas.

### **Chemical or Hazardous Materials**, such as:

- A hazardous substance per CWA Section 311, CERCLA 1980, Section 101(14), SARA 1986 and 49 CFR 171.8, and OSHA;
- A priority pollutant per CWA Section 307;
- A toxic substance per TSCA;
- A hazardous waste per RCRA Section 261 and 49 CFR 171.8;
- A pesticide per FIFRA;
- A hazardous air pollutant per CAA Section 112;
- A hazardous material per 49 CFR 171.8, 49 CFR 172.101 and 49 CFR 173, and NFPA;
- A pollutant per Chapter 376 F.S.; or
- A substance which is or is suspected to be carcinogenic, mutagenic, teratogenic or toxic to human beings or acutely toxic to indigenous species of significance to the geological community.

For specific exposure limits, see the Material Safety Data Sheet (MSDS) for each substance.

**Physical Hazards**, such as:

- Ladders;
- Scaffolds;
- Icy, rough, or wet surfaces;
- Heavy or awkward lifting;
- Temporary arrangements for construction or other work; or
- Confined spaces.

**Biological Hazards**, such as:

- Blood pathogens, such as HIV, AIDS or Hepatitis B;
- Animals, such as snakes, or dogs;
- Insects, such as spiders, bees, wasps, ants, or mosquitoes; or
- Plants, such as poison ivy, poison oak, or thorny plants.

**Energy-Related Hazards**, such as:

- Heat;
- Steam;
- Electricity;
- Radioactivity;
- Moving machinery and exhaust fumes; or
- Loud noise for extended periods.

**Weather-Related Hazards**, such as:

- Heat/cold/humidity;
- High winds;
- Floods,
- Lightning, or
- Precipitation.

**PERSONAL WORK PRACTICES**

When response activities are conducted where contamination is known or suspected to exist, personal protective equipment (PPE) must be worn. Personal protective equipment is designed to prevent/reduce skin and eye contact as well as inhalation or ingestion of the chemical substance. Safe work practices are essential to and complement the correct selection and use of personal protective equipment. ER Staff shall follow these guidelines for routine safe operation.

- Direct skin contact with contaminated material shall always be avoided. Whenever exposure is possible. Personal safety equipment will be worn to prevent skin absorption of toxic material,
- Personal hygiene shall be strictly enforced. Hands are to be washed before eating, drinking, smoking, or using toilet facilities.
- Eating, drinking, smoking, chewing gum, applying cosmetics or any action that might increase the possibility of hand-to-mouth transfer shall not be performed in contaminated areas.
- Smoking shall be allowed in designated smoking areas only.
- Employees shall avoid breathing dust or vapors. Any detection of odors shall warrant

a re-evaluation of the air quality situation at the site, and if necessary, additional precautions shall be taken.

- Air monitoring instruments shall be available in each district to determine if the ambient air is within acceptable limits. No employee shall work in areas with unacceptable air quality (ACGIH Standards).
- Clothing which becomes contaminated at a site shall be decontaminated on site or left on site to be disposed of later. Contaminated clothing must be put in a container and not left loose on the ground. When appropriate, ER Staff will shower and change into clean clothes as soon as reasonably possible after completing a field response.

## EXPOSURE PATHWAYS

There are only three pathways for substances to enter the body:

- Direct contact with skin, eyes and hair;
- Inhalation; and
- Ingestion.

The primary function of the **skin** is to act as a barrier against entry of foreign materials into the body. If this protective barrier is overcome, toxic chemicals may enter. The barrier is greatly diminished by lacerations and abrasions. Also, many organic solvents greatly increase the permeability of the skin to materials that would otherwise not pass through it. Another factor to be considered is that the skin provides a large surface area for contact with toxic agents.

**Inhalation** is the most rapid route of exposure, immediately introducing toxic chemicals into respiratory tissues and the bloodstream. Once admitted to the blood through the lungs, these chemicals are quickly transported throughout the body to all organs.

Health hazards to personnel from **ingestion** of materials are easier to control than skin and respiratory hazards. Ingestible materials are mainly transported to the mouth through hand-to-mouth contact. Careful hygiene will completely avoid ingestion of hazardous materials.

Besides exposure pathways, another important factor to consider when determining the toxicity of a material is the relationship between concentration and exposure time. Generally, an **acute exposure** refers to a large single dose received over a short period of time. **Chronic exposure** is defined as numerous small doses over a longer period of time. The difference (between the two types of exposure in terms of deleterious effects) is that a low level chronic exposure may lead to harmful effects because of the additive effects of the dosage. A large single dosage administered in a short period of time might be much more hazardous, however, than a small dosage administered over a longer time because of the acute toxicity of the material.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

OSHA regulation requires that personal protective apparel, when it is required, shall be furnished by the DEM and shall be worn to protect the employee from any hazards associated with a job. All Personal Protective Equipment (PPE) shall be properly fitted to each employee. Responsibility for budgeting funds for the purchase of safety equipment lies with the DEM. The DOSSO is responsible for the maintenance and proper storage of the safety equipment provided by the DEM, and for informing the DEM ER Administrator of equipment needs. Each Division Office of DEM shall maintain sufficient stocks of protective equipment required to perform routine work. Specialized items shall be purchased on an as needed basis. The DOSSO shall decide what type of safety equipment is necessary after reviewing the site specific conditions and conferring with those personnel familiar with the site and those who will be required to work on the site.

**SEE ALSO “PERSONAL PROTECTIVE EQUIPMENT (PPE)”  
AND “SUMMARY OF POLICY ON PERSONAL PROTECTIVE EQUIPMENT (PPE)”**

**RESPIRATOR USE**

APR and SCBA respirators (both here referred to as “respirators”) are issued upon demand to ER staff. Respirators can give a false sense of security and shall never be used by anyone who is not properly trained and familiar with their use. OSHA rule 29 CFR 1910.134 requires that a written respiratory safety program be established prior to respirators being issued to employees. A copy of the *RI Dem Respirator Policy and Program* is located in the Appendix to this plan.

**Training and Education.**

Prior to assignment of a respirator, BER staff shall:

- Complete the minimum training requirements as specified in Part 10.0 of this Section.
- Receive a copy of the DEM ER Respirator Plan.
- Receive an explanation of the administrative controls placed on respirator use.
- Receive or have access to a copy of this Health and Safety Plan
- Pass a fit test to determine the correct size and type of respirator to use.
- Receive prescription glasses inserts for those who have corrective lenses and need them.

**Assignment of Respirators.**

Whenever possible, a respirator will be assigned to an individual for his/her exclusive use. The DEM ER Administrator is responsible to make the assignment and to keep a record of the specific respirator that was assigned.

Respirators that are temporarily assigned to individuals or shared will be tracked by the DEM ER Administrator or his/her designee. Each respirator will have a permanent identification number attached to it. The record shall identify the employee who is currently in possession of the respirator, the respirator identification number, a description of the operations the equipment is used for, and dates of usage.

**General Guidelines for Respirator Use**

Approval for respirator use will come from either the DEM ER Administrator or the Incident Command Safety Officer. The SOSC will determine what general types of dangers are at the site and will be responsible for the selection of the proper respirator type (and canister if APR).

The "**buddy system**" shall be used whenever a respirator is used. The second person can also be someone other than a DEM employee, such as a fireman with SCBA equipment.

All available instruments shall be used to determine if other hazards exist. The office of the DEM ER has a photoionization detector, an explosion meter, colorimetric indicator tubes, and an oxygen meter. The respirator shall not be used if there is less than 19.5% oxygen in the atmosphere, if organic vapor exceeds 5 ppm of an unknown or if the explosion meter reads in excess of 20% LEL.

**SEE ALSO “RI DEM RESPIRATOR POLICY AND PROGRAM”**

**DECONTAMINATION**

Decontamination, thereby avoiding the transport of contaminants off site. It is the SOSC's responsibility to is the process designed to eliminate harmful substances from workers and the surface of equipment see that all equipment and personnel shall be decontaminated before leaving a site.

A contamination zone shall be designed by the project leader/OSC. The size of the contamination zone shall be appropriate to the area that is contaminated. Entry into the contamination zone shall be restricted to those persons who have been approved for entry by the project leader or on-scene coordinator.

Exposure of workers can sometimes be reduced by creating a barrier between workers and the contaminant. For example, plastic covers can be used on heavy travel paths and on instruments. High concentration areas shall be marked and avoided except when necessary.

All items leaving the contaminated zone must be cleanable or disposable. Disposable items must be made non-usable before discarding. All disposable coverings and garments shall be removed in staging area and then bagged for proper disposal. Sample jars and bottles will be decontaminated before being placed in the ice coolers. If this cannot be done, then a warning to the laboratory which is to receive them must be placed on the outside of the shipping container, and the sample container will be placed inside plastic bags.

When there is any question regarding the adequacy of decontamination procedures, cleaned, non-disposable equipment shall be placed in appropriate containers and securely stored pending completion of laboratory analysis of the samples collected. After the exact nature of the samples is known, appropriate decontamination procedures shall be used to clean the equipment or if it cannot be cleaned, it shall be disposed of in an approved manner. Heavy equipment such as trucks and drill rigs shall be washed and/or steam cleaned after each project.

If available, a compatible decontamination solution shall be used. Water or soap and water are the most readily available types of decontamination solutions. All decontamination water shall be left on site (unless it creates a health hazard), pending possible analysis and disposal.

## **TRAINING STANDARD**

Training is a necessary tool in implementing this plan. The complexities of the topics of interest, the variety of courses offered, and the different needs of employees in each category justify the need for each office to have a specific training program. The DEM ER Administrator has identified minimum training standards for all ER employees and team members to assure the safety of the employee and meet state and federal requirements. These standards are described as follows.

1. Satisfactorily complete a 40-hour personal protection and safety course as required by 40 CFR Part 311. An annual 8-hour refresher course is required thereafter.
2. Participate in the medical monitoring surveillance program and receive certification the employee is capable of performing his/her duties.
3. Log a minimum of 24 hours of actual field experience under the direct supervision of a trained and experienced emergency response coordinator or team member. Eight of the 24 hours must be logged while supervising a DEM emergency services contractor.
4. Satisfactorily complete a DOT hazardous materials management course. A refresher is required every three years thereafter.
5. Complete on-scene incident commander training which covers topics such as:
  - Know and be able to implement the DEM incident command system.
  - Know and understand *Emergency Response Plan* and the *DEP Safety Plan*.
  - Know and understand the hazards of working in various EPA levels of protection.

- Know and understand the EPA Region I Hazardous Substances Contingency Plan, the Area Contingency Plans, and Local Emergency Response Plans.
  - Know and understand decontamination procedures, personal protective equipment policy, incident investigation and response, monitoring procedures and techniques, and other applicable topics.
6. Read and be familiar with:
- 62N-16 FAC, Pollutant Discharge Act
  - 62-107 FAC, Short Term Emergency Response
  - 62-150 FAC, Hazardous Substance Release
  - 62-710 FAC, Used Oil Management
  - 62-712 FAC, Biological Waste Management
  - 62-761 FAC, Underground Storage Tanks
  - 62-762 FAC, Aboveground Storage Tanks
  - 62-770 FAC, Petroleum Contamination Site Cleanup
  - Resource Conservation & Recovery Act (RCRA)
  - Comprehensive Environmental Response Compensation & Liability Act (CERCLA)
  - Superfund Amendments & Reauthorization Act (SARA).
7. Satisfactorily complete an Emergency Vehicle Operations Course (EVOC).

Employees who can show by documentation or certification that their work experience or previous training received prior to March 6, 1990, has resulted in training equivalent to that OSHA/EPA accredited training will not be required to fulfill Part 1, 3, and 5 above.

Each employee will meet the minimum training standards 1-7, within the first six months of employment. Additional training will be required according to the employee's job category and class, and be completed by the sixteenth month of employment. The three classes of employees and additional training are identified as follows.

- **Environmental Manager Class.** This class covers the DEM ER Administrator. The manager class employee will receive, in addition to the minimum standards, DEP Basic Supervisory Training, Oil Spill Response, and Hazardous Materials Incident Command training.
- **Environmental Specialist Class.** This class covers the DEM ER Specialists. The employee will receive training in Oil Spill Response and Sampling for Hazardous Materials.
- **Team Member Class.** This class covers any on-call team members that assist the DEM ER. The employee will receive the minimum standard training.

The DEM ER Safety Officer may be consulted for specific course titles that will meet the training standards set forth above.

The DEM Division chiefs will recommend courses for their employees' future needs and professional development. The training plans and program should remain flexible enough to include, or delete, topics as the need arises or as new ideas are introduced. The DEM Safety Officer should encourage outside vendors, such as universities and other educational institutions, to submit new proposals on topics of interest for review and possible utilization.

In addition to the training, the DEM ER Environmental Manager and Environmental Specialist classes are required to spend at least one day with:

- DEM RCRA staff performing hazardous waste inspections,
- DEM Industrial Waste Staff performing field investigations.

The responsibility for ensuring that all ER employees meet the required training standards is shared jointly by the ER Administrator and the DEM Safety Officer. However, the day-to-day responsibility for ensuring that all employees meet the necessary training standards must rest with the immediate supervisor of the employee.

Approval of training requests is the joint responsibility of the appropriate the DEM Division Director, the ER Administrator, the DEM Safety Officer, and the immediate supervisor of the employee. The Incident Safety Officer shall keep a record to ensure that all field personnel receive the required minimum training standards for each specific category and class to which the field personnel are assigned.

## **FIELD EXPOSURE LOG**

All selected ER employees and on-call team members are required to maintain an exposure log of any potential work and non-work related exposures. Exposures can be chemical, biological, psychological or physical in nature. A potential exposure is defined as the likelihood of contact by a hazardous substance through ingestion, inhalation, or dermal processes, or a physical or mental condition related to a hazardous substance incident. For example, an employee is at the command post of a gasoline tanker accident, the wind changes and the employee inhales gasoline fumes. This should be recorded as an exposure. Or, an employee is supervising a state contractor removing abandoned drums. The employee stays upwind and outside the "hot zone" and no discernible exposure occurs, this would not be recorded as an exposure.

Employees who have a known exposure to a hazardous substance will immediately report the exposure to the BER District Environmental Manager. The BER District Environmental Manager will immediately report the exposure to the Bureau Safety Officer and both will determine if an immediate medical exam is necessary. Medical exams will be scheduled through the identified medical monitoring coordinator in each district office, or for the Northwest District, the Tallahassee medical monitoring coordinator in the Bureau of Human Resource Services.

The exposure log will be maintained in ink, and be periodically reviewed by the BER District Environmental Manager. Employees will take their exposure log to any medical monitoring exams. The BER Safety Officer will issue exposure logs to employees as required.

## **MEDICAL MONITORING**

The Medical Monitoring examination of selected employees is designed to detect early signs of physical stress or exposure to hazardous materials by those employees who work with or around dangerous substances. Information compiled from this monitoring can be used to improve safety standards in the Department, which may prevent occupational injury or illness in those who work in positions that pose a high degree of health risk.

The goals of **Medical Monitoring Surveillance Program (MMSP)** are:

- To provide medical examination and testing, involving a pre-employment screening, periodic monitoring, end-of-employment examinations, emergency examinations, and an ongoing surveillance program designed to identify those persons who may be at health risk from previous illness, physical disability, or from exposure to hazardous working conditions;
- To provide additional medical testing and evaluation as necessary to verify the health status of the program participants, and to provide these technical and medical services in support of a possible worker compensation claim;
- To collect and summarize the medical data in such a manner that any unusual medical trends which develop among the group participants can be identified and investigated further;

- To provide medical advice on medical problems or issues which may face the DEM;
- To keep all medical examination data confidential. The DEM will only receive verification that the employee is or is not capable of performing the required work as defined in the job description. Copies of the test results can be sent to an individual's personal physician if requested.
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### **Participation in MMSP**

The DEM is required to provide a medical examination for those individuals who are exposed to chemical agents or physical stress in excess of accepted standards or where regulations specifically require medical monitoring. Each physical is designated as a prerequisite, and as such, requires the appropriate DEM justification and approval. The criterion most often used to justify an individual for medical monitoring is the potential for exposure to hazardous chemicals. In other words, the more likely individuals are to be exposed during their routine activities, the more likely they are to be included into the program. A unit administrator will make the request to DEM Safety Officer to include a new position in the MMSP.

Once a position has been included in the medical monitoring program, the requirements to participate shall immediately be written into that Position Description. All succeeding personnel in that position shall automatically be included in the program.

Participation in the program is mandatory for those employees whose positions have been so designated. Each participant is required to keep an "**exposure log**". This log shall be reviewed as part of each examination to determine if additional tests may be warranted based on past exposures.

Anyone leaving a medically monitored position shall have an exit physical.

### **Failure to Pass a Medical Examination**

Individuals must pass the medical examination if their position description has a requirement that the employee participate in the medical monitoring program. The medical examination is included in the position description as a special requirement. Employees must be physically qualified to perform assigned duties as evidenced by a physician's certificate.

## **ACCIDENT AND INCIDENT REPORTING**

All injuries to ER Staff should receive immediate attention, whether it is a minor injury requiring only a Band-Aid or an injury requiring hospitalization. All accidents must be reported immediately to the supervisor or DOSSO, who in turn will report the accident to the Incident Command Safety Officer and the DEM Division Administrator.

### **Accidents Involving Chemical Exposures**

Any accident involving chemical exposure shall be treated as follows:

1. The patient will receive the appropriate treatment for any physical wounds.
2. The Division/District Safety Program Administrator will be contacted, who will contact the DEM's consulting physician and other necessary agencies.
3. The DEM's physician will communicate directly with the examining physician to determine treatment and decide if any additional tests are warranted.
4. At the same time, the safety officer will contact Workman's Compensation to authorize any additional procedures that may be necessary.

**PROGRAM EVALUATION**

All ER staff are responsible for evaluating the ER Safety Program and the ER Site Safety and Health Plan. Comments, constructive criticism, or ideas to improve the way the DEM operates are encouraged and welcomed. ER staff should direct comments to their immediate supervisor or the DEM ER Administrator.