OIL SPILL SITE SAFETY PLAN
FOR POST EMERGENCY OPERATIONS

This site safety plan should provide the necessary information, per OSHA and NCP requirements, to Oil Spill or HAZMAT personnel working on an oil spill site. After reading and understanding it, sign your name on the sign-up section on the last page.

INSTRUCTIONS: Fill out the needed information and check the relevant entries.

SITE DESCRIPTION

Location: _____

Hazards:

- ❑ Oil: _____
- ❑ Treatment chemicals: _____
- ❑ General safety hazards: _____
- ❑ Weather related hazards:
  - ❑ heat stress
  - ❑ hypothermia
  - ❑ frostbite
  - ❑ severe storms
  - ❑ fog
  - ❑ other:_____

Surrounding population:

- ❑ Industrial
- ❑ Residential
- ❑ Rural
- ❑ Unpopulated
- ❑ Other:_____

Topography:

- ❑ Rocky

- ❑ Sandy Beach
- ❑ Docks
- ❑ Cliffs
- ❑ Marshes
- ❑ Other:_____

SITE ORGANIZATION.

Function and Name:

Phone Number

OSC:
Scientific Support Coordinator:
Site Safety and Health Officer:
Contractor Supervisor:
Responsible Party
State Representative
Other Fed/State/Local reps:

ENTRY OBJECTIVES.

- ❑ Site Surveys
- ❑ Mechanical Cleaning
- ❑ Oil Recovery
- ❑ Booming
- ❑ Bioremediation
- ❑ Dispersant Application
- ❑ Wildlife Rehabilitation/Hazing
- ❑ OTHER related activities_____

Detailed objectives shall be developed daily, and shall be described during the pre-entry safety briefing.

SITE CONTROL.

1. Reporting:

Anyone entering or departing a work area, or associated control zones, shall report to the site supervisor.

2. Site Safety Plan:

No person shall enter a site without subscribing to this or another approved Site Safety and Health plan.

3. Training:

No person shall enter a site without adequate training in hazardous waste operations safety and health; based on work assignment and applicable hazardous conditions.

4. Site Boundaries:

The following control boundaries have been established, and should be marked as follows:

- Exclusion (Hot) Zone(s): Orange, red, or black and yellow
- Contamination Reduction (Warm) Zone(s): Yellow
- Support (Cold) Zone(s): Green

The above zones shall be marked as needed to control traffic and enforce decontamination procedures. Appropriate placards, barricades, traffic cones,

and/or boundary tape shall be used for this purpose. The Site Safety Officer shall periodically inspect work areas to ensure the effectiveness of boundaries.

5. Site Map:

The site safety map is attached and shall be modified as necessary for each sector by the site safety supervisor when any of the following are modified:

- Exclusion Zone boundaries
- Contamination Reduction Zone: Boundaries, decontamination layout, equipment storage, temporary
- waste storage areas, washing, toilets and hygiene facilities.
- Support Zone: Boundaries, first aid stations, emergency fire fighting equipment, command posts/office
- spaces, new equipment staging/storage, eating/rest areas, bird/mammal cleaning and rehabilitation.
- Location of unidentified hazards: Underground cables, overhead cables, pits, trenches, open holes/hatches, wasted deck plate, hearing protection areas, hard hat areas, suspected locations of poisonous plants, insects, or animals, high pressure wash areas, bioremediation application areas, and dispersant application areas

HAZARD EVALUATION -- **CHEMICAL HAZARDS**
(check appropriate category of oil, or attach appropriate MSDS if available)

- ❑ **Oils containing benzene**
(including crude, gasoline, military JP4, commercial JET B, aviation gasoline, gas oils, and feed stocks):

Composition: Composed of an indefinite petroleum distillate mixture. May contain benzene, toluene, xylene, naphthalenes, & PolyAromatic Hydrocarbons (PAHs) in concentrations that may vary widely depending on the source of the oil, weathering, and aging.

Hazard Description: May cause dermatitis by skin contact; nausea by inhalation; and eye irritation. Benzene is a hematological toxin (it affects the blood and blood forming organs), and is a carcinogen. The most important potential benzene, toluene, or xylene hazard is in poorly ventilated areas (such as pits or under docks), or around freshly spilled oil. Benzo(a)pyrene is a skin contact hazard and potentially may cause skin cancer with chronic skin contact. As oil weathers and ages, benzo(a)pyrene becomes more concentrated because it evaporates much slower than other chemicals in the mixture.

Basic Precaution: Stay away from, or upwind of, fresh oil spills; wear chemical resistant clothing as necessary to protect against skin or eye contact; periodically change protective clothing that has oil on it; immediately change clothing that is showing evidence of oil penetrating to your skin; and wash skin with soap and water when changing into street clothing, before eating/drinking, or when exiting to a contamination reduction zone. Flush eyes with water if oil gets in them. If ingested do not induce vomiting-- contact a physician. Urine phenol should be tested as soon as possible (and not later than 72 ours after exposure) if there is a suspected overexposure to benzene. Urine specific gravity should be corrected to 1.024 for this test. If urine phenol values exceed 75 mg per liter further testing in accordance with 29 CFR 1910.1028(i)(4) may be needed, and individuals

must be removed from areas of potential benzene exposure until values return to normal.

- **Oil not containing benzene**:
  (including kerosene, diesels, military JP5, commercial JET A):
  Composition: Composed of an indefinite petroleum distillate content typically including PolyAromatic Hydrocarbons (PAHs). The concentration of these products will vary widely depending on the source of the oil, weathering, and aging.
  Hazard Description: May cause dermatitis by skin contact; nausea by inhalation; and eye irritation by contact. Benzo(a)pyrene is a skin contact hazard and potentially may cause skin cancer with chronic skin contact.
  Basic Precaution: Wear chemical resistant clothing as necessary to protect against skin or eye contact; periodically change protective clothing that has oil on it; immediately change clothing that is showing evidence of oil penetrating to your skin; and wash skin with soap and water when changing into street clothing, before eating/drinking, or when exiting to a contamination reduction zone. Flush eyes with water if oil gets in them. If ingested do not induce vomiting-- contact a physician.

  - **Bioremediation application**
    See attached MSDS information when these products are used.

  - **Dispersant applications**
    See attached MSDS information when these products are in use.

- **Hydrogen sulfide (H_2S)**:
  Composition: H_2S is a clear foul smelling gas that smells like rotten eggs. Although the smell may be detected at very low concentrations, it is not a good warning property because exposure to dangerous concentrations deadens the sense of smell. Hydrogen sulfide is found in certain crude oils ("sour" crudes), and is also generated by decaying organic materials.
  Hazard Description: H_2S is very irritating to the eyes even at low concentration. At higher concentrations it is irritating to mucus membranes. Concentrations resulting in respiratory irritation may cause pulmonary edema. It is also a chemical asphyxiant, which causes asphyxiation in a manner similar to cyanide. Other effects include headache, dizziness, excitement, staggering gait, diarrhea, fatigue, and insomnia. H_2S is a central nervous system depressant, and high concentrations may cause paralysis of the respiratory system. In addition to health effects, H_2S is also a flammable gas
    - OSHA PEL: 10 ppm
    - OSHA STEL: 15 ppm
    - IDLH:300 ppm
    - Flammable Range: 4.0 to 44%

  Basic Precaution: Avoid areas above exposure limits. Use colorimetric or electronic concentration meters or dosimeters to monitor exposures. For concentrations above exposure limits, positive pressure supplied air or self-contained breathing apparatus must be used. For very high concentrations in confined spaces, monitor for explosive atmospheres. First aid for exposures includes flushing the eyes with water, and support respiration as needed. Medical treatment must be given for suspected overexposure.

ENVIRONMENTAL MONITORING FOR CHEMICAL HAZARDS:

The following monitoring shall be conducted. Monitoring equipment shall be calibrated and maintained in accordance with the manufacturer's instructions (electronic equipment shall be calibrated before each day's use).

INSTRUMENT FREQUENCY

Combustible gas
___continuous, ___hourly, ___ daily, Other:

Oxygen
___continuous, ___hourly, ___ daily, Other:

HNU
___continuous, ___hourly, ___ daily, Other:

OVA
___continuous, ___hourly, ___ daily, Other:

WBGT/heat stress
___continuous, ___hourly, ___ daily, Other:

Noise
___continuous, ___hourly, ___ daily, Other:

H_2S Monitor
___continuous, ___hourly, ___ daily, Other:

Other chemical specific monitors (colorimetric/electronic):

1._____
___continuous, ___hourly, ___ daily, Other:

2._____
___continuous, ___hourly, ___ daily, Other:

Additional hazards may be encountered on site and shall (along with any other applicable hazards found during the site survey) be marked on the attached maps.

GENERAL SITE SAFETY AND HEALTH PROCEDURES.

The following controls shall be observed on site (check appropriate).

- ❑ ***Buddy System***
  Personnel must work within sight of a partner at all times, in the exclusion and decontamination zones. A partner shall be assigned by the site safety supervisor as personnel check in.
- ❑ ***Occupational Medical Monitoring***
  Personnel shall be enrolled in an occupational medical monitoring program in accordance with 29 CFR 1910.120 (USCG Strike Team Safety and Occupational Health Program Manual, and the USCG Medical Manual).
- ❑ ***Fires***
  Each restriction zone and associated contamination reduction zone shall have at least one each of the following:
  - ❑ A fully charged Class A fire extinguisher for ordinary fires
  - ❑ A fully charged Class B fire extinguisher for liquid fires
  - ❑ Hand held fog horn to alert personnel

  The above items shall be maintained in a readily accessible location, clearly labeled in red, and with the location noted on the project map.

- ***Slippery Rocks and Surfaces***
  All personnel in the work area shall wear rubber safety boots with steel toe/shank and textured bottoms. Boat crews may substitute clean deck shoes with textured soles kept free of oil on cloth/leather uppers.
- ***Mud***
  Dangerous mud flats posing a trap hazard shall be designated on the site safety map as areas off limits to personnel. Mark these locations with banner tape, barricades, or other marking equipment.
- ***Lighting***
  Fixed or portable lighting shall be maintained for dark areas or work after sunset. Sufficient illumination shall be provided at a minimum to meet the requirements of table H-120.1 (Minimum Illumination Intensities) of 29 CFR 1910.120(m)
- ***Work Near Water***
  All personnel working in boats, on docks, or generally within 10 feet of water deeper than 3 feet, shall wear Coast Guard approved personal flotation devices (PFDs).
- ***Heat Stress***
  The site safety officer shall make heat stress determinations throughout the day. If it is determined that a heat stress hazard exists, an alert shall be passed to all teams to implement mandatory rest periods. The Site Safety Officer shall generally be guided by the ACGIH guidelines in determining work/rest periods. Fluids shall be available at all times and encouraged during rest periods. (See attached information sheet on heat related health effects).
- ***Cold Stress***
  Workers shall be provided with adequate warm clothing. The Site Safety Officer shall make cold stress determinations throughout the day when temperatures fall below 50 degrees F.
  - If a cold stress hazard exists, an alert shall be passed to all teams to implement mandatory rest/warm-up periods. The Site Safety Officer shall generally be guided by the American Conference of Governmental Industrial Hygienists (ACGIH) guidelines in determining rest/warm-up periods.
  - For prolonged cold weather operations, warming shelters shall be provided for rest periods. Warm and/or sweat fluids (such as soups, cocoa, cider, or sweetened--low caffeine--hot teas) shall also be available during rest periods. Drinking coffee should not be encouraged.
  - For prolonged water temperatures below 59 degrees F, or a combined water and air temperature less than 100 degrees F, exposure suits shall be worn by personnel working/traveling in small boats or aircraft over water.
- ***High Noise Level***
  Hearing protection shall be used in high noise areas (exceeding 84 dBA, or designated by the Site Safety Officer). Locations likely to exceed this level include: the vicinity of vac-trucks and heavy equipment; bird hazing stations; and generally where noise levels require personnel to raise their voices to be heard.
- ***Drum Handling***
  Drums and containers must be handled in accordance with 29 CFR 1910.120. In general:
  - Containers must be labeled and constructed in accordance with EPA (40 CFR 264-265, and 300), and DOT (49 CFR 171-178) regulations
  - Temporary holding/staging areas for drums and containers containing waste materials shall be constructed to contain spillage, run-off, or accidental releases of materials

- Manual lifting and handling of drums and containers shall be kept to a minimum. To the extent possible, mechanical devices designed for that purpose shall be used.

- ***Confined Spaces***
  In general, confined spaces shall not be entered during oil spill recovery operations. If confined space entry is required, follow OSHA's confined space regulations (29 CFR 1910.146) and the unit safety and health manual.
- ***Poisonous/Infectious Insects***
  All personnel shall be provided with long sleeved clothing and insect repellent in designated areas.
- ***Poisonous Snakes***
  All personnel working in designated areas shall wear snake proof leggings or hip high rubber boots. Snake bite kits shall be kept with first aid kits in these areas.
- ***Poisonous Plants***
- Long sleeved clothing shall be worn in areas designated to contain these plants.
- ***Electrical Hazards***
  Electrical power lines (buried or overhead) shall be marked on applicable project maps, and physically marked in the field as necessary.
- ***Trap Hazards***
  Open manholes, pits, trenches, or similar hazards shall be noted on project maps, and marked with placarded barricades. The site safety supervisor shall ensure that these locations are periodically checked during the day; and additionally in the event that entering personnel are not accounted for at the end of a shift.
- ***Carbon Monoxide***
  Equipment operators shall ensure that personnel do not linger or work near exhaust pipes.
- ***Falling Objects***
  Hard hat areas determined by site survey shall be noted on project maps.
- ***UV Light Exposure***
  Sunscreens of protection factor 15 (or greater), and UV tinted safety glasses shall be made available for response personnel as needed.
- ***Helicopter Operations***
  Pilots shall provide safety briefing for all passengers (see ref (d) also).
- ***All Terrain Vehicle***
  ATV drivers shall maintain a safe speed at all times, and shall not be allowed to operate vehicles in a reckless manner. ATV drivers shall not operate ATVs outside of areas and lanes specified by the site safety supervisor.

PERSONAL PROTECTIVE EQUIPMENT (PPE)
Refer to “DEM Emergency Response Safety and Health Plan.”

DECONTAMINATION PROCEDURES
Contaminated personnel, and personnel entering contaminated areas, shall be decontaminated in accordance with the current work plan or attached decon layout. Refer to “DEM Emergency Response Safety and Health Plan.”

SANITATION AND PERSONAL HYGIENE
Potable water, non-potable water, toilets and personal hygiene facilities shall be readily available. For further information see 29 CFR 1910.120(n).

EMERGENCY PROCEDURES

1. Emergency Medical Procedures:

- Do not attempt to move seriously injured personnel, call for an ambulance to come to the injured person.
- The closest hospital for regular emergencies is:
  _____
  Phone: _____
- Closest hospital for chemical exposure emergencies:
  _____
  Phone: _____
  Contact Agency for Toxic Substances and Disease Registry (ATSDR)
  Phone: (404) 639-0615 (24 hr)

2. Emergency Fire Procedures:

- DO NOT attempt to fight fires other than small fires. A small fire is generally considered to be a fire in the early stages of development, which can readily be extinguished with personnel and equipment in the immediate area in a few minutes time.
- DO NOT take extraordinary measures to fight fires.
- YOU MUST sound the appropriate fire signal if fire cannot be put out quickly.
- Alert nearby personnel to call the fire department.
- Notify supervisor.
- When the fire alarm is sounded, personnel shall immediately leave the work area with their assigned buddy, to the entry/exit point by the designated evacuation route.
- The Site Supervisor OR the Fire Department shall ensure that the fire is extinguished and temporary fire watch has been posted BEFORE restarting work.

3. Evacuation Routes

Primary Evacuation Route:_____
_____
_____
_____

Secondary Evacuation Route:_____
_____
_____
_____

Assembly Point: _____
_____

COMMUNICATION

Hand Signals*:*

THUMBS UP: “I'm OK / I agree.”
THUMBS DOWN: “I don't agree.”
HANDS ACROSS THROAT: “Out of air / trouble breathing.”
GRAB HAND/ARM: “Come with me.”
HANDS ON HEAD: “I need assistance.”

REPEATED SHORT BLASTS FROM A HAND HELD FOG HORN: fire emergency.

Radio Communication:

Working:

freq:_____, chnl:_____ (__VHF __UHF __CB _____OTHER)

Emergency:

freq:_____, chnl:_____ (__VHF __UHF __CB _____OTHER)

freq:_____, chnl:_____ (__VHF __UHF __CB _____OTHER)

Phone Communication:

On-Scene Coordinator:

(_____)_____(_voice _fax _cellular _pager _home)

(_____)_____(_voice _fax _cellular _pager _home)

Site Safety and Health Officer:

(_____)_____(_voice _fax _cellular _pager _home)

Agency for Toxic Substance and Disease Registry (ATSDR)

(404)639-0615 (24 hr) (voice) 0655 (fax)

Case officer: _____

ATSDR can provide emergency medical and toxicological information, assist in determining procedures for potential chemical overexposures, and can provide on scene assistance for certain chemical emergencies.

Police:

(_____)_____(_voice _fax _cellular _pager _home)

Fire:

(_____)_____(_voice _fax _cellular _pager _home)

Ambulance/EMT/Hospital:

(_____)_____(_voice _fax _cellular _pager _home)

(_____)_____(_voice _fax _cellular _pager _home)

OTHER NUMBERS:

(_____)_____(_voice _fax _cellular _pager _home)

(_____)_____(_voice _fax _cellular _pager _home)

SIGN UP:

Team Member (print name): _____

Contact Number(Phone, Pager):

_____

Signature: _____

Date: _____

REFERENCES:

29 CFR 1910.120 *OSHA Regulations for Hazardous Waste Operations and Emergency Response* (HAZWOPER)

40 CFR 311 *Worker Protection*

NIOSH/OSHA/USCG/EPA *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* (NIOSH 85-115)