



LOGISTICS

INTRODUCTION

Logistics tactics address the practical considerations involved in various oil spill support functions. Logistics functions are critical to the overall success of the spill response.

This section contains two tactics to assist spill responders in planning for spill support functions:

- The **Staging Area** tactic provides strategies for establishing a location where equipment and personnel can be received and prepared for deployment to the spill site, and where demobilized equipment returning from the field can be received and prepared for either remobilization or demobilization.
- The **Vessel Decontamination** tactic provides strategies for removing oil contamination from vessels that are exposed to oil and oily waste during spill response operations.





STAGING AREA

OBJECTIVE & STRATEGY

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The primary objective of the Staging Area tactic is to provide a location where equipment and personnel can be received and prepared for deployment to the spill site. The staging area also receives demobilized equipment returning from the field and prepares it for either remobilization or demobilization. Staging may also provide an interim waste storage location, which would be identified in the Waste Management Plan. The Staging Area Manager will establish a system to track resources and personnel to ensure an efficient, organized, and safe response.

Other response activities that may occur at/near a staging area are: personnel and equipment sign-in and sign-out, a field or forward command center, security, personnel and equipment decontamination, wildlife treatment, and responder break areas. The Operations Section Chief will work with the Staging Area Manager to establish the scope of the operations that occur in the staging area.

The general strategy used in establishing a Staging Area is to:

1. Identify the location and trajectory of the spill or potential spill.
2. Establish scope of operations.
3. Select a site that best supports the operations.
4. Deploy equipment and personnel to the location.
5. Set up equipment and begin operation.
6. Receive response resources for transfer to the field.
7. Demobilize equipment and return to long-term storage.



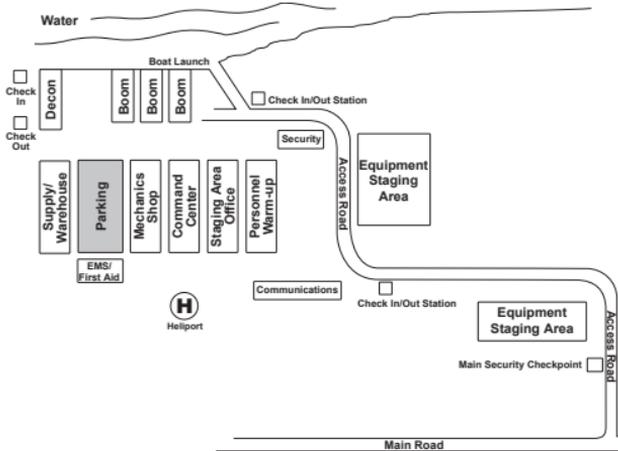


Figure SA-1. Example of a layout for a Staging Area.

TACTIC DESCRIPTION

A staging area is a designated place, but more importantly it is a system, established and monitored by a Staging Area Manager, that assembles functional response units/teams that can be deployed to achieve response objectives. During larger protracted spills involving numerous response and recovery sites, a Rear Supply Area may be established for the entire response effort with Forward Staging Areas near individual response operations. Every staging area requires a manager or a deputy manager.

Considerations for locating the staging area include:

- Enough area for maneuvering anticipated equipment,
- Space for receiving, temporary storage, maintenance, and deployment of equipment,
- Space and equipment for repair and refurbishment of response equipment,
- Communications systems,
- Medical first aid and shelter for responders,
- Space for storing and distributing supplies for responders,
- Space for providing food, water, shelter, and sanitation facilities for responders,



Logistics Tactics

- Space for storing and providing supplies, fuel, and parts for equipment,
- Decontamination areas for personnel and equipment, if appropriate,
- Ease and safety in accessing with the anticipated modes of transport (trucks, helicopter, boats, etc.),
- Close proximity with easy access to the incident site,
- Electric power, telephone, and fax, and
- Office space.

All staging areas should be established as close to the spill site as safely feasible. The staging area should always be in a safe place in the Cold Zone. Anticipate changes in wind direction and the possibility of an increase in size of the Hot Zone when selecting a staging area. Staging Areas should be scalable to the expected maximum size of the response and provide safety, ease of access, and comfort for operations. Forward staging areas may be established in the area where the spill occurs. They are used as a platform to land, temporarily store and prepare equipment for immediate deployment. These areas should be as flat as possible with firm ground and adequate space for equipment. Frequently, in marine based responses, a larger vessel at an anchorage may serve as a staging area.

DEPLOYMENT CONSIDERATIONS AND LIMITATIONS

SAFETY

- Staging areas should be monitored to ensure a safe environment. Consider the following hazards:
 - Aircraft and heavy equipment operations,
 - Slips, trips and falls,
 - Hypothermia,
 - Exposure to contamination and hazardous materials,
 - Heavy equipment and crane operations,



- Hearing impairment,
- Respiratory exposure, and
- Eye protection.
- Select PPE based on the incident-specific Site Safety Plan.

DEPLOYMENT

- Consider historical properties and wildlife impacts when selecting staging areas.
- The Staging Area Manager serves under the direction of the Operations Section Chief and coordinates closely with the Logistics Section and the Resource Unit.
- Inventory contained in the area should be determined by the Operations Section Chief and must be tracked and maintained to ensure adequate resources for field operations.
- Resources should be ready for deployment at times specified by the Operations Section.
- The staging areas should be maintained in an orderly fashion.
- Establish a one way traffic pattern if possible.

REFERENCES TO OTHER TACTICS

Other tactics associated with Staging Area include:



- Personnel Decontamination



- Vessel Decontamination



EQUIPMENT AND PERSONNEL RESOURCES

Resources for establishing a Staging Area will be determined by the size and the needs of the response. Resource sets may need to be refined as site-specific requirements dictate.

Staging Area

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Equipment	Function	Quantity	Notes
Staging area office	Office operations	1	Portable offices are available from most Primary Response Action Contractors
Generator	Provide electricity for operations	2	Deployed at remote sites
Loader	Move equipment and resources at the site	1	Deployed during larger response
Fork Lift	Move equipment and resources at the site	1	Organize and prep of equipment
Pickup trucks	Misc. support	Response specific	Delivery of personnel and equipment
Communication systems	Communications	1	Establish communication with the Command and field operations
Temporary shelters	Shelter for activities	Response specific	Shelter for working, breaks, first aid, repair, supplies, communications, and check-in/out recorders
Portable restroom facilities	Sanitary wastes	Response specific	Number of units depends on area functions
Mechanical truck or shop	Repair and support of equipment	1	May be established in portable shelters
Decontamination Unit	Decontamination	1	Depending on response activities
Portable lighting	Visibility at night	Response specific	Proper lighting is a safety and security concern
Personnel	Function	Quantity	Notes
Staging Area Manager	Supervises operations under the direction of the Operations Section Chief	1	Managers established for permanent or high volume, active sites
Office Support	Assist in tracking equipment and personnel	1 to 2	Depending on response activities
Skilled Technicians	Work under the direction of Staging Area Manager	2 to 4	Depending on response activities
General Technicians	Work under the direction of Skilled Technician	2 to 4	Depending on response activities
Security	Site security	Optional	Depending on site location





VESSEL DECONTAMINATION

OBJECTIVE & STRATEGY

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The objective of the Vessel Decontamination tactic is to remove oil contamination from vessels that are exposed to oil and oily waste during spill response operations. The level of decontamination will depend on whether the vessel is to be demobilized or returned to spill response service.

When a vessel is demobilized, it will be cleaned to a non-oiled state throughout the vessel. Vessels returning to service should be decontaminated sufficiently to not reintroduce oil into the environment or cross-contaminate response

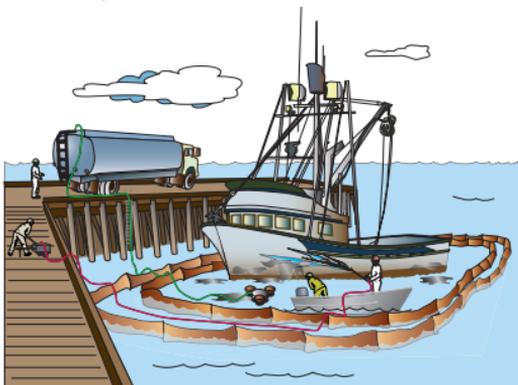


Figure Dv-1. On-water vessel decontamination deployment configuration at a dock.

personnel and equipment. The purpose is to expedite cleanup of oiled vessels in a safe, organized and effective manner while minimizing waste and damage to the environment.

The general strategy used in performing vessel decontamination is to:

1. Identify the appropriate location for decontamination operations.
2. Establish a site plan.
3. Obtain necessary permits for operations.
4. Deploy equipment and personnel to the location.
5. Set up equipment and begin operation.
6. Monitor operations to ensure that vessels are cleaned to established criteria and oil is removed from the environment.



7. Dispose oil contamination, solid wastes, PPE, and cleaning fluids according to the incident Waste Management Plan.

TACTIC DESCRIPTION

Decontamination involves the removal of oil or other contaminants from vessels when they leave the Hot Zone, while still in the Warm Zone. Vessel decontamination is conducted as part of the overall incident Decontamination Plan that is established by the Unified Command. An approved incident-specific Decontamination Plan supersedes the guidance in this manual.

Operations are conducted by designated decontamination teams and are broken down into different methods for larger vessels that cannot be removed from the water and smaller vessels that can be removed from the water. Controls must be in place to ensure that contamination is contained, removed from the environment, and properly disposed. Access should be limited and all personnel and equipment should be tracked in and out of the decontamination area to ensure that no cross contamination occurs. PPE is required in accordance with the incident Safety Plan.

While the general tactics are the same for small and large vessels, the approach will be adjusted depending on the size of the vessel and availability of equipment.

All vessels awaiting decontamination should be isolated inside oil containment boom so that oil and wastes cannot re-enter the environment. The site should be integrated into the overall decontamination site plan and situated in the Warm or Contamination Reduction Zone immediately adjacent to the Hot Zone.

General Procedures

All vessels should undergo gross decontamination of oil that is easily accessed by manual removal with sorbent pads and a detergent if necessary. After gross oil is recovered, all contaminated areas of the vessel are washed with pressurized warm/hot water spray. Detergents or degreasers may be used if the pressure wash does not remove all the oil. To keep wastes to a minimum, degreasing agents should not encourage emulsification of oil. Oil recovery operations



should be conducted concurrently with washing operations. Recovery can consist of skimmer operations outlined in the tactics Marine Recovery and On-land Recovery or may be accomplished with Passive Recovery depending on oil type and amount expected.

Vessels That Can be Removed From the Water

Vessels that can be physically removed from the water with available equipment, i.e., travel lifts, cranes, or trailers, should be removed and cleaned in a designated area surrounded by berms or dikes that are lined to contain and recover the run-off of oil and water (Figure Dv-2). A warehouse or a large area with a concrete floor is preferred for containment of wastes. The area may also be used for other equipment decontamination. Sorbents, vacuum skimmer systems, and storage devices should be present to recover wastes that are collected in the bermed area. All wastes are then disposed of in accordance with the incident Waste Management Plan.

Vessels That Cannot be Removed From the Water

Decontamination of vessels that cannot be removed from the water will be conducted on-water using a berth (Figure Dv-1) or established anchorage in protected waters (Figure Dv-3). The location should be immediately adjacent to the spill site outside the Hot Zone. It must be boomed off with a doubled, adequately anchored, containment boom, and have a gate for access. If the site is in open water, and multiple vessels are to be cleaned, a mooring should be established prior to operations. Adjacent sensitive areas should have protection plans in place to prevent contamination in the event of boom failure.

A recovery and primary storage system that is sized and suited to the operation should be present to recover oil floating in the boomed area. This might include sorbents, skimming systems, storage systems, and one or more platforms for operations. Sorbents should be floated inside the boomed area for removal of sheens and residual oil. When light contamination is expected, pads and sheets may be used. Sausage type booms may be deployed inside the exclusion boom for long-term deployments when significant oil is to be removed. Sorbents should be tended daily to ensure effectiveness.



After the initial cleaning, the surrounding waters should be monitored for sheening. If sheening is present and continuous, then the vessel should be cleaned again to remove any trace oil. Once cleaned, the vessel should be placed in a clean holding/staging area and logged out of the decontamination area.

The entry into any confined space, such as tanks or holds, should only be accomplished with trained and certified responders with specialized equipment and the approval of the Safety Officer. **Confined space entry is not covered by this manual.** Consult individual vessel decontamination plans and the incident specific decontamination plan for details.

Operating Environments

All decontamination areas should be established as close to the spill site or Hot Zone as feasible and should be scalable to the expected maximum size of the response vessels and provide safety, ease of access, and comfort for operations. For large vessels being cleaned at anchor, it is recommended that operation take place in calm waters. Decontamination of smaller vessels may occur adjacent to the spill site. Measures should be taken at the decontamination site to protect the area from contamination. Geotextile sheeting or sorbents should be placed in these areas.

Deployment Configurations



Figure Dv-2. On-land vessel decontamination deployment configuration.



Figure Dv-3. On-water vessel decontamination deployment configuration at an anchorage.

DEPLOYMENT CONSIDERATIONS AND LIMITATIONS**SAFETY**

- PPE is required of all personnel in the decontamination area. Consult the incident Site Safety Plan for specific requirements.
- Confined space entry is not to be allowed, unless specifically authorized by the incident Safety Officer.
- Worker exposure to contaminants should be minimized.
- Vessels, including skiffs, must have a minimum of two crew aboard.
- If possible, vessels in transit to/from an operation or staging area should transit in pairs.
- A communications schedule should be established and followed, between vessels in transit and the Operations Section or Radio Dispatcher.

DEPLOYMENT

- If wildlife or historic properties are encountered, see Wildlife Checklist or Historic Properties Checklist in Section A Part III.
- The decontamination area should have a security check point for controlling access and tracking all equipment entering and leaving.
- Resources that are to be redeployed should be decontaminated first.
- Personal decontamination must be integrated into the site plan to prevent cross contamination.
- Any detergent or degreasing solutions discharged into open water must be approved by the EPA and listed in the Product Schedule in the National Contingency Plan. Approved products may include citrus-based solvents such as Citri-solve, Simple Green, PES51.



- Lightly contaminated waste-water from the cleaning operations may be re-circulated and re-used if the cleaning solution does not emulsify oil.
- Vessels must be fully decontaminated prior to demobilization.
- Permits must be obtained prior to on-water operations.

REFERENCES TO OTHER TACTICS

Other tactics that may be involved in Vessel Decontamination include:

-    • Safety Tactics
 -  • Personnel Decontamination
 -  • Containment Boom
 -  • On-water Free Oil Recovery
 -  • On-land Recovery
 -  • Marine Recovery
 -  • Passive Recovery
 -  • Land-based Storage and Transfer
 -  • Marine-based Storage and Transfer



EQUIPMENT AND PERSONNEL RESOURCES

Resources for establishing a Vessel Decontamination Area will be determined by the size and the needs of the response. Refine resource sets as site-specific requirements dictate.

On-water Vessel Decontamination



Equipment	Function	Quantity	Notes
Warm/hot water pressure wash system	Oil removal	1 or more	Include adequate hoses and connections
Oil boom, 6" to 24" height	Contain oil around vessel	Site-specific	Depending on configuration, currents, sea states and oil concentration
Small anchor systems	Secure boom	1 per 200 ft. of boom	Depending on configuration, currents, and sea states
Sorbents	Oil removal and recovery	Response specific	Pads, rolls and boom may be used
Detergents	Oil removal	Response specific	For manual removal deliver from spray bottles. May be incorporated in high pressure wash.
Storage tanks	Storage of recovered wastes	Response specific	Deployed during operation at a berth or dock
Marine oil recovery system	Oil recovery	1	Select based on oil type and amounts encountered
Mooring system or berth	Hold vessels in place during cleaning	1	Use if multiple vessels are to be cleaned to avoid contamination of vessel anchors
Lighting system	Illuminate operations	1	May be used to augment existing lighting
Vessel	Function	Quantity	Notes
Class 6 skiffs	Access to vessel being decontaminated and platform for pressure washing operations	1 to 2	Delivery of personnel and equipment
Decontamination platform (vessel or barge)	Storage of recovered wastes and platform for operations	Optional	Deployed when decon activities are conducted at anchor/mooring
Personnel	Function	Quantity	Notes
Field Team Leader or Group Supervisor	Supervises operations under the direction of the Operations Section Chief	1 or more	Should be familiar with the Site Safety Plan, Waste Management Plan, and Decontamination Plan.
Skilled Technicians	Work under the direction of Field Team Leader or Group Supervisor	1 to 6	Depending on decontamination activities
General Technicians	Work under the direction of Skilled Technician	2 to 8	Depending on decontamination activities
Vessel/Skiff Operators	Maneuver skiffs during cleaning operations	1 to 2	May not be necessary during decon at a berth/dock



On-land Vessel Decontamination

Equipment	Function	Quantity	Notes
Warm/hot water pressure wash system	Oil removal	1 or more	Include adequate hoses and connections
Berm or dike materials	Contain oil and contaminated water	Site-specific	Depending on size of vessels
Polyethylene sheeting	Provide barrier to contain oil	Site-specific	Use to line decon areas
Sorbents	Oil removal and recovery	Response specific	Pads, rolls and boom may be used
Detergents	Oil removal	Response specific	For manual removal deliver from spray bottles. May be incorporated in high pressure wash.
Storage tanks	Storage of recovered wastes	Response specific	A vacuum truck would be optimal
Vacuum system	Oil recovery	1	Select based on oil type and amounts encountered
Crane, travel lift, trailer	Remove vessel from water	1	Take steps to protect from contamination
Lighting system	Illuminate operations	1	May be used to augment existing lighting
Personnel	Function	Quantity	Notes
Field Team Leader or Group Supervisor	Supervises operations under the direction of the Operations Section Chief	1 or more	Should be familiar with the Site Safety Plan, Waste Management Plan, and Decontamination Plan
Skilled Technicians	Work under the direction of Field Team Leader or Group Supervisor	1 to 6	Depending on decontamination activities
General Technicians	Work under the direction of Skilled Technician	2 to 8	Depending on decontamination activities

