

Boston Ship Repair, LLC
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Best Management Practices
Rev. 1, Jan. 2002

Reviewed

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Approved

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Best Management Practice BSR-BMP-01

Section 1, Introduction to Boston Ship Repair, Inc.

Boston Ship Repair Inc. is a facility located in Boston Harbor at 32 A Drydock Ave, Boston MA. It is located on eleven (11) acres of land, including a granite walled graving dock. See Plot plan 001. It maintains three buildings, Building 1- Pump House, Building 2-Store Room, Outside Machinists Shop and Carpenter Shop, Building 23 - Storage Room and Bathroom. It's offices are situated in two trailers located near the Dry-Dock.

Boston Ship Repair, Inc. is dedicated to the repair and modification of sea going vessels. The company's employees are members of Local 25 of the IUMSWA Union. The number varies with the work on hand and may run as high as 120 although the average number is closer to 30.

The principals of Boston Ship Repair, Inc. are:

Steve DiLeo	President
Harry Nichol森	Treasure and Comptroller.
Edward Snyder	General Manager
Bernard Marinello	EPA Monitor

Its sole dry-dock is identified as Dry-Dock No. 3 on the plot plan. It is a graving dock built from concrete, stone and granite by the United States Navy back in 1915 Its sole dry-dock is identified as Dry-Dock No. 3 on the plot plan. It is a graving dock built from concrete, stone and granite by the United States Navy back in 1915. Its dimensions are 1075 feet long, 149 feet wide and 51 feet deep. The dewatering pump has a capacity of 105,000 gallons per minute. During a normal drydock evolution pumping is required for approximately 8 hours. An approximate total of 6,400,000 gallons of water is pumped within this time frame. The outfall is into Boston Harbor.

The dock has the capacity to dock most of the world's vessels. The dock has the capacity to dock most of the world's vessels. Two recent dockings were of the Battleship USS Massachusetts and the Queen Elizabeth.

Boston Ship Repair does not engage in manufacturing or material treatments. Its sole business is the repair and modification of seagoing vessels. The pollutants generated are primarily the result of these repairs. They are identified on Pages 4 and 5 of Section two of the Best Management Plan.



Best Management Practice BSR-BMP-01

Section 2, Facility Pollutants

1.0 General Objectives

This Best Management Procedure herein describes the operational aspects of Boston Ship Repair's Dock No. 3 De-Watering discharge and the known locations of other discharge and drainage. The intent of this procedure is to identify pollutants generated at the facility by shipyard activities and to minimize any discharge of these pollutants into the Boston Harbor. This procedure will be part of Boston Ship Repair's request for a NPDES Permit.

2.0 Specific Objectives

The specific objectives of this plan are as follows

- 2.1 To provide instructions to all responsible parties and the procedures to follow to avoid introducing contaminants into the receiving waters
- 2.2 Separating non-contact cooling water, uncontaminated ballast water and hydrostatic test water from contamination by bilge wastes, oily water, and toxic sources.
- 2.3 Prevent visible foam and discolorations from being released into receiving waters.
- 2.4 Insuring that no unpermitted wastewater discharges occur in the facility.
- 2.5 To maintain areas where water discharges are released, free of debris and toxic materials, ensuring that contaminants are not washed into the receiving waters.
- 2.6 To improve safe working conditions by eliminating hazardous conditions.
- 2.7 To comply with the United States Environmental Protection Agency, The Massachusetts Department of Environmental Protection and the City of Boston regulations relevant to Clean Air, and Clean Water.

3.0 Boston Ship Repair Pollutants

3.1 Boston Ship Repair (BSR) is solely concerned with the repair and modification of marine vessels. These activities may include abrasive blasting and painting. It does no manufacturing or treatment of materials. The pollutants that may result from BSR activities are therefore limited to the following:

- 3.1.1 Vessel Discharges treatment
- 3.1.2 Abrasive blasting and Painting
- 3.1.3 Stormwater Runoff

3.2 Vessel discharges are identified as listed:

- 3.2.1 Sanitary wastes (Black Water)
- 3.2.2 Shower and lavatory sink water and laundry water (Grey Water)
- 3.2.3 Bilge and oily water contaminated ballast water
- 3.2.4 Non-contact cooling water is water, which is pumped into the various systems, which need to be cooled during operations. It may be either fresh or sea-water



Section 2, Facility Pollutants continued.

3.3 Abrasive Blasting and Painting Pollutants

- 3.3.1 Spent grit, used to remove paint from surfaces, consisting primarily of Silicon, iron, aluminum or calcium oxides.
- 3.3.2 Paint chips and powder from removed paint.

3.4 Hydro-blasting, high-pressure water sprays pollutants

- 3.4.1 The water used for such operations flow into the graving dock.
- 3.4.2 The paint chips removed from such operations fall into the graving dock along with the hydro-blast water.

3.5 Paints and thinners

- 3.5.1 All paints and thinners may be pollutants in the form of airborne particles and spills, which reach the receiving waters.

3.6 Storm Water Runoff

- 3.6.1 Storm water runoffs contain trapped sediments and pollutants from various areas of the shipyard including paved areas. They flow into the City of Boston's sewer system.



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Best Management Practice BSR-BMP-01

Section 3, Boston Ship Repair Best Management Practices

This section consists of BSR's Best Management Practices to be used for control for pollutants in Boston Ship Repair, Inc. They have been numbered for ease in referencing and so that future changes and improved practices may be added easily. Each Best Management Practice data sheet provides a discussion on the need for the BMP, a description of the BMP, criteria related to its proper functioning and related concerns. While they may need to be reviewed on a case by case basis, the primary intent of each BMP should always be maintained under every given condition. A number of BMPs herein are intended to function in conjunction with other BMPs. The inspector should review each BMP thoroughly to obtain a complete understanding of how and why they are implemented.

Boston Ship Repair, Inc. BMP Data Sheet Listing.

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Best Management Practice BSR-BMP-01

BMP No. 1.0, Sanitary Waste Disposal

Rev. Jan. 8, 02

General

Ocean going vessels have an on board Collection, Holding and Transfer (CHT) system for sanitary wastewater. The systems are necessary to prevent discharge of sanitary waste while the ship is within navigable waters of the U.S.

BMP

Boston Ship Repair yard Superintendent will, when the CHT system requires to be pumped out and the effluent to be transferred, assure that it shall be hooked up and pumped into the Boston Sewer System. The CHT system shall be properly cleaned prior to work. And the tank cleaning effluent must be discharged into the sewer system or hauled away by a septic hauler.

BMP Objective.

When a vessel is placed in a Boston Ship Repair's dry dock, discharge of sanitary wastewater into the dock, where it will reach the Boston harbor is prohibited. Some means of transferring the wastewater to a land base sewerage system must be available. The Ship's sanitary wastewater holding tanks are to be connected to the land system and pumped out as necessary.

Criteria

A CHT system consists of a male, camlock type, quick disconnect coupling. A disconnect coupling dust cap is used to plug the discharge line when wastewater is not being pumped to a sewerage system. In order to pump out the CHT system, a hose attachment between the discharge coupling and the land based sewerage system is installed. This hose will have a female, cam-lock type quick disconnect coupling at one end and a male connector at the other end. The male connector will be connected directly into the sewerage system. All connections shall be watertight and repaired promptly when leaks occur. Boston Ship Repair's yard Superintendent has the responsibility to assure all connections are proper.



BMP No. 2.0, Gray Water Disposal

1.0 Gray Water disposal is Through the City of Boston Sewage system. BSR accomplishes the disposal as identical with CHT disposal



Best Management Practice BSR-BMP-3.0

BMP No. 3.0 Bilge and Contaminated Ballast Water and Oily Wastewater.

General

Vessels that are dry-docked at Boston Ship Repair, Inc. for repairs generally are carrying bilge and contaminated Ballast water, which must be disposed of properly. Ballast water is typically seawater that has been pumped into the ship's ballast tanks to provide necessary stability. In most cases the ballast water will have been disposed of overboard prior to the vessel entering U.S. waters, or possibly just prior to entering the dry dock.

Ship Compartments in lower decks generally collect excess fluids from pumps, leaking pipes or connections and cleaning operations, which constitutes bilge water. Bilge water is characteristically oily due to the presence of solvents, oil and heavy lubricants in the engine compartments.

BMP

At Boston Ship Repair, Inc., bilge water and contaminated ballast water discharge ports must be connected to a land based collection system or an approved temporary holding vessel or tank. The land-based collection may be accomplished via barge collection or tank truck transport or when approved by the local municipality discharged into the City of Boston's sanitary sewer system following any necessary treatment. Bilge and contaminated ballast waters must be treated to remove the potential pollutants that may be present.

BMP Objective

BSR Ship Superintendent and Yard Superintendent will, in order to prevent contact with potential pollutants (i.e., sediment, blast abrasives, paint chips, trash, etc.) which may be on the dry dock floor to prevent the discharge of potentially oily bilge and ballast water to surface waters. In order to provide necessary treatment for the bilge and ballast waters, which can be contaminated with oily pollutant, the discharge ports for these wastewaters must be connected and pumped into a collection system.

Criteria

Connections to bilge and ballast discharge outlets may be accomplished through the use of screw on scupper fittings, bolt-on scuppers or various flange fittings. If these fittings are not applicable, bolts can be welded to the vessel hull and bolt-on scuppers can be applied. The approval of the vessel captain is necessary for this action. Discharge outlets not in use, or of unknown origin should be plugged with wood corks or capped with closed flange connections while the vessel is docked.

Concerns

All pumping, valve, metering and coupling equipment must be watertight. Leaks must be immediately repaired when discovered. (See BMP 5.0)

The design flow of the collection and treatment system must be adequate to receive the volume of bilge and contaminated ballast water being transferred. Land based storage tanks may be used to equalize the flow to the treatment system.



Best Management Practice BSR-BMP-4.0

BMP No. 4.0 Miscellaneous Discharges

General

There are a number of miscellaneous types of potential discharges that are not specifically addressed in this manual. They include condensate discharges, air compressor lubricant leakage, degreasing solutions, hopper washwater, ground water leakage in walls of dry-dock, maintenance equipment leakages and discharges from vessels sea chests.

BMP

Boston Ship Repair, Inc. management, through its officers in charge, superintendents, foremen and inspection personnel schedule regular, shop to shop and operation to operation, surveys to identify potential miscellaneous discharges and to establish procedures to ensure the correct handling of each.

BMP Objective:

Miscellaneous discharges throughout Boston Ship Repair facility must be handled on a case by case basis, due to their variability. Questions about the regulatory aspect of a specific discharge should be addressed to the EPA monitor for resolution. Some discharges may be disposed of within the sanitary sewer system. Other discharges may be directed to the storm sewer system or discharged directly into the Boston Harbor, after receipt of a NPEDES permit. Sea Chest water must be treated as bilge water. Graving dock ground water infiltration is treated as storm water and discharged accordingly. Maintenance shop chemicals, i.e. degreasing compounds, solvents, are appropriately contained and disposed of as per manufacturer recommendations and state and local requirements. Dust collection hopper washwater and grit remnants shall be treated as spent abrasive and bilge water.

Concerns

Boston Ship Repair's EPA Monitor will assist shipyard personnel in locating and identifying miscellaneous discharges. Discharge of pollutants to Boston Harbor is prohibited once a vessel is placed into BSR's dry-dock. A means of transferring the wastewater to a land based collection/treatment facility will be provided by BSR's Yard Superintendent.



Best Management Practice BSR-BMP-5.0

BMP No. 5 Leaking Pipe, Hose and Valve Connections

General

Vessel repair and overhauls require Boston Ship Repair personnel to make various hose and piping connects between the vessel and shore. These connections include sanitary waste disposal, gray water disposal, bilge and ballast water disposal, non contact cooling water supply, steam supply and fire water supply among others. Due to the number of hoses, valves and couplings it is imperative that leaks are prevented. Leakage from any of these point could fall into the dry-dock and discharge into Boston Harbor.

BMP

Leaks that are detected from hose fittings (valves, meters, straight couplings, reducers, Etc. must be repaired immediately. A stock of hose and piping appurtenances, commonly used is maintained in Boston Ship Repair's store room.

BMP Objective.

No approved discharges from moored or dry-docked vessels in BSR's facility are allowed to enter the adjacent waters or the dry dock. Repairs must be taken immediately upon discovery of leaks.

Concerns:

Hose and hose connection replacement items are kept stocked in Boston Ship Repair, Inc. stock room. The Yard Superintendent and or the Trade Foremen conduct a general inspection of operational hoses and appurtenances on a regular basis.



Best Management Practice BSR-BMP-6.0 Revised Jan 8 '02

BMP No. 6.0, Oil Storage and Containment

General

Large quantities of oil and oily water may be collected, pumped and transported in tank trucks from Boston Ship Repair, Inc. from vessels docking at Dry Dock No. 3. Bilge water and tank cleaning water are the primary sources of oily contaminants on board a vessel. BSR does not maintain oil and water separators and therefore transport waste oils and oily water to recycling facility, where the oil is recycled into a usable product.

BMP

The volumes of oil and oily wastewater collected are pumped into tank trucks as needed. Any oil drums or other temporary storage will require containment and an impervious liner. Hose connections will be tight and drip pans placed under each, covered with absorbent clothes. Booms shall be placed around all moored or stationary vessels, barges or lighters. Placement of the booms is such as to maximize the containment of spills. Periodic adjustment is made as necessary to ensure proper placement. Booms will not be necessary for vessels docked; the graving dock is a completely contained dock.

BMP Objective

Since oil containment and transport is a common task at Boston Ship Repair, Inc., the possibility of an oil spill is ever present. It is imperative that containment berms around oil storage tanks/drums are designed to contain the stored volume should accidents occur. This subject will be discussed weekly at the foremen meetings to emphasize the need for compliance and to reinforce their knowledge of Oil Spill Procedures. Oil Spill procedures are posted in the foremen shop and in the conference room. Responsibility for Oil Spill functions are specified therein and alternates listed. Where additional training of individuals is noted, the EPA Monitor will supply the same and maintain records of training.

Criteria

The lining within the bermed containment area must be impervious (i.e., concrete, steel or low pervious material (i.e., synthetic liners) The direct discharge of rainwater trapped inside an oil storage containment berm shall not occur. Such water must be pumped or transported to a waste containment tank or tank truck.

Concerns

An array of oil cleanup materials is kept on site in the BSR's Storeroom. Boston Ship Repair supervisors are knowledgeable of the appropriate uses of these materials. The type of impervious liner used within every containment berm and the containment area is periodically checked by BSR's EPA Monitor to ensure that oil leaks from the tanks cannot infiltrate into the ground. Boston Ship Repair, Inc. maintains an "Oil Spill" procedure to be used in case of a petroleum product spill into Boston Harbor.



Best Management Practice BSR-BMP-7.0

BMP No.7.0 Graving Dock Cleanup

General

Boston Ship Repair, may conduct major vessel repair, overhaul and construction in its graving docks. A vessel will be brought into a graving dock while the dock is flooded and positioned onto large support blocks. The dock end will be sealed with a caisson and the graving dock will be emptied of all water. The vessel is left standing freely on the support blocks and is then ready for cleaning and overhaul work.

Floor channels are used to collect wash and runoff water. The channels direct these flows to a sump pump, which discharges, into the Boston Harbor at a permitted discharge point. The channels may be fitted with sediment traps although this is not the usual case.

Vessel maintenance and overhaul work generates numerous sources of pollutants. These pollutants include blast abrasives, paint, paper trash, discarded construction materials, sediment, marine growth, oil, solvents, and plastics. Tank and compartment cleaning within the vessel interior may also generate discharges of cleaning water. Bilge water, ballast water, non-contact cooling water, gray water and black water (sanitary wastewater) are also be managed. (See BMPs 1.0 to 5.0). Since these pollutants fall upon the dock floor there lies a possibility of pollutants being discharged with wash water, accidental discharge, or storm water that is collected in the dry-dock discharge sumps. Various BMPs (i.e., directional hoses, dock floor drains, etc. are implemented to reduce the possibility of this happening.

BMP

BSR's Yard Superintendent on a regular basis accomplishes clean up of the graving dock floor to remove trash, blast abrasive, oil and other pollutants. He maintains records of each cleaning occurrence. The materials and or fluids collected by such cleanup are disposed of in appropriate disposal bins/containment tanks.

After a vessel has been docked in BSR's dry-dock; all dock floor drains shall be completely covered with tight fitting plywood, metal covers or tarpaulin.

The floor channels and sediment traps shall be checked weekly by BSR's Yard Superintendent and cleaned of all blast abrasive and refuse. Water shall not be used to wash grit or other materials into the channels.

Before the graving dock is flooded, the cleanup of the floor must be completed and inspected. Hosing of the dock floor with water is not an acceptable cleanup technique and will not be performed. Hydrostatic leaks and gate leakage must be collected and diverted to dock channel drains. This water shall not be permitted to contact contaminants on the graving dock floor.



BMP No.7.0 Graving Dock Cleanup (continued)

BMP Objective

BSR's objective is to maintain a daily cleaning schedule of the graving dock floor to reduce the potential for pollutants to enter the drainage system via storm water runoff or by accidental ship discharge. Discharges from the docked vessel must not come in contact with the dock floor. Any non-contact cooling water will be piped, through flexible hosing, to an acceptable discharge point (i.e., floor channels or sump.)

BSR cleans the dock at the end of each blasting shift to minimize dock particulate pollutants from entering the channels or dock sumps. All materials are vacuumed or swept up and disposed of. Hose testing water is allowed to contact the dock floor after the cleanup of the floor has occurred.

Criteria

BSR's dock floor cleanup will be accomplished under the supervision of its Yard Superintendent, with the use of all or some of the equipment listed below:

1. Front end loaders
2. Tractor sweepers
3. Mechanical blowers.
4. Mobile sweepers
5. Mobile Vacuum
6. Hand Brooms
7. Stationary Vacuums.

Mobile sweepers are capable of picking up spent abrasive that is several inches deep. The sweeper's grit containment bin can be mechanically lifted by the operator using the sweeper arm and emptied directly into a designated grit refuse bin.

Front-end loader operators scrape the graving dock floor in areas that are smooth and flat. The grit is pushed into a pile and then picked up and emptied.

Mechanical blowers can be used to blow grit from between the keel blocks, from underneath stationary equipment and disposal bins and from underneath support scaffolding. Upon completion of mechanical cleanup, a manual broom sweeping is performed to finish grit removal. Various types of stationary vacuums are capable of providing grit cleanup.

Channels are kept clean and inspected for cleanliness prior to dock flooding.

Concerns

Boston Ship Repair's Yard Superintendent will maintain records of each graving dock cleaning. If an area is inaccessible to a front-end loader or mechanical sweeper, vacuums, shovels or brooms should be used to complete the clean up of blast abrasive and other solid pollutants.



BMP No. 7.0 Graving Dock Cleanup (continued)

BSR's Yard Superintendent, following the completion of dock work, will assure that the channels are cleaned of pollutant materials.

Prior to flooding the dock, filters and absorbent materials must be removed from the dock floor. During periods of rainfall.



Best Management Practice BSR-BMP-8.0

BMP No. 8.0 Water Cleaning

General

Prior to BSR performing ship maintenance, the exterior vessel hull must be cleaned of attached sediment and marine growth. Low-pressure water spray is used to clean vessel hulls when only the surface layer of sediment and marine growth is to be removed. This technique generates a large volume of wash water with the potential of transporting solid particulates in the form of runoff. The runoff is discharged through dock floor channels.

BMP

Wash water runoff shall be channeled through filter fences before discharging into the Boston Harbor.

BMP Objective

Water spraying techniques used to clean vessel hulls produce a scattered water pattern, which can be difficult to control or contain. Since water cleaning by spray is used to remove only attached sediment and marine growth; this runoff is allowed to discharge from dry docks. The runoff is filtered through straw bales or similar filter material to reduce the particulates. The particulate matter is cleaned up during the daily dry dock cleaning.

Criteria

Straw bales or other filter material may be used by BSR to filter the wash water runoff. Bales are arranged to filter all runoff from the water cleaning operation. The bales are replaced as necessary to provide appropriate treatment.

The filter material used may be woven or non-woven burlap, nylon, polyester, or other fabrics available.

Concerns

The filter material are periodically removed and replaced to maintain effectiveness. Water may periodically pool in the area of the filter fence due to sediment, grit and other particulates becoming trapped. When this occurs, the obstructing material will be cleaned up and disposed of in a designated waste bin.

Prior to flooding the graving dock all filter material are removed.



Best Management Practice BSR-BMP-9
BMP No. 9.0 Water Blasting, Hydro-blasting, and Water Cone Blasting.

General

Water-blasting, hydro-blasting, water-cone blasting is performed by Boston Ship Repair to either clean sediment and marine growth from the vessel hull or to remove the top layers of hull paint. These techniques generate large volumes of water with the potential of transporting existing pollutants to the Boston Harbor waters.

BMP

Water blasting, hydro blasting, and water-cone blasting shall not be accomplished by BSR unless prior clean up of the dry-dock floor is completed.

Water blasting runoff shall be channeled through straw bales and or other filters to catch most of the particles of paint and marine growth. Once the floor is dry the collected particles may be removed employing graving dry-dock cleaning methods.

BMP Objective

Water blasting techniques produce a scattered water pattern, which is difficult to control, or contain. Unless prior cleanup of the dock has been conducted, it is difficult to prevent water blast from contacting pollutants.

Criteria

Runoff generated from water-blasting, hydro-blasting, and water-cone blasting shall not be allowed to discharge directly into surface waters from Boston Ship Repair's graving dock.

Concerns

All pump connection, valves, meters and couplings must be watertight. Leaks must be immediately repaired when discovered.



Best Management Practice BSR-BMP-10
BMP No. 10.0 Hydrostatic Testing.

General

General work and repairs are continually being performed on the interior or exterior of vessels docked in Boston Ship Repair's dry-dock. Occasionally, water pressure hose testing of a repaired structure (i.e., ship interior tank welds, door seals or exterior spot weld) must be conducted. Water is used to fill and pressurize an interior tank or high-pressure water may be sprayed on a weld from outside the vessel. In some cases water can splatter in all directions as a test is conducted. The water will collect on the floor of the dock and find its way into Boston Harbor.

BMP

Hose and high water pressure testing is minimized wherever possible. Pollutant materials such as sediment, blast grit or trash on the dock floor must be cleaned up prior to initiation of the test. The water should be piped or channeled whenever possible to reduce contact with the dock floor.

BMP Objective

Hose testing may result in the inadvertent mixing and discharge of test water and existing pollutants. Therefore the potential for this occurring is reduced by strict cleanup of the dry dock floor prior to beginning the test.

Concerns

Pump testing which may require large volumes of water will be conducted with a complete recycle system that does not allow water to come into contact with the dock floor. In all cases BSR will attempt to pump water from the adjacent surface waters and recycle it back through the pump under test.



Best Management Practice BSR-BMP-11
BMP No. 11.0 Shrouding and Containment

General

Vessel repairs generally involve abrasive blasting and painting. These operations are carried out on the vessel's interior compartments and tanks and the exterior hull and decks. The use of abrasives and paint represent a potential pollutant source and a threat to the water surface.

BMP

While performing abrasive blasting or painting operations on the vessel's hulls, Boston Ship Repair ensures containment of grit and paint particles by placing shrouds, strung along a length of the dry dock walls. It is fastened to the walls and the vessel deck by ropes and cables. This minimizes the amount of grit and paint particles escaping into the air, and into receiving waters. BSR, wherever feasible, performs vacuum blasting and roller or brush painting of decks. When this cannot be accomplished, a dome like shroud is erected around the area to be abrasive blasted and painted.

BMP Objective

Boston Ship Repair's objective is to minimize the amount of airborne pollutants by proper and efficient operation of equipment and by properly placed containments.

Concerns

The shrouds must be properly designed, constructed, positioned and erected.
Employees must be trained in the efficient and proper use of blasting and spraying equipment.
Equipment must be checked prior to use to assure its proper functioning and minimizing over spray.



Best Management Practice BSR-BMP-12
BMP No. 12.0 Yard Inspection

General

Boston Ship Repair performs a variety of repairs, cleaning painting, construction and fabrication operations. Despite the continual changing maintenance operations, manpower requirements and repair schedules BSR gives a high priority to good housekeeping and BMP control. New employees are provided with initiation schooling to emphasize the importance of maintaining BMP controls and to report potential and existing environmental problems.

BMP

BSR's Yard Superintendent is responsible for routine inspections of all on-site waterfront, pier and docking facilities. The inspection include an evaluation of BMP control implementation and effectiveness. The inspections include the observation of:

1. Repair activities along the dry dock.
- 2 Abrasive blast material storage areas
3. Trash and waste container disposal areas,
4. Drip pan and drum platform temporary storage areas.
5. Oil containment/berm areas
- 6 Waste oil transfer operations
7. Areas adjacent to storm drain inlets

Frequent surveillance of the shipyard support shops and outside contractor sites are conducted to inspect for the possibility that pollutants have entered the storm drain system via tub or sink drains in the shops.

BMP Objective

The purpose of BSR's inspection is to keep abreast of changing conditions within the shipyard, to observe employee, contractor BMP controls and good housekeeping performance, to identify potential pollutant source problems and determine conditions which require resolution through immediate action.

Concerns

Action will be taken immediately to correct specific noted problems. Follow-up actions are undertaken to ensure that specific concerns have been addressed.



Best Management Practice BSR-BMP-13
BMP No. 13.0 General Yard Maintenance

General

Boston Ship Repair performs a variety of repair, cleaning painting, construction and fabrication. The repairs vary from ship to ship and the number and type of employees vary likewise. It therefore is a primary responsibility of BSR supervision to assure employees are kept knowledgeable about their responsibility in maintaining a clean environment. This is accomplished most effectively when employee's actions are observed by their foremen and by the results of the Yard Superintendent's inspection (BMP 11).

BMP

BSR's Yard Superintendent makes a schedule, daily, or as needed, for cleaning crews to accomplish the following:

1. Remove and properly dispose of general yard refuse, such as paper, plastics, cans, containers bottles, used fabrication materials, scrap.
2. Cleanup spent blast grit.
3. Clean drip pans and drip platforms.
4. Remove and dispose of saturated soils.
5. Ensure that trash cans and trash bins are in appropriate locations adjacent to piers, and dry-dock.
6. Remove and dispose of all refuse found on the water surface of the dock.

BMB Objective

The objective of the above is to use accepted practices to maintain a clean yard. An organized clean yard provides an environment that reduces the potential for pollutants to enter the Boston Harbor. A clean up crew walks through the yard conducting cleanup tasks of a general nature and per the instructions of the Yard Supervisor.

Concerns

It is unlikely that the shipyard can maintain the intent of this BMP without the cooperation of its employees and the dedication of the cleaning crew. Management must continually promote the concept of "Good Housekeeping"



Best Management Practice BSR-BMP-14
BMP No. 14 Abrasive Blast Material Containment

General

Boston Ship Repair performs vessel blasting and painting on numerous vessels. Abrasive blasting is one of the preliminary tasks performed when a vessel is docked for repairs and maintenance. The blasting is accomplished with coal slag, copper slag or similar material. Blasting generates a large volume of spent abrasive, which must be cleaned up and disposed of on a frequent basis.

BMP

Spent blast abrasive must be stored in proper containment vessels while on the shipyard site. Disposal bins must have covers to prevent rainwater from entering and percolating through the stored abrasive.

BMP Objective

Boston Ship Repair's objective is to store all spent abrasive in appropriate containment vessels until ultimate disposal off site. Proper containment involves not allowing any storm water runoff or accidental discharges to come in contact with the abrasive. The grit will be stored in containers or on an impervious surface with tarpaulin covers.

Criteria

The containment structures will consist of specifically designed hoppers for grit or metal bins with covers. When necessary, an impervious surface with tarpaulin covers may be used temporarily.

Concerns

There must be appropriate volume available on site to contain all spent abrasive produced. Grit must be cleaned up between blasting shifts.



Best Management Practice BSR-BMP-15.0
BMP No. 15.0 Temporary Drip Pan and Drum Storage

General

Maintenance at Boston Ship Repair is continually being conducted which involve the mixing and pouring of fluids. In the process the fluids may be transported a short distances and temporarily stored in open containers. Paints, thinners, oil solvents and cleansers can be accidentally spilled or mishandled, creating an environmental hazard.

BMP

Drip pans and drum storage platforms are used by BSR to hold containers of fluids, which are used, at the shipyard. Drop cloths are placed underneath the drip pans and drum storage platforms to catch and soak and slop spillage.

BMP Objective

The drip pans and drum storage platforms ensure that spillage from fluid containers, such as paint buckets, do not soak into the soil or enter nearby surface waters. The pans and platforms are easily moveable and are used in the immediate work area by all employees conducting the work tasks. Drip pans are a precautionary measure only; leaks shall be repaired promptly. (BMP 5.0)

Criteria

Once the task is complete, the pans and platforms are cleaned and stored in the designated areas. The drop cloths are stored with the drip pans. They are periodically replaced.

Concerns

It is the responsibility of Boston Ship Repair's supervisors and foremen to ensure that employees and contractors use drip pans and drum storage platforms. The procurement of these articles must be made prior to start of job.

Each drip pan should be used to contain only one type of fluid while in use. This avoids the possibility of incompatible fluids such as acids and caustics, being mixed. The drip pans when full must be emptied in designated containment tanks for storage prior to disposal. Disposal will be in compliance with Local, State and Federal Regulations.



Best Management Practice BSR-BMP-16.0

BMP No. 16.0 Paint Can and Miscellaneous Container Disposal.

General

Boston Ship Repair's vessel repairs provide a continual source of empty paint cans and oil or solvent containers. General maintenance of vehicles, motors, pumps, engines and boilers also generate numerous leftover fluid containers and cans which must be discarded.

BMP

Empty cans and containers of paints, solvents, lubricants and oil must be disposed of daily in designated waste disposal bins. The disposal bins must be emptied or exchanged by the yard Superintendent as need arises.

BMP Objective.

Boston Ship Repair's objective is to ensure that waste cans and containers generated by shipyard maintenance operations are disposed of in an appropriate and efficient manner. Therefore, the cans are not allowed to accumulate on site and become a potential source of pollutants or leachate run off from storm water. The waste cans must be dry or wiped dry prior to being placed in a disposal bin.

Criteria

The disposal bins should be placed in locations as designated by the Yard Superintendent. The bins will be large enough to adequately store the waste cans generated between pickups by the disposal service.

Concerns

The top of the waste disposal bin shall remain closed to prevent rainwater from trickling over the discarded containers. This prevents the rainwater from picking up potential pollutants and leaking from the disposal bin. Regular disposal of the waste containers must be made.

The waste cans must be placed in the disposal bins, not stacked in areas adjacent to the bin.

Incompatible or reactive materials may not be disposed of in the same bins.



Best Management Practice BSR-BMP-17.0
BMP No. 17.0 Storm Drain Protection

General

Boston Ship Repair has a number of storm drain inlets prevalent through out the yard. The drains are fed by storm water runoff within the yard. The possibility of trash, loose grit, sediment and oil of being picked up and carried to the dry dock therefore exists. There are three storm water outfalls in the dry-dock. These outfalls are identified, numbered and permitted under the NPDES permit system and are shown on the attached plot plan.

BMP

Boston Ship Repair provides and installs filter media and fences around storm drain system while allowing storm water to enter. Additionally the dry-dock uses straw bales as filters to catch particle matter and prevent it from entering Boston Harbor.

BMP Objective

The filter fence used at BSR may be of woven or non-woven burlap, nylon, polyester, or other fabrics. Support posts are placed on the inside of the filter material around the outside of the storm grate with the straw bales formed around the filter fence. The filter fabric is cleaned or replaced as necessary.

Concerns

Excessive ponding may result following the installation of the inlet protection. Post storm cleaning may be required to alleviate the temporary ponding. After each storm the filter fence will be inspected to determine whether the fence materials and supports need re-establishment. All used filtering and absorbent materials must be disposed of in appropriate trash receptacles.



Best Management Practice BSR-BMP-18.0
BMP No. 18.0 Record Keeping

Rev. Jan 8. '02

General

Boston Ship Repair, by nature of the ship repair business, requires constant need of repair, replacement inspection and cleanup of BMP installations. Records indicating a history of inspection and maintenance are therefore required. Training is an ongoing process at BSR and records of formal training provided to the foremen and employees are maintained by the EPA Monitor or designated alternate. On the job training of employees is not maintained excepting when it is determined that additional individual training is needed.

BMP

Records are maintained to document BMPs at the facility. The records maintained include the following:

1. Quantities source and type of petroleum wastes collected for disposal.
2. Quantities of abrasive, which are used for blasting, and quantities that are retrieved through clean up.
- 3 Date of installation of a BMP control, inspections, subsequent repairs
4. A listing of BMP Equipment and supplies
5. Date, Time, description and action taken for chemical or oil spills.
6. The location, quantities, destination and hauler of vessel discharge waters, and spent abrasive material.

Criteria

BSR's designated EPA Monitor maintains record keeping, including training records. The records are maintained in his office for review upon request from an authorized party.



Best Management Practice BSR-BMP-19.0
BMP No. 19 Spill Control and Counter Measure Plan.

General

Boston Ship Repair, by nature of the ship repair business, is involved in the pumping, tank truck storage, containment and treatment of petroleum products.

The US EPA mandates via 40 CFR 112 that facilities having above ground storage capacity of 1,320 gallons or 42,000 gallons below ground must have a SPCC Plan. Boston Ship Repair, Inc. does not have under ground storage facilities, nor does it store petroleum of any large quantities above ground. It has prepared and maintains on site, a spill control procedure for possible need, although it is not required.

BMP Objective

In the event of an oil spill or other pollutant spill emergency, an on site SPCC Plan greatly enhances the prospect for adequate response, containment and clean up before environmental damage is done.

Criteria

BSR's SPCC Plan includes the following:

1 A method for the prediction of the direction, rate of flow and total quantity of oil that could be discharged from the vessel, or tanker truck, etc.



Best Management Practice BSR-BMP-20.0
BMP No. 20 BMP Training.

Revised Jan.8 '02

General

Boston Ship Repair recognizes the importance of having its employees aware of the purpose of BMP procedures and structures.

BMP

BSR management provides all employees with regularly scheduled BMP seminars and discussions relating to shipyard pollutants. The training emphasized procedure, BMP techniques, and supervisory responsibility and accounting. Sub- Contractor firms in the facility are urged to participate in BMP training.

BMP Objective.

Training employees about the fundamentals of BMP control lessens the chance of recurrent pollutant discharges. Providing each supervisor and employee with a sense of responsibility and accounting ensures that solutions are found for recurrent problems.

Concerns

The primary concern is that not enough emphasis is given to teaching employees about BMPs. Each new employee should be made aware of BMPs on the first day of work and a copy of them provided to him.



Best Management Practice BSR-BMP-01

Section 4, BMP Inspections and Inspection Reports

General

Boston Ship Repair, Inc. performs periodic inspections of its dry-dock, shipyard facility and employee adherence to BMPs. Inspection data sheets are annotated with the results of the inspections. They are provided to the EPA Monitor and maintained in his office for review by management or other authorized individuals.

The inspections may be conducted by BSR's Yard Superintendent; its EPA Monitor or other management designated individual.

The inspections are designed to assure BSR management of employee understanding and compliance with BSR's Best Management Practices.

The following Inspection Forms may be used:

1. Graving Dock Inspection Form, Before docking, After docking, during Painting.
2. Shipyard Inspection Form
3. Inspection Report Summary.

The inspections may be of a routine nature, or as a response to a complaint or negative report, or as a follow up to assure corrective action was taken on previous noted discrepancies. All inspection reports are signed and dated. Additional comments relevant to the findings are encouraged by management and are written on the report.



BSR Graving Dock Inspection Report

Accomplished by: _____

Date: _____

Applicable portions of BMPs 4, 7, 13, 14, 17, 22, 24
Floor surface of Dock prior to Docking

	OK	NG	NA.	Comments
Trash cleaned				
No oil spills				
Machinery removed				
Drains are cleaned				
Filters removed from storm out falls				
Grit cleaned from floor and disposed of.				
No Grit or sediment in drains				



BSR Graving Dock Inspection Report

Accomplished by: _____

Date: _____

After Vessel Docking

Applicable portions of BMPs 1, 2, 4, 5, 15, 16,

	OK	NG	NA.	Comments
Sanitary Waste hooked to Sewer				
Miscellaneous discharges				
Water cleaning				
Leaking pipes, hose etc.				
Temp. Drip pan & Drum Storage				
Paint Can Bins				
Oil Storage & containment				



BSR Graving Dock Inspection Report

Accomplished by: _____

Date: _____

Applicable portions of BMPs 4, 7, 13, 14, 17, 22, 24
Floor surface of Dock prior to Docking

	OK	NG	NA.	Comments
Trash cleaned				
No oil spills				
Machinery removed				
Drains are cleaned				
Filters removed from storm out falls				
Grit cleaned from floor and disposed of.				
No Grit or sediment in drains				



BSR Graving Dock Inspection Report

Accomplished by: _____

Date: _____

After Vessel Docking

Applicable portions of BMPs 1, 2, 4, 5, 15, 16,

	OK	NG	NA.	Comments
Sanitary Waste hooked to Sewer				
Miscellaneous discharges				
Water cleaning				
Leaking pipes, hose etc.				
Temp. Drip pan & Drum Storage				
Paint Can Bins				
Oil Storage & containment				



BSR Shipyard Inspection Report

Accomplished by: _____

Date: _____

	OK	NG	NA.	Comments
Water Surface pollutants				
Misc. discharges				
Paint & Grit Storage				
Paint and grit clean up				
Hose/pipe leakage				
Paint Can Bins in place & covered				
Drip pan usage				
Oil containments				
Storm Water Drains				
Trash				
Pollutant spills				
Shrouds and containments				
Employee training accompl.				
Sub-Contr. Training.				

