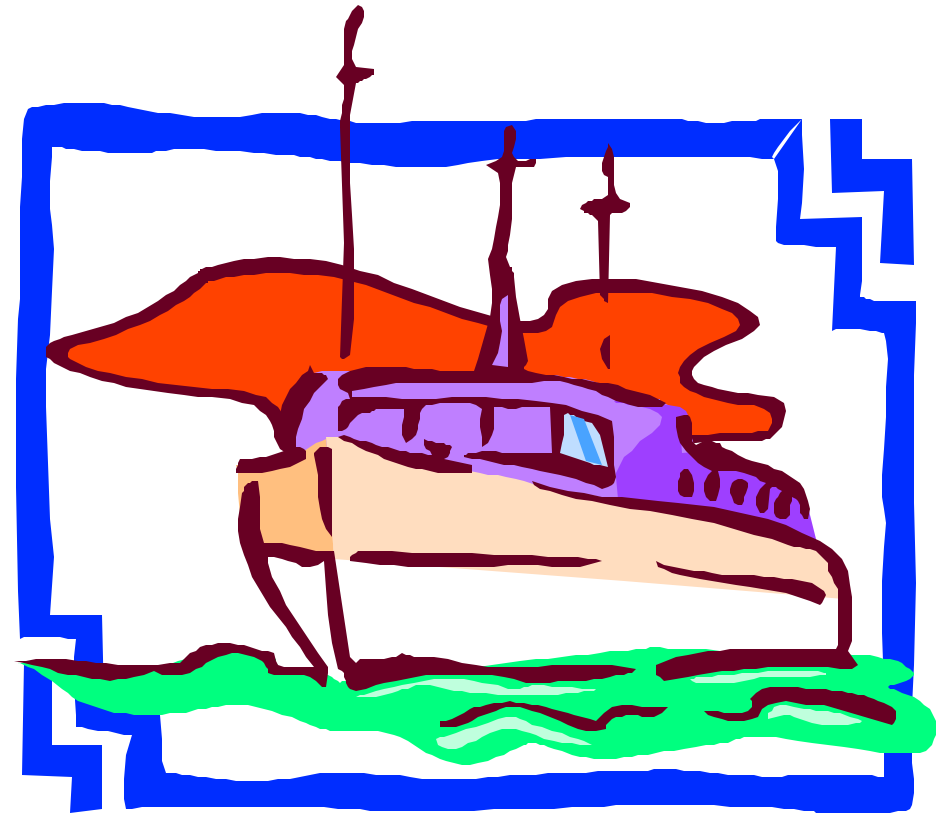


BrowarD CountY

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BesT ManagemenT Practices FoR

MarinE Facilities

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INTRODUCTION



The goal of this document is to provide best management practices (BMPs) for marine facilities operating in Broward County to facilitate compliance with applicable environmental regulations minimize wastes, and foster a pollution prevention attitude within the marine industry. Historical boat repair and maintenance activities at marine facilities in Broward County have been conducted outdoors on the waterfront. These practices have contributed to the discharge of wastes and contaminants to the surface waters, soil, and groundwater of Broward County and have resulted in subsequent environmental impacts. Wastes generated by boatyard activities typically include such items as: abrasive grits, spent solvents, waste oils, washwater, paint overspray, cleaning fluids, anti-corrosive compounds, paint chips, and scrap metal.

In 1991, the Broward County Department of Natural Resource Protection (the predecessor agency to the Department of Planning and Environmental Protection) initiated a cooperative effort with the marine industry to develop best management practices to be used by Broward County's marine facilities. The purpose of the best management practices was to eliminate the introduction of pollutants into the waterways, soil, and groundwater, to streamline the environmental licensing process for the marine industry, and to consolidate local environmental regulations into an understandable and workable document. The result was the creation of "Best Management Practices for Marine Facilities."

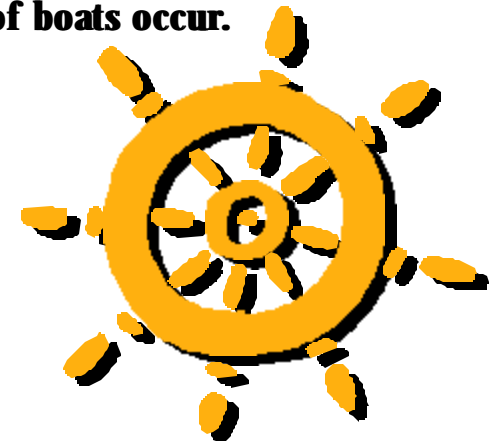
In 1998, a task force was formed by the Marine Industries Association of South Florida to review and update the BMP document. The task force was chaired by Susan Engle of Envirocare Solutions International and included representatives from the marine industry, Broward Sheriff's Office, City of Fort Lauderdale, Florida Department of

Environmental Protection, and Broward County Department of Planning and Environmental Protection. The document was updated to incorporate revised environmental rules and policies and to provide consistency in the regulation of marine facilities in Broward County.

This document is intended to apply to the environmental requirements of marine facilities. Marine facility owners operators should be aware that in addition to the environmental regulations and best management practices listed this document, there are also various safety requirements with which they must comply, such as OSHA, NFPA, and local Fire Marshall regulations.

The Best Management Practices which follow shall apply to all “marine facilities” defined as:

- 1. All recreational boat docking facilities with ten or more boat slips;**
- 2. All boat storage facilities with ten or more storage spaces;**
- 3. All commercial boat docking facilities.**
- 4. All facilities where repairs or maintenance (painting, sanding etc.) of boats occur.**





001 Discharge of Sewage from Vessels (excludes "Gray" water), see B.M.P.

#002: Marine facility operator shall advise all tenants of the following:

- A.** It is illegal to discharge raw or untreated sewage into the waters of Broward County and such acts are punishable by fines of up to \$15,000 per day; and
- B.** The location of the nearest public sewage pumpout facilities; and
- C.** All permanently installed sewage systems on vessels must be either approved Type I or II Marine Sanitation Devices or must be locked off while the vessel is docked.

Marine facility operators shall require all tenants to certify their knowledge and acceptance of these provisions in writing before

providing dockage and shall further disallow dockage to any vessel which the marine facility operator knows or has reason to know is discharging sewage in violation of this section.

002 Bilge Water:

Bilge water and "gray" water that are not contaminated by oil, fuel or other regulated contaminants may be discharged into surface waters or on land. Federal, state and local regulations prohibit the discharge of bilge water and "gray" water that are contaminated by oil, fuel or other regulated contaminants. Boat owners shall be liable for complying with these regulations and marine facilities shall inform facility users of these regulations. Marine facilities shall have supplies and equipment accessible to remove oil and fuel from bilge water so that it may be disposed of legally. These shall include petroleum absorbents and a written action plan to deal with significant quantities of oil, fuel or

other regulated contaminants. "Gray" water shall mean waste water from galley operations (dish washing) and from hand basins and showers.

003 Pumpout Facility:

All marine facilities which have live-aboard vessels shall:

- 1)** have a fixed or portable sewage pumpout system facility approved by DPEP which shall be maintained in operating condition and shall have appropriate signage; or
- 2)** maintain an agreement with a mobile waste hauler who is obligated to remove sewage from all live aboard vessels on a regular basis; or
- 3)** be located within one-half mile of a municipal pumpout facility or private pumpout facility which is obligated to provide pumpout services to tenants of the marine facility and about which the tenants of the marine facility have been

notified.

For purposes of this section, "live aboard" shall be defined as any vessel stored in the water and used primarily as a residence. This term shall not encompass those vessels which accommodate persons for 72 hours or less.

004 Petroleum and Related Products Storage and Handling:

Petroleum products shall not be discharged into a storm drain, sanitary sewer or onto the open ground or surface waters. Care must be taken in handling these products and spills cleaned up promptly at the time detected. All marine facilities shall maintain a supply of petroleum absorbent material and "spill-dry" in a readily accessible location. In addition, all marine facilities must have a written Spill Prevention and Contingency Plan to deal with petroleum product spills. All spills greater than 10 gallons or 80 pounds shall be reported to

Broward County Department of Planning & Environmental Protection. All storage containers must be surrounded by secondary containment, preferably covered and isolated from weather elements, which consists of an impermeable membrane or structure in which tanks or containers are placed. All materials in secondary containment shall be compatible. [Broward County Code Chapter 27-356]

A. Used Oil: This includes used engine oil, transmission fluid, hydraulic oil, gear oil. Used oil must be stored in a non-leaking container clearly marked "used oil" on an impermeable surface, and covered in a manner that will prevent rain water from entering the container. Oil spills must be prevented from leaving the area by means of a berm or retaining structure. Used oil must be removed from the site by a waste transporter permitted to handle this

waste product and records must be retained for inspection. [Broward County Code Chapter 27-356]

B. New Oil: This includes new engine oil, transmission fluid, hydraulic oil, gear oil. These petroleum products must be kept in non-leaking containers on an impermeable surface and covered in a manner that will prevent rain water from entering the container. Leaking containers must be emptied promptly upon detection, either by transferring the product to a non-leaking container or by disposing of it in the "waste oil" container. [Broward County Code Chapter 27-356]

C. Anti-Freeze Engine Coolant: Anti-freeze engine coolant, when drained from an engine, must be stored in a clearly marked container on





an impervious surface, under cover. It cannot be disposed of down a storm drain or in a septic system.

Disposal to a sewer must be permitted by the sewage system owner. Or, it must be removed from the site by a waste transporter permitted to handle this waste product and records must be retained for inspection. [Broward County Code Chapter 27-356]

D. Waste Gasoline: Must be stored in a non-leaking container, on an impermeable surface and covered to prevent rain water from entering the container. The container must be clearly labeled "waste gasoline" and the storage location must conform to local Fire Codes. Whenever possible, waste gasoline shall be filtered and used as a fuel. Waste gasoline shall not be discharged to the ground,

storm sewers or to surface waters of Broward County. Waste gasoline must be removed from the site by a waste transporter permitted to handle this waste product and records must be retained for inspection. [Broward County Code Chapter 27-356]

E. Paints, and Waste Diesel, Kerosene, Mineral Spirits: These products must be stored in non-leaking containers on an impermeable surface, and covered to prevent rain water from entering the container. Each container must be clearly labeled with its contents. The storage locations shall conform to local Fire Codes and to Chapter 27 of Broward County Regulations. The disposal of waste products must be by a waste transporter permitted to handle such wastes, and records must be retained for inspection. Waste petroleum products or paints shall

not be discharged to the ground, storm sewers, septic systems, sewage systems or to the surface waters of Broward County. [Broward County Code Chapter 27-356]

F. Underground Storage Tanks: Storage tanks are regulated by Broward County Code Chapter 27 and may require a separate storage tank license. Information can be obtained from the DPEP Storage Tank Section.

005 Spills: Spills of hazardous materials greater than 10 gallons or 80 pounds shall be reported to Broward County Department of Planning & Environmental Protection at (954)519-1499. Remediation of contaminated areas may require a license from DPEP in accordance with the requirements of Broward County Code Chapter 27-356.

A. Oil spills on land: Oil spills shall

be collected and put into the waste container. Oil residues may be absorbed with "spill-dry" or a similar product and shall be disposed of by a waste transporter permitted to handle such wastes and records must be retained for inspection. For all spills on land that impose an immediate threat, contact National Response Center (800-424-8802) and Florida State Warning Point (800-320-0519).

B. Fuel spills on land: Spilled diesel fuel shall be collected and placed in a waste drum. Uncollectible residual amounts may be absorbed using "spill-dry" or other petroleum absorbent materials and shall be disposed of by a waste transporter permitted to handle such wastes, and records must be retained for inspection. All affected materials including soils must be drummed. For spills of 25 gallons or more, a discharge notification form must be completed and filed with DPEP.

Spilled gasoline shall be collected and placed in the waste container. Residues remaining on the ground may be absorbed with "spill dry" or absorbent pads, but the absorbent material must be thoroughly aerated before disposing with the regular trash to remove gasoline vapors.

C. Spills on water: There shall be kept on hand a floating containment boom large enough to enclose the area of surface water where a spill may reasonably be expected to occur, but with a minimum length of forty (40) feet. Petroleum absorbent materials shall also be kept available to absorb spills on the surface water. Reporting requirements for fuel spills shall be followed as per Coast Guard (954-927-1611), DPEP (954-519-1499) and Florida Marine Patrol (800- DIAL FMP) regulations. Staff at fueling facilities shall have proper training in the deployment of fuel spill equipment and materials.

D. Grease: Spilled or waste grease shall be collected and put into the waste oil container. Residues remaining on the ground may be absorbed with "spill-dry" or a similar product and disposed of with the regular trash.

E. Oil or fuel filters: Oil or fuel filters must be crushed and drained before disposal by placing the filter in a funnel over the appropriate waste collection container to allow the excess petroleum product to drain into the container. Drained filters must be collected and recycled.

006 Fueling Operations:

It is the responsibility of the marine facility to properly supervise the fueling operations.

A. Stationary Operations: Fuel nozzles must have automatic back pressure





shut-offs and must not have a holding clip to keep the nozzle open (i.e., the nozzle shall only be held open by hand). In the immediate vicinity of the dispenser, there must be petroleum absorbent pads readily accessible in the event of a small spill. If fuel accidentally spills in the water or onto the ground, the person fueling the boat shall use the absorbent pads to remove the fuel from the water surface or from the ground. These absorbent pads shall be dried in the open air under sunlight and may then be disposed of per B.M.P.#005. In cases of larger spills, an appropriate environmental contractor shall be hired, and all affected material shall be drummed and disposed of by the contractor.

B. Mobile Fueling Operations:
Mobile fueling operations at any

facility shall be the joint responsibility of the marine facility, the tank truck operator and the vessel owner. Extreme caution must be taken to prevent spills from occurring.

007 Used Lead-Acid Batteries:

These must be stored on an impervious surface, under cover, and sent to or picked up by an approved recycler. Records must be retained for inspection.

008 Washing by Hand Above Water Line:

Detergents and cleaning compounds used for washing boats shall be biodegradable and amounts shall be kept to a minimum. The waste water generated by low pressure boat washing, including initial rinse off of boats kept primarily in dry storage, which contains no bottom paint, shall not be considered an industrial discharge or "hazardous waste" as

defined in Chapter 27-352 of the Broward County Code.

009 Steam Cleaning: Must be done on an impervious area designed to collect and contain the cleaning effluent. Discharges to surface waters are prohibited.

A. If detergents or solvents are not used, the steam cleaning effluent shall be directed to a properly sized grease trap/oil-water separator connected to a sanitary sewer. The grease trap/oil-water separator must provide adequate treatment to allow the effluent to meet sewer standards.

B. If detergents or solvents are used, the oil and grease are emulsified and a grease trap would no longer function properly. In these cases, treatment or recycling systems must be used. This water shall be considered industrial waste water and discharge to septic systems is prohibited. If sanitary sewers are not

available, waste water must be hauled by a DPEP licensed hauler.

C. No domestic waste water, industrial waste water, or other waste water shall be discharged into any sewer designated to carry storm water, nor shall storm water be discharged into a sewer designed to carry domestic waste water. No industrial waste water shall be discharged to sewers without prior approval from the sewage system owner and/or governing municipality.

010 Pressure Cleaning:

The use of high pressure water cleaning equipment for the initial rinse-off of a vessel hauled from the water is acceptable.

This process shall be restricted to an area with an impermeable surface (such as sealed asphalt or sealed concrete) and with a berm or pitch which allows the

waste water to be contained and collected. Waste water from pressure cleaning may not be discharged to septic tank or surface waters. Waste water may be disposed by sanitary sewer provided the waste water meets the standards for sanitary sewer disposal (see B.M.B.#009). Tanks used to collect waste water and remove solids shall be considered process tanks. Paint solids constituents classified as hazardous must be removed by a licensed hauler. [Broward County Code Chapter 27-356]

The use of this equipment to remove bottom paint from hulls is governed by B.M.P. #011.

011 Bottom Paint Removal:

Boat bottom paints contain metal compounds that are toxic to marine life and the removal of these paints from the bottom of a boat produces a waste product which degrades the

environment. Discharge to surface waters is prohibited.

Paints containing tin compounds are regulated by the EPA and these paints may be applied or removed only by persons or organizations licensed by the EPA. The EPA regulations regarding storage, application, disposal of paint containers and paint residues, sanding dust, etc. are incorporated herein by reference.

Care must be undertaken to minimize grinding/sanding debris from becoming airborne and adversely impacting neighboring businesses and residences. Broward County's air quality regulation specifically prohibits the emission of fugitive particulate matter without taking reasonable precautions to minimize such emissions.





Reasonable precautions can include the erection of a barrier, e.g. tarp, which would serve to restrict the flow of airborne particulates, or by conducting sanding and grinding operations within a confined area such as a partially enclosed tent or hangar. The DPEP responds to citizen complaints regarding fugitive particulate emissions resulting from sanding, sand blasting, and grinding operations.

Bottom paint shall be removed as follows:

A. Wet: Removing bottom paint by high pressure water or with a low pressure hose and a scrubber or scraper produces an "industrial waste water" as defined in Chapter 27 of the Broward County Code. As a result, this activity must be

conducted over an impermeable surface such as sealed asphalt or cement (not over open ground) with a retaining berm so that the waste water can be contained. This waste water may be recycled or disposed of, but prior to disposal, it must be treated so as to reduce the levels of heavy metals (principally copper) and meet the standards for disposal in sanitary sewers, as defined in Chapter 27 of the Broward County Code. Refer to B.M.P. #009 for conditions of discharge to sanitary sewer systems. Paint solids shall be collected and disposed of properly.

B. Dry: Removing bottom paint by dry sanding (either by hand or with power tools) produces a sanding dust containing potentially hazardous metals (principally copper). This sanding must be done over an impervious surface such as asphalt, cement, or a material such as canvas, plastic, etc. (not over open ground) and there must be a berm or

retaining wall surrounding the area so that the sanding dust can be swept or vacuumed and disposed of properly. The use of dustless sanders is recommended to capture paint dust and reduce fugitive emissions.

C. Paint chips, sanding debris and other solids may be hazardous waste if they contain lead and/or chromium. Waste determinations must be made to determine if paint solids are hazardous waste. Waste determinations can be made by 1) product knowledge (Material Safety Data Sheet) or 2) waste analysis. If the origin is unknown, the generator must make a waste analysis to check if the paints contain hazardous metals. Generator can accumulate chips in a secure, closed container until they have adequate amount for testing. Paint chips, sanding debris, and other solids which are determined to be hazardous waste must be removed by a licensed waste hauler.

012 Sanding Hull or Topsides:

The sanding dust generated by this activity shall be collected and disposed of properly and may not be intentionally discharged into a storm drain or onto surface waters. Wet sand blasting shall be subject to the same provisions as other wet paint removal operations.

A. Where sanding is conducted on land, reasonable precautions shall include laying drop cloths beneath the area being sanded and collecting the debris for proper disposal. The use of dustless sanders is recommended for this operation.

B. Where sanding is conducted in the water, every effort must be made to keep sanding dust from falling into the water. Plastic sheeting should be taped to the hull beneath the area being sanded and should be draped over floating rafts to collect falling sanding dust. The

area must also be boomed such that sanding dust that accidentally reaches the water may be immediately collected and removed via skimming or other effective methods.

Care must be undertaken to minimize grinding/sanding debris from becoming airborne and adversely impacting neighboring businesses and residences. Broward County's air quality regulations specifically prohibits the emission of fugitive particulate matter without taking reasonable precautions to minimize such emissions. Reasonable precautions can include the erection of a barrier, e.g. tarp, which would serve to restrict the flow of airborne particulates, or by conducting sanding and grinding operations within a confined area such as a partially enclosed tent or hangar. The DPEP responds to citizen

complaints regarding fugitive particulate emissions resulting from sanding, sand blasting, and grinding operations.

013 Spray Painting:

Care must be undertaken to minimize paint overspray from adversely impacting neighboring businesses and residences. Broward County's air quality regulations specifically prohibits the emission of fugitive particulate matter without taking reasonable precautions to minimize such emissions. Reasonable precautions can include the erection of a barrier, e.g. tarp, which would serve to restrict the flow of paint overspray, or by painting within a confined area such as a spray booth or a partially enclosed tent or hangar. The DPEP responds to citizen complaints regarding overspray resulting from surface coating (paint spray) operations.





Surface coating operations shall be performed in compliance with Broward County 's air quality regulations which serve to minimize objectionable odor and volatile organic compound (VOC) emissions. This can best be accomplished as follows:

- Store waste paint and solvent only in covered containers to prevent evaporation to the atmosphere;
- Direct solvent from cleaning spray equipment into containers to prevent evaporation to the atmosphere;
- Whenever possible use solvents with low volatility and coatings with low VOC content; and
- Use coatings application technique to allow for high transfer efficiency.

In addition, to prevent spray painting operations from adversely affecting adjacent soils and surface

waters, the spray painting should be done as follows:

A. Spray painting on land must occur over an impermeable surface and in such a manner that overspray does not fall on open ground or surface waters. A boom must be available to contain any overspray on surface waters. Overspray on water must be removed immediately from the surface of the water.

B. If spray painting over water is performed, every effort must be made to keep paint from falling in the water. Plastic sheeting should be taped to the hull beneath the area being spray painted and should be draped over floating rafts to collect overspray. The area must also be boomed such that overspray which accidentally reaches the water may be immediately collected and removed via skimming or other effective methods.

014 Engine and Parts Storage:

Outdoor disassembly of engines and parts is not permitted unless drip pans, secondary containment, or other steps are taken to prevent any release of engine fluids. Outside storage of disassembled parts is prohibited unless empty and stored with the fluid cavities open for inspection and in a manner which prevents direct contact with rainwater. Engines and engine parts must be stored on a covered, impervious surface such as sealed asphalt or cement.

015 Engine Parts Washing:

Parts washing may not be done over open ground. Parts washing must be done in a container or parts washer. The parts must be rinsed or air dried over the parts cleaning container. The dirty parts washing fluid must be recycled or disposed of by a licensed waste hauler.

016 Disposal of Solid Waste:

All facilities shall provide an adequate number of leak proof containers for the disposal of solid waste and garbage. All marine facilities shall post a minimum of two (2) signs prominently placed to educate the public to keep trash from entering the water. It is recommended the facility provide marked recycle bins for customers.

017 U.S. Coast Guard MARPOL (Marine Pollution) Regulations:

These regulations can be obtained by contacting the U.S. Coast Guard at (305)536-5693.

018 Manatee Protection:

All marine facilities shall post a minimum of two(2) "Manatee Caution" signs within their facility. Said signs shall be visible to vessels as they enter and exit the facility. In addition, all facilities shall provide vessel owners written manatee information every November.

019 Hurricane Preparedness Plan:

All marine facilities shall prepare a written hurricane preparedness plan for their facility and provide a copy to all vessel owners using the facility during hurricane season.

020 Tenant Notification by Facility Owner:

All marine facilities shall make their tenants aware of the applicable requirements set out by these Best Management Practices and tenant's responsibility for tenant's infractions. Except as otherwise noted in these Practices, this notification may take the form of a sign, easily readable and posted at a conspicuous common area of the facility, which contains the following information:

The facility owners and operators are committed to the preservation of the local water, land and air quality and comply with the requirements of the Broward County Best Management Practices for Marine

Facilities.

Sound environmental practices require that all Tenants obey the following rules:

1. No raw sewage or oil-contaminated bilge water may be discharged into the water.
2. All hazardous chemicals, including used oil, engine coolant, hydraulic fluid, gasoline, diesel, paint, mineral spirits may only be disposed of in the marked barrels/containers located _____.
3. All spills of gas, diesel, oil or other hazardous materials must be reported immediately to the facility operator.
4. Boats may only be washed with

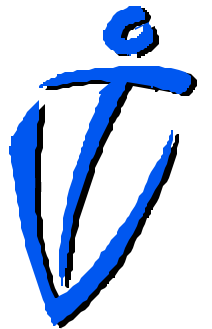




**biodegradable
soaps and the
amount of soap
used must be
kept to a minimum.**

5. Removed paint chips and sanding debris must be captured and taken to the marked barrels located _____. This debris may not be allowed to enter the water or the ground and may not be left where it might be exposed to rainwater.

**Violations of state and county environmental
rules should be reported to the Broward**





**County Department of Planning &
Environmental Protection (DPEP) at**

**(954)519-1499. Violators may be subject to
enforcement action.**