

Marine

News

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Best Practices for Deck and Equipment Washdowns

By George Cook

Government regulations have turned our attention to the damage petroleum lubricant discharges cause in the entire marine ecosystem and the market has responded by developing Environmentally Acceptable Lubricants (EALs). While large vessel operators have grown accustomed to the requirements of these regulations, the advent of the Environmental Protection Agency's Small Vessel General Permit, sVGP, is forcing operators of smaller vessels to examine applicable requirements.

The sVGP will apply to non-military, commercial vessels that are less than 79 feet in length. Compliance with the sVGP allows vessels to meet the Clean Water Act ("CWA") requirement to obtain National Pollutant Discharge Elimination System ("NPDES") permit coverage for discharges incidental to normal operations. The discharges covered in the sVGP are categorized into several broad categories, which are listed in the permit, and include common-sense requirements for general discharges, fuel management, engine and oil control, solid and liquid waste management, deck washdown and runoff and above water line hull cleaning, vessel hull maintenance, graywater, fish hold effluent, ballast water, and overboard cooling water discharges.

It is also important to note that, while VGP and sVGP are federal requirements, a large number of U.S. states, including those bordering the ocean and the Great Lakes, have passed and/or adopted related laws governing vessels operating in their waters.



While the Federal moratorium on sVGP requirements was recently extended from December 2014 to December 2017, the marine industry is clearly moving in the direction of enhanced sustainability, and all operators, regardless of the size of their vessels, must be educated on these regulations and whether the products they use are as environmentally-friendly as possible.

While the primary VGP discussion has focused on the biggest discharge contributors – stern tubes – and other equipment such as stabilizers, thrusters, rudders, propellers and hydraulic systems, little attention has been paid to an important, but often overlooked component of the VGP and proposed sVGP regulations:

discharges from deck equipment and routine deck and cargo hold washdowns.

A Dirty Truth about Deck Equipment & Discharges

All deck surfaces and equipment will periodically come into contact with water – either through precipitation, green water or sea spray – resulting in vessel runoff. Green water carries residue like oil, grease, paint chips and debris, from deck or equipment surfaces. It can also include runoff from deck washdowns performed by the crew, which includes soaps, detergents and cleaning solvents. Discharge rates from deck runoff vary from vessel to vessel depending on a wide variety of factors including weather, frequency of deck washdowns, and the type, size and maintenance state of deck machinery.

While it may sound minor, the environmental impact of deck runoff is significant and should not be taken for granted, nor should proper protocol be assumed. What is clear are the areas of responsibility, which include weather deck and exterior bulkhead areas, exposed deck equipment and the other external equipment at the exterior of the vessel above the water line. According to the VGP, vessel operators are responsible for ensuring that vessel runoffs are free of the following:

- *Refuse including garbage and deck debris*
- *Chemicals including grease, fuel, hydraulic fluid, caustics and detergents*
- *Metals*
- *Paint droplets, visible pollutants or rust*

Choosing a Suitable VGP Compliant Cleaner

All operators want to avoid fines for improper deck washdowns. While options include holding or treating all deck runoff, it is not always feasible or safe for the crew or the environment. In order to meet operational needs, as well as regulatory demands, operators would be wise to seek high performing products that won't harm coating surfaces, people or the marine environment. These products should be non-toxic, phosphate-free and biodegradable. When choosing a VGP compliant cleaner, there are several characteristics that you should

look for and criteria you should use to guide your decision, including:

- *Can you confirm EPA VGP Compliance?* Under the terms of its Vessel General Permit, the United States Environmental Protection Agency (EPA) has mandated that all deck wash downs and above water-line hull cleaning resulting in discharges be done using non-toxic, non-caustic and phosphate free biodegradable cleaners and detergents.

- *How frequently are you cleaning?* Will this be used daily, biweekly or intermittently?
- *What are you cleaning?* Review the type of surface (steel deck plates, timber deck lining, specialized coated bulkheads, equipment, machinery, ropes) and the type of compound (oil, lubricant, dirt, dust) you are trying to remove.
- *Where are you cleaning?* Are there confined space requirements? Is it in full sun? Are you protected from the weather?
- *How much cleaning product is needed?* How large is the surface?
- *What is the composition of the cleaner?* How is this going to be applied? With a brush? With a sprayer? What works best for the crew? Foam? Liquid? Solid?
- *How much drying time do you need?* Does it need to stay on for hours? Does it need to be cleaned immediately?
- *Is it safe for the crew?* Choose one with a neutral pH in order to avoid skin and eye irritation or injury.

Best Practices

The first big step toward being VGP compliant is to shift from petroleum lubricants to EALs for your equipment. Once in place, you will then need to choose a compliant cleaner for deck washdowns, deck equipment and cargo hold cleaning. To ensure that your vessel is compliant, follow these best practices:

- *Training:* This can be in the form of an on-ship demonstration or in a written form so crew can reference it during deck equipment maintenance and washdowns. Draft a step-by-step protocol for deck washdowns and include a laminated copy with the cleaning supplies. Proper training now will save

Discharges Have Consequences

Whether intentional, unintentional or even incidental, discharges from a vessel can have a huge impact on the marine environment. In addition to deck washdowns, vessel operators are responsible for controlling how other hazardous materials find their way into the waters below. These everyday leaks, spills and runoff, no matter how obvious or obscure, can damage the marine ecosystem. And if your livelihood is tied to marine life, it is in your best interest to use VGP compliant cleaners.....

costly fines and retraining in the future.

- **Material Storage:** The easiest way to minimize runoff is to take necessary precautions. Remove clutter and store items you don't use regularly to prevent them from blowing overboard, getting sprayed or dissolving in the elements. Store materials in suitable and secure containers.
- **Absorbent Usage:** If deck water comes in contact with oily materials, use absorbents or dry cleanup methods.

Opportunities for Improvement in the Cargo Hold

Cleaning bulk cargo holds between shipments is often a dirty job. If the water and dirt mix is disposed of overboard this becomes a key component of VGP compliance. Make sure your strategy doesn't overlook this activity. RSC Bio Solutions, for example, works with customers to develop solutions that achieve VGP compliance without harming cargo hold surfaces, people or the marine environment.

One firm, Soloi, Inc., ships a variety of materials – such as petroleum coke and coal – that leave the vessel's cargo holds extremely dirty. These cargo holds are large, with more than 5,300 square feet of bulkhead surface, and are painted with modified epoxy-type paint. Due to the nature of their business and the frequency of hauling different materials, Soloi cleans these cargo holds with more than 200 gallons of cleaning product at a time.

Working with Soloi, a solution to the challenge was

achieved. Each cargo hold is initially washed down with seawater cannon to remove residues. Then SAFECARE® SC-1000 Aqueous Cleaner Concentrate is sprayed from bottom to top with a 10 percent dilution, allowed to dwell for 10 to 20 minutes, and then rinsed with a high-pressure cannon sprayer from bottom to top.

Clean Sailing

VGP regulations were not designed to interfere with your operations. If you follow expert advice and equip your crew with VGP compliant cleaners and instructions on how to use them, you can focus on what's most important: *running a profitable business with compliant vessels.*



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