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Ocean Guardian

A New Tool to Simplify Environmental Compliance

Environmental compliance challenges are nothing new to the cruise industry. Initiatives to enhance environmental compliance, from clean technologies to improved processes and procedures, have significantly reduced the impact cruise vessels have on the environment and improved the quality of discharge. These onboard initiatives address what is in the vessel's control, but cannot simplify the increasingly complex regulatory environment in which cruise lines operate.

Enforcement of environmental regulations is on the rise as international, national and regional regulatory bodies have taken a stronger line with compliance. Case in point: Last year, the U.S. Department of Justice Environment and Natural Resources Division continued its vigorous prosecution of shipping companies and crew for the intentional discharges of pollutants from ocean-going vessels in U.S. waters.

At the end of fiscal year 2016, criminal penalties imposed in these cases totaled more than $363 million in fines and more than 32 years of confinement, according to the agency's 115-page report issued on Jan. 13, 2017.
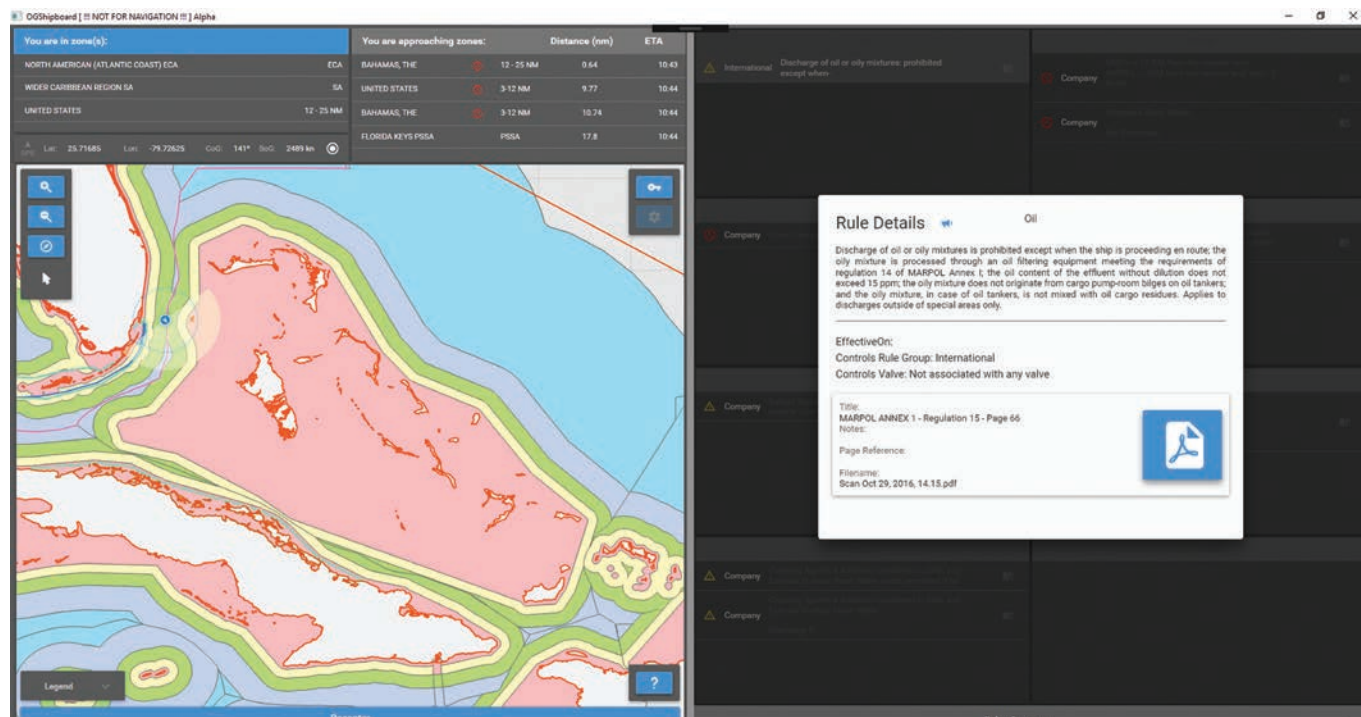
Staying current with the wave of maritime environmental regulations has been challenging. Regulations vary dramatically between maritime borders and frequently are subject to change. Many ship operators rely on paper copies of regulations, e-mail communication, robust electronic workbooks and feedback from ship agents to stay current. These are viable solutions, but they have two distinct challenges: First, uniform updates are difficult to make. Second, fleet management and ship owners have no way to ensure an operator is using the most up-to-date manual.

With the ever-increasing vessel size and availability of amenities for passengers, the cruise industry is one of the most dynamic and innovative in the world. Always looking to improve efficiencies and innovate to improve workflow and reduce challenges, many felt that the industry needed a solution which not only would address today's complex regulatory environment, but also pave the way for a new era of industry collaboration.

Ocean Guardian is that solution. Created by Total Marine Solutions, a Fort Lauderdale-based environmental solutions and services company, Ocean Guardian is a simple and easy to use program that is helping to shape the future of environmental operations and compliance.

To address today's complex regulatory environment, Ocean

Guardian provides shipboard operators with the latest regulatory information in a digital format, making compliance significantly easier. The electronic application shows operators precisely what they must do to remain compliant, based not only on where they are, but also on where they are going. For fleet operations staff on shore, Ocean Guardian removes the risk of an operator missing an update or not having the latest policy directive.

Integrated with a ship's Global Positioning System (GPS), Ocean Guardian is location specific up to .25nm, removing the need to review numerous manuals, guides and environmental matrices to determine which regulations apply.

Ocean Guardian is an application that can be installed anywhere on a vessel to provide real-time environmental regulatory information for locations around the world. The straightforward user interface takes the guesswork out of compliance by making environmental regulations and related documentation instantly accessible. This significantly reduces the time it takes for operators to understand the regulatory environment for their current location and increases the efficiency of workflow. If installed onboard and shore side, authorized personnel across the fleet can see exactly what is permissible at a vessel's location, enhancing communication, accountability and increasing the visibility of compliance-related actions.

To address the complexities of the regulatory environment, Ocean Guardian's developers created a comprehensive database that includes international, national, regional and client specific policies and regulations. Future versions will include port limitations and reception facilities. Updates can be downloaded immediately for vessels with internet connectivity or via a portable device sent to ships without internet access.

Understanding that the compliance environment at sea is ever-changing and that accuracy is critical when it comes to compliance, Ocean Guardian's global regulatory database provides clients with unparalleled assurance regarding regulatory data. The database not only is updated by experienced marine compliance professionals, but also verified and vetted by a third-party, independent maritime law firm.

In addition to its flexibility and ease of use, Ocean Guardian can assist owners and operators with preventing non-compliant discharge and improve efficiency of environment operations. The system does this in two ways. First, it can be programmed to manage the start and stop function of various equipment on board. Second, immediate access to regulatory data can simplify voyage planning, especially in cases of unplanned stops due to weather or medical emergencies on board.

Overlapping geographic claims and/or regulations are a particularly challenging aspect of environmental compliance at sea, especially for the cruise industry whose vessels often traverse multiple political and geographic area boundaries in one voyage. To address this challenge of compliance, Ocean Guardian displays regulations from areas relevant to the vessel's position. For example, if a vessel is in a wastewater control zone

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and it overlaps with a special area (e.g., National Marine Sanctuary), a user will be guided accordingly. The same is true for overlapping territory claims made by more than one country. Dedicated geographical experts have created the geodatabase for the application, with updates distributed at least annually.

Ocean Guardian was developed with Brenock, a leader in cutting-edge software solutions in the maritime industry and a long-time business partner of Total Marine Solutions. The complexity and breadth of the Ocean Guardian platform made it one of the most challenging projects Brenock has undertaken in the last 20 years and is being viewed by many as a game changer.

Having the opportunity to beta test it on five cruise ships, since its launch in March 2017, Ocean Guardian's developers further enhanced the platform to satisfy the feedback received. As a result, Ocean Guardian now offers a more simplified view and audible alerts, making it invaluable for onboard operators.

The Total Marine Solutions Ocean Guardian web portal offers further functionality and flexibility for a fast-paced maritime environment. This portal provides clients with administrative access to the detailed rules database for review, along with access to supporting documentation. The portal also is used to prepare regulatory updates for Ocean Guardian based on approved regulations. Logins are required to access the portal allowing specific users to be assigned responsibilities within their company's respective rules database for managing their

workflow and controlling rules that appear on the application. To enhance the industry's dedication to having a culture of compliance, updates within the portal are electronically recorded, creating a full account of what a company, user and vessel have done to meet and exceed regulatory requirements.

Because flexibility is important for any maritime tool, Ocean Guardian can be set up on either hardware provided by Total Marine Solutions, or on hardware provided by the vessel's operator. It also can be used in fleet operations command centers to enhance management and oversight of environmental operations and planning.

An effective, consistent, and transparent approach to pollution prevention not only will reduce the risk of non-compliance discharge, fines and possible prosecutions, but it also confirms the industry as a leader in environmental stewardship around the world.

Cruise industry leaders – arguably the most highly visible ownership group in the maritime sector – are keenly aware of their responsibility to comply with, and in many cases exceed, existing environmental regulations. Although there are many challenges in environmental compliance, Ocean Guardian is helping to chart a new course by providing a proactive and forward-thinking platform that simplifies compliance.