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December 5, 2014

RWO GmbH  
Marine Water Technology  
Veolia Water Solutions and Technologies  
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Germany

#### ALTERNATE MANAGEMENT SYSTEM ACCEPTANCE

The Coast Guard has completed its review of the Alternate Management System (AMS) application submitted by RWO GmbH Marine Water Technology (RWO) for the CleanBallast ballast water treatment system (BWTS). This letter is an update to an AMS acceptance issued April 15, 2013. This update is in response to the issuance of a revised type approval certificate for the CleanBallast BWTS that includes screen filter type systems. This letter grants AMS acceptance in accordance with the requirements of 33 CFR 151.2026 for the following CleanBallast® BWTS models:

CleanBallast -150, 150-SF, -200, -200-SF, -250, -250-SF, -300, -300-SF, -350, -350-SF, -400, -400-SF, -450, -450-SF, -500, -500-1, -500-SF, -750, -750-SF, -1000, -1000-SF, -1250, -1250-SF, -1500, -1500-SF, -1750, -1750-SF, -2000, -2000-SF, -2250, -2250-SF, -2500, -2500-SF, -2750, -2750-SF, -3000, -3000-SF, -3250, -3250-SF, -3500, -3500-SF, -3750, and -3750-SF models, including both Modular Configuration types (designated "CleanBallast") and Screen Filter types (designated "CleanBallast-SF"), as type approved by Bundesamt für Seeschifffahrt und Hydrographie (BSH) of the Federal Republic of Germany and as detailed in BSH type approval certificate number 0800S41-4443/000/6 issued on September 04, 2014 and expiring December 31, 2017.

The RWO CleanBallast® BWTSs are assigned the following AMS identification number:

AMS-2013-RWO-CleanBallast-001

Coast Guard acceptance of the CleanBallast BWTS as an AMS does not accord or imply conformance to or compliance with any other Federal, state, or local water discharge effluent limitations that may apply to the vessel on which the AMS operates or the regulatory regimes and locations within which it operates. The owner and operator of the vessel must comply with all applicable laws, regulations, and treaties, including the Clean Water Act and associated

provisions of the Vessel General Permit (VGP); the Federal Insecticide, Fungicide, and Rodenticide Act of 1972, as amended (FIFRA); other Coast Guard safety regulations and requirements; and other applicable laws and regulations.

In accordance with 33 CFR 151.2026 (a)(5), the AMS application required the submittal of a type approval application for the BWTS. The type approval information submitted with the AMS application does not have any bearing on the type approval status of the BWTS, nor does Coast Guard acceptance of the CleanBallast BWTS as an AMS indicate that the BWTS meets requirements for Coast Guard type approval.

The following conditions apply for the operation of the CleanBallast BWTS in U.S. waters:

1. The AMS manufacturer must comply with all general conditions of certification stipulated in the type approval certificates issued by BSH, as referenced above. Revocation of type approval by the approving authority will result in revocation of this AMS acceptance. Copies of all reports required under the stated conditions of use must be submitted to the Environmental Standards Division (OES-3) at the following address or email:

COMMANDANT (CG-OES-3)  
United States Coast Guard Stop 7509  
2703 Martin Luther King Jr. Ave SE  
Washington DC 20593-7509  
Tel: 202-372-1402  
e-mail: environmental\_standards@uscg.mil

2. Because the AMS has not been adequately tested in freshwater, its use as an AMS is limited to the treatment of marine and brackish water with a practical salinity unit (PSU) concentration greater than 1.
3. Installation and repairs of the AMS must be performed in accordance with the manufacturer's instructions and approved by the flag administration or its representative.
4. Operation and maintenance must be conducted in accordance with all specifications and limiting conditions stipulated on the certificate of type approval and with the manufacturer's instructions, including any limitations posed by environment (for example, water quality, temperature, salinity, or other parameters) or vessel operations (for example, voyage duration, pumping rates, or other constraints). The following specific conditions apply:
  - a. **Flow rates:** The flow rate of ballast water through the system should not exceed the treatment rated capacity (TRC) for the installed system. The treatment rated capacities for all CleanBallast models are listed in the BSH type approval certificate.

- b. **Design dose of active substances:** The system must provide a total residual oxidant (TRO) dose of less than or equal to 2.5 milligrams per liter (mg/L) on ballast water uptake. A TRO dose concentration of less than or equal to 1.5 mg/L is permitted for any secondary treatments conducted upon ballast water in the vessel's tanks or ballast lines.
- c. **Differential pressure across the filter:** This BWTS is capable of using either 55 micrometer disc (spine) filters in the Modular configuration or 40 micrometer floating weave-wire screen filters in the SF configuration. Modular configuration CleanBallast systems clean the disc filter(s) via back flushing, while SF configuration CleanBallast systems clean the screen filter(s) via suction. When the CleanBallast BWTS employs disc filters, the pressure differential across the filter(s) should not exceed 1 bar. The system is set to back flush automatically at the desired set point of <1 bar pressure differential, and the control system should trigger an alarm if the differential pressure is too high. CleanBallast systems using screen filters employ similar pre-set pressure differential levels to initiate suction cleaning and trigger high differential pressure alarms.
- d. **Maximum allowable discharge concentration (MADC):** Prior to the discharge of treated ballast water, TRO concentration must be measured to ensure compliance with all applicable federal, state, and local effluent limits.
- e. **Optional algae monitor:** The optional algae monitor should be operated within the pressure range specified in the Installation and Operating Instructions for this BWTS.

A historical record documenting that the system has been operated within these criteria, including a record of any alarm conditions, shall be made available for review onboard the vessel.

- 5. If installed on a U.S. flag vessel, it must be shown that the system and installation comply with or provide an equivalent level of safety to the requirements of 46 CFR Subchapter F (Marine Engineering) and Subchapter J (Electrical Engineering). All electrical equipment located within hazardous areas must be explosion proof or intrinsically safe as certified by an independent laboratory recognized by USCG per 46 CFR 111.105-7.
- 6. Use of the AMS is specified in the ship's ballast water management plan (BW plan), required by 33 CFR 151.2050(g). The BW plan must identify the following: (1) the ballast water management practices to be used in the event the AMS cannot be used, and; (2) the personnel responsible for the operation, maintenance, and repair of the BWTS. An up-to-date record of the operation, maintenance, and repair of the BWTS must be maintained onboard the ship.
- 7. Any change in design, materials, manufacturing, or intended operational conditions of this BWTS without prior notification to, and acceptance by, the U. S. Coast Guard will

automatically invalidate this AMS acceptance. Prior to any such change, the manufacturer of an AMS must notify the Commanding Officer, U. S. Coast Guard Marine Safety Center (MSC), at the following address or e-mail:

Commanding Officer (MSC)  
Attn: Marine Safety Center  
U.S. Coast Guard Stop 7410  
4200 Wilson Blvd, Suite 400  
Arlington VA 20598-7410  
e-mail: msc@uscg.mil

The notification must include (1) a description of the change, the reason it is required, and its intended advantages; (2) an explanation of any effect of the change on installation, operation, maintenance, or repair requirements; and (3) an indication of whether or not the original configuration of the BWTS will be discontinued.

8. If the installed AMS does not operate properly when treating ballast water intended for discharge in U.S. waters, the person directing the movement of the vessel must ensure that the problem is reported to the nearest Coast Guard Captain of the Port (COTP) or District Commander as soon as practicable. The Coast Guard shall be notified of any treatment system or component failures, irreparable damage to components of the AMS, frequent process upsets or out-of-bounds operating conditions, or other situations or process-related conditions that may reduce treatment effectiveness. The vessel may continue to the next U.S. port of call, subject to the directions of the COTP or District Commander, as provided by 33 CFR 160.
9. All transport and handling of chemicals required for proper operation of the AMS must be conducted in accordance with 46 CFR 147 (Hazardous Ships' Stores), 49 CFR 171-180 (Hazardous Materials Regulations), and 46 CFR 98.30 (portable tanks), as appropriate.
10. Use of the AMS must be reported in the ship's ballast water management reports submitted to the National Ballast Information Clearinghouse, as required by 33 CFR 151.2060, as follows:
  - a. In Section 4, report the number of tanks treated by the AMS in the space labeled "Underwent Alternative Management";
  - b. In Section 4, write the AMS identification number (AMS-2013-RWO CleanBallast-001) in the space labeled "Please specify alternative method(s) used, if any" and;
  - c. In Section 5, in the middle section titled "BW MANAGEMENT PRACTICES" identify the management method as "ALT" under the heading "Method (ER/FT/ALT)" for each tank for which the AMS was used.

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The Coast Guard may suspend, withdraw or terminate the acceptance of this BWTS as an AMS in accordance with 46 CFR 2.75-40, 2.75-50(a) and 2.75-50(b), respectively.

A copy of this letter shall be provided to each vessel with this installed AMS and shall be available for review when the vessel is operating in U.S. waters.

I thank you for your dedicated efforts to seek out AMS acceptance, and we look forward to working with you throughout the type approval process. If you have any questions concerning this letter, you may contact Mr. John Meehan of my staff at [John.A.Meehan@uscg.mil](mailto:John.A.Meehan@uscg.mil).

Sincerely,



R. E. BAILEY

Captain, U.S. Coast Guard

Office of Operating and Environmental Standards

By direction