



5760  
April 24, 2019

Hyde Marine  
Attn: Mark Riggio  
2000 McClaren Woods Drive  
Pittsburgh PA 15108

## ALTERNATE MANAGEMENT SYSTEM ACCEPTANCE - UPDATE

The Coast Guard has completed its review of the Alternate Management System (AMS) application submitted by Hyde Marine, Inc., for the Hyde GUARDIAN ballast water treatment systems (BWTS), types HG 60 to HG 6000 incorporating filters of Filtrex and HydacRF10 filters, and the new type approval certificate issued by Lloyds Register (LR) on behalf of the United Kingdom Maritime and Coastguard Agency. Three prior AMS acceptance letters, dated April 15, 2013, August 21, 2014, and September 15, 2017, correspond to earlier models of the Hyde Guardian BWTS with varying treatment rated capacity (TRC) up to 6,000 cubic meters/hour (m<sup>3</sup>/h). This revised letter grants AMS acceptance in accordance with the requirements of 33 CFR 151.2026 for updated Hyde Guardian BWTS models, including the treatment of ballast water of all salinity ranges, as detailed in LR type approval certificate no. 09/ 00010(E6) issued on April 12, 2019.

The following Hyde Guardian Gold models, which operate by applying ultra-violet (UV) radiation, are accepted for use as an AMS in U.S. waters:

Incorporating the Filtrex ABC Filter having filtration grade of 30 micrometers (µm):

- Model HG 602 with a TRC of 60 m<sup>3</sup>/h;
- Model HG 100 with a TRC of 100 m<sup>3</sup>/h;
- Model HG 150 with a TRC of 150 m<sup>3</sup>/h;
- Model HG 250 with a TRC of 250 m<sup>3</sup> /h;
- Model HG 300 with a TRC of 300 m<sup>3</sup> /h;
- Model HG 350 with a TRC of 700 m<sup>3</sup> /h;
- Model HG 450 with a TRC of 450 m<sup>3</sup> /h;
- Model HG 500 with a TRC of 500 m<sup>3</sup> /h;
- Model HG 600 with a TRC of 600 m<sup>3</sup> /h;
- Model HG 700 with a TRC of 700 m<sup>3</sup> /h;
- Model HG 800 with a TRC of 800 m<sup>3</sup> /h;
- Model HG 900 with a TRC of 900 m<sup>3</sup>/h;
- Model HG 1000 with a TRC of 1,000 m<sup>3</sup>/h;

- Model HG 1250 with a TRC of 1,250 m<sup>3</sup>/h;
- Model HG 1500 with a TRC of 1,500 m<sup>3</sup> /h;
- Model HG 1600 with a TRC of 1,600 m<sup>3</sup>/h;
- Model HG 2000 with a TRC of 2,000 m<sup>3</sup>/h;
- Model HG 2500 with a TRC of 2,500 m<sup>3</sup> /h;
- Model HG 3000 with a TRC of 3,000 m<sup>3</sup> /h;
- Model HG 4000 with a TRC of 4,000 m<sup>3</sup> /h;
- Model HG 5000 with a TRC of 5,000 m<sup>3</sup> /h;
- Model HG 6000 with a TRC of 6,000 m<sup>3</sup> /h;

Incorporating the Hydac Filter having filtration grade of 40 µm:

- Model HG 60 with a TRC of 60 m<sup>3</sup>/h;
- Model HG 100 with a TRC of 100 m<sup>3</sup>/h;
- Model HG 150 with a TRC of 150 m<sup>3</sup>/h;
- Model HG 250 with a TRC of 250 m<sup>3</sup> /h;
- Model HG 300 with a TRC of 300 m<sup>3</sup> /h;
- Model HG 350 with a TRC of 700 m<sup>3</sup> /h;
- Model HG 450 with a TRC of 450 m<sup>3</sup> /h;
- Model HG 500 with a TRC of 500 m<sup>3</sup> /h;
- Model HG 600 with a TRC of 600 m<sup>3</sup> /h;
- Model HG 700 with a TRC of 700 m<sup>3</sup> /h;
- Model HG 800 with a TRC of 800 m<sup>3</sup> /h;
- Model HG 900 with a TRC of 900 m<sup>3</sup>/h;
- Model HG 1000 with a TRC of 1,000 m<sup>3</sup>/h;
- Model HG 1250 with a TRC of 1,250 m<sup>3</sup>/h;
- Model HG 1500 with a TRC of 1,500 m<sup>3</sup> /h;
- Model HG 1600 with a TRC of 1,600 m<sup>3</sup>/h;
- Model HG 2000 with a TRC of 2,000 m<sup>3</sup>/h;
- Model HG 2500 with a TRC of 2,500 m<sup>3</sup> /h;
- Model HG 3000 with a TRC of 3,000 m<sup>3</sup> /h;
- Model HG 4000 with a TRC of 4,000 m<sup>3</sup> /h;
- Model HG 5000 with a TRC of 5,000 m<sup>3</sup> /h;
- Model HG 6000 with a TRC of 6,000 m<sup>3</sup> /h;

The Hyde Guardian Gold BWTS is assigned the following AMS identification number:

**AMS-2019-Hyde-GUARDIAN-001**

Coast Guard acceptance of Hyde Guardian Gold 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 Hyde Guardian Gold BWTS system as an AMS indicate that the BWTS meets requirements for Coast Guard type approval.

The following conditions apply for the operation of the Hyde Guardian Gold BWTS in U.S. waters:

1. The AMS manufacturer must comply with all general conditions of certification stipulated in the type approval certificate issued by Lloyd's Register EMEA (Southampton) on behalf of the United Kingdom Maritime and Coastguard Agency, 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 Office of Environmental Standards (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](mailto:environmental_standards@uscg.mil)

2. 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.
3. 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, as specified on the TA certificate.
  - b. **UV intensity:** The UV intensity sensor should always read at 70% or greater of the full calibrated irradiance level at the operating power level. If the UV intensity falls below 70% at low power, the system must automatically raise to high power. If the UV intensity falls below 70% at high power, an audible and visual alarm must sound.
  - c. **Differential pressure across the filter:** The pressure differential across the filter should not exceed 1 bar. The system is set to back flush automatically at 0.7 bar pressure differential, and an alarm is sounded by the control system when excessive back flushing or high differential pressure (> 1.0 bar) occurs.

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*A historical record documenting that the system has been operated within these criteria, including a record of any alarm conditions, any deviations from the manufacturer's operating instructions, or any conditions and requirements noted above, shall be available for review onboard the vessel.*

4. The use of this AMS is not limited by salinity and may be used in fresh, brackish, or marine water in accordance with the type approval certification.
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 33CFR 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 Headquarters  
2703 Martin Luther King Jr. Ave. SE  
Washington, DC 20593-7509  
e-mail: msc@uscg.mil

The notification must include the following: (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, any irreparable or recurring 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. Report the AMS identification number, located toward the beginning of this letter and in bolded text, in "Vessel Information" section in the space labeled "Onboard BW Management System" and;
  - b. In the "Ballast Water History" section, for each tank for which the AMS was used, select the "Event" as "Onboard Treatment" for one of the reported tank events (e.g., Discharge, Onboard treatment, Source).

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 Ms. Debbie Duckworth of my staff at (202) 372-1429 or [Debbie.Duckworth@uscg.mil](mailto:Debbie.Duckworth@uscg.mil).

Sincerely,



S. T. BRADY  
Captain, U.S. Coast Guard  
Office of Operating and  
Environmental Standards