

U.S. Department of
Homeland Security

United States
Coast Guard



Commandant
United States Coast Guard

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5760

December 12, 2016

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Norway

ALTERNATE MANAGEMENT SYSTEM ACCEPTANCE

The Coast Guard has completed its review of the Alternate Management System (AMS) application submitted by Knutsen OAS Shipping AS (Knutsen) for the KBAL ballast water treatment system (BWTS). A prior AMS acceptance letter, dated March 3, 2014, corresponds to earlier models of the KBAL BWMS having ballast water treatment rated capacities (TRC) of 200 and 600 cubic meters per hour (m^3/hr) as type approved by Det Norske Veritas (DNV) on behalf of the Norwegian Maritime Directorate. *This revised letter grants AMS acceptance in accordance with the requirements of 33 CFR 151.2026 for additional KBAL BWTS models, as detailed in the DNV type approval certificate No.TAP0000080 issued on November 9, 2016.* This letter remains valid for the duration that AMS acceptance is authorized in accordance with 33 CFR §151.2026(c) unless the AMS determination has been suspended, withdrawn, or terminated.

The following KBAL models are accepted for use as an AMS in U.S. waters:

- Models KBAL BWMS150 with a TRC of 60 - 150 m^3/h ;
- Models KBAL BWMS200 with a TRC of 80 - 200 m^3/h ;
- Models KBAL BWMS600 with a TRC of 240 - 600 m^3/h ;
- Models KBAL BWMS2000 with a TRC of 800 - 2,000 m^3/h ;
- Models KBAL BWMS3000 with a TRC of 1,200 - 3,000 m^3/h .

The Knutsen KBAL BWTS is assigned the following AMS identification number:

AMS-2016-Knutsen KBAL-001

Coast Guard acceptance of the Knutsen KBAL 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 Knutsen KBAL 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 Knutsen KBAL 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 DNV on behalf of the Norwegian Maritime Directorate, 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

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. The available models of this BWTS have TRCs ranging from 60 meters³/hour to 3,000 meters³/hour. Several units can be installed in parallel for higher flow rates. The flow rates through individual treatment units must have flow control and arrangement must be approved by DNV on a case by case basis. A historical record of flow rate is available via

readouts from the control panel.

- b. **Pressure vacuum reactor unit:** The KBAL BWTS uses a pressure vacuum reactor designed to operate with a minimum pressure of 3.5 bar on the inlet, a near vacuum pressure on the outlet, and a minimum 13-meter drop-line. The arrangement and design of the pressure vacuum reactor unit must comply with requirements stated in the DNV type approval.
- c. **UV intensity:** In order to attain the biological treatment efficacy demonstrated during type approval testing for DNV, the KBAL BWTS model BWTS200 must maintain a minimum of 43 millijoule per square centimeter (mJ/cm²) UV intensity, and the BWTS600 must maintain a minimum of 100 mJ/cm² UV intensity. The arrangement and design of the UV reactors must comply with the requirements stated in the DNV type approval.

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. 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.
- 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.

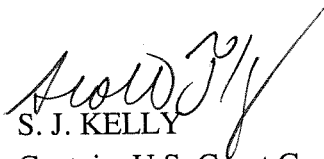
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A copy of this letter shall be provided to each vessel with this installed AMS and shall be available for review when the vessel is operating in U.S. waters.

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.

Sincerely,



S. J. KELLY

Captain, U.S. Coast Guard

Office of Operating and Environmental Standards