



5760
January 8, 2016

Techcross, Inc.
Attn: Dr. Dong H. Shon
528 Samsung-ro, Gangnam-gu
Seoul, 06167
Republic of Korea

ALTERNATE MANAGEMENT SYSTEM ACCEPTANCE

The Coast Guard has completed its review of the Alternate Management System (AMS) application and new type approval certificates submitted by Techcross, Inc., for the Electro-Cleen ballast water treatment system (BWTS). In a letter dated October 4, 2013, the Coast accepted the following Electro-Cleen models for use in brackish and marine salinities:

- Electro-Cleen models ECS-150B, Ex-ECS-150B, ECS-300A, Ex-ECS-300A, ECS-300B, Ex-ECS-300B, ECS-450B, Ex-ECS-450B, ECS-600A, Ex-ECS-600A, ECS-600B, Ex-ECS-600B, ECS-1000A, ECS-1000B, and Ex-ECS-1000B, as type approved by the Republic of Korea and detailed in type approval certificates 2008-1 issued December 31, 2008; 2009-1 issued September 1, 2009; 2010-1 issued April 8, 2010; 2011-4 issued March 24, 2011; 2011-5 issued June 28, 2011; 2012-1 through 2012-5 issued January 18, 2012; and 2012-16 through 2012-20 issued September 5, 2012.

The AMS acceptance letter dated October 4, 2013, assigned the following AMS number to the models listed above: AMS-2013-Techcross Electro-Cleen-001.

This revised AMS acceptance letter allows the use of the following Electro-Cleen “B” models in all salinities, including freshwater, in accordance with the requirements of the type approval by the Republic of Korea and U.S. requirements stated in 33 CFR 151.2026:

- Electro-Cleen models ECS-150B, Ex-ECS-150B, ECS-300B, Ex-ECS-300B, ECS-450B, Ex-ECS-450B, ECS-600B, Ex-ECS-600B, ECS-1000B, and Ex-ECS-1000B, as type approved by the Republic of Korea and detailed in type approval certificates 2015-100 through 2015-109, issued October 30, 2015.

The Electro-Cleen “B” models listed above are assigned the following AMS identification number:

AMS-2015- Techcross Electro-Cleen-002

January 8, 2016

The Electro-Cleen “A” models may operate in brackish and marine waters, but they are not accepted for use as an AMS in freshwater, and they are not covered under this letter. The “A” models should continue to use the following AMS number: AMS-2013-Techcross Electro-Cleen-001.

Coast Guard acceptance of the Electro-Cleen 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 Electro-Cleen BWTS as an AMS indicate that the BWTS meets requirements for Coast Guard type approval.

The following conditions apply for the operation of the Electro-Cleen 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 the Republic of Korea, 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:

Environmental Standards Division (CG-OES-3)
Alternate Management System Program
U.S. Coast Guard Headquarters
U.S. Coast Guard Mail Stop 7509
2703 Martin Luther King Jr. Ave. SE
Washington, DC 20593-7509
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. In accordance with the type approval by the Republic of Korea, Electro-Cleen systems may be combined in parallel to achieve higher TRCs. Flow partitioning to each individual system must be approved by the flag administration or its representative before installation.
- b. **Design dose of oxidants:** The Electro-Cleen BWTS is designed to operate with a total residual oxidant (TRO) concentration between 6 and 10 milligrams per liter (mg/L). The system will record an error message if the TRO concentration is too high or too low.
- c. **Maximum allowable discharge concentration (MADC):** Prior to the discharge of treated ballast water, the TRO concentration must be measured to determine compliance with all applicable federal, state, and local water quality effluent limits for all discharged chemicals, including disinfectant by-products (DBP). The system has sensors to monitor and record the TRO concentration at the time of ballast water discharge.
- d. **Use in freshwater:** In accordance with the type approval by the Republic of Korea, Electro-Cleen systems are accepted for use in freshwater. The Electro-Cleen system requires a source of seawater to operate in freshwater. The following conditions apply to operations in freshwater:
 - i. The operator of the system must document the source location, time, and volume of seawater taken onboard for subsequent ballasting operations in freshwater.
 - ii. The operator of the system must conduct source water ballasting in accordance with the manufacturer’s operating manual for the installed model and in accordance with the vessel’s ballast water management plan.
 - iii. The vessel’s ballast water management plan must specify the ballast water tanks and associated equipment used to store seawater as source water for the Electro-Cleen treatment process. If the vessel is operating in freshwater, the vessel-specific ballast water management plan must describe the standard procedures to obtain, store, and use seawater in the treatment process. The operator must record any deviations from the ballast water management plan.
 - iv. The following information must be available for review with this letter: (a) the operating manual’s instructions for use in freshwater, (b) any other vessel-specific guidance from the manufacturer, and (c) any limitations or constraints imposed by the maritime administration or class society during installation.

January 8, 2016

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. 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.
5. Use of the AMS must be specified in the ship’s ballast water management plan, as required by 33CFR 151.2050(g). The 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.
6. 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.

7. If the installed AMS does not operate properly when treating ballast water intended for discharge in U.S. waters, or if the vessel has not adequately prepared for ballasting operations in freshwater by taking on a sufficient supply of seawater, 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, occurrences of inadequate supply of seawater for

January 8, 2016

freshwater operations, 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.

8. 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.
9. 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 33CFR 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-2015-Techcross Electro-Cleen-002) 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.

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. Regina Bergner of my staff at (202) 372-1431 or Regina.R.Bergner@uscg.mil.

Sincerely,



S.J. KELLY

Captain, U.S. Coast Guard

Office of Operating and Environmental Standards