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USCG 01-10486-40

September 25, 2000

Admiral James M. Loy, USCG;
 Commandant
 United States Coast Guard
 2100 Second Street, SW
 Washington, DC 20583

Re: Request for approval of a patented process trademarked as AquaHabiStat™ (AHS™) as an alternative method to Ballast Water Exchange per Chapter 67, U.S. Code, Aquatic Nuisance Prevention and Control.

Dear Admiral Loy:

I hereby request that a determination be made that AquaHabiStat™ (AHS™) qualifies as an alternative method to ballast water exchange, and may be installed and used by vessels equipped with ballast water tanks to meet the requirements of pertinent provisions of 16 USC § 4701 et seq.

AHS™ is a ballast water processing system conceived, designed, built and tested by a diverse team of shipping experts, researchers, engineers, biologists and constructors. The system prototype was built to process water from the Port of Norfolk, which contains a population of marine organisms similar to those found in ports throughout the world. The prototype demonstrated the following:

- The system removed dissolved oxygen (DO) from ballast water to levels below 1 ppm.
- After four days in the treated low DO water, larval stages of organisms similar to "nuisance species" were dead; i.e., low DO plus time kills marine organisms.
- The prototype is automated and is run from a laptop computer. (This automation capability is applicable to any size of installation.)
- The system is "ship friendly" with pumps, tanks and control devices of types normally found aboard ships. (It can be designed to fit within existing engine room spaces.)
- For regulatory needs, the proper operation of the system can be monitored through electronic records and alarm devices. (Remote telemetering can be made available.)
- The system is easily adaptable to match any ship size. (The prototype was built as a one tenth scale model of a 120,000 dwt bulk carrier treatment plant of 4000 gallons per minute capacity.)

The transfer of pathogens in ballast water is considered by some to be a problem. Few examples have been cited of pathogen transfer, however, and even those could have been the result of sewage discharge concomitant with ballast discharge. Current technologies for controlling pathogens risk release of genetically mutated bacteria or involve the use of biocides, which can be hazardous to the ship's crew. Moreover, bacteria typically show a rebound in population after most have been killed by any method. AHS™ minimizes the risk of mutant or resistant pathogens. For now, we consider that is enough, and we take note that studies on the elimination of pathogens from ballast water should be conducted with care and full recognition of the potential dangers.

We believe that AHS™ has passed the feasibility phase and should now be made available to mariners and managers of ports who need a safe and effective alternative to ballast exchange. We are prepared to do that. A determination that AHS™ qualifies as an acceptable alternative will make it possible. We strongly prefer to finance this effort through sales, rather than grants from federal or state sources.

We realize that a final standard for making such a determination has not yet been developed and that doing so will take some time. We therefore propose that AHS™ as it stands be the subject of a determination made on an interim basis and with the proviso that ships using the system will not be required to meet any new standard for at least five years.

We contemplate installation of AHS™ on fifty ships. This will allow treatment and testing of ballast water from a wide selection of ports that will both contribute to the data on which a final standard may be based and facilitate our adaptation of the system to needs as they may be identified. Moreover, training for and operating AHS™ will educate shipboard personnel to the importance of ballast treatment and enhance user orientation to assure system effectiveness.

Around the globe are 2,500 ports, yet the literature offers little discussion about the different conditions that exist in them. This major variable is not being addressed because no amount of grant funds could finance the effort. Fifty vessels over several years would ballast in enough ports to provide the scientific community an ample opportunity to understand how ports vary and the dangers they present.

We stand ready to respond to questions from you and your staff.

Sincerely,



Wilson J. Browning, Jr.

Enclosures:

- 1) CONTROLLING INVASIVE SPECIES IN BALLAST WATER
- 2) Old Dominion University Report on AHS™
- 3) Copy of Patented AHS™ Configuration
- 4) Description of the Prototype
- 5) Operation of the Prototype

**A Proposal for Determination of the Aquahabistat™ (AHS™)
System as an Approved Alternative Ballast Water Treatment
Method Under the Nonindigenous Aquatic Nuisance Prevention
and Control Act of 1990**

**Developed by
Browning Transport Management, Inc.**

**Investigated by
Old Dominion University
and
Hampton Roads Sanitation District**

February 16, 2001

U.S. Department
of Transportation

United States
Coast Guard



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Mr. Wilson J. Browning, Jr.
Browning Transport Management, Inc.
127 Bank Street
Norfolk, VA 23510

Dear Mr. Browning:

On behalf of Secretary Mineta and Admiral Loy, I thank you for your recent letters requesting approval of the AquaHabiStat™ ballast water treatment process as an alternative to ballast water exchange. We all share your interest in expediting the approval of technologies that will enable us to move beyond the current practice of mid-ocean ballast water exchange.

A major hurdle that must be cleared before being able to formally approve ballast water treatment technologies is the absence of a standard and associated protocols by which proposed technologies can be evaluated. The Coast Guard is leading a coordinated effort involving a wide range of stakeholders to develop these, and has set this as a priority for 2001.

In addition to the work on a ballast water treatment standard and testing protocols, the Coast Guard is developing a program to encourage private sector participation in the development and testing of ballast water treatment technologies. The details have yet to be worked out, but would likely include a conditional approval for shipboard installation and evaluation of promising experimental systems. My staff's goal is to publish a request for public comments on such a program in the Federal Register this month.

While unable to approve the AquaHabiStat™ system as an equivalent to ballast water exchange at this time, we will consider conditional approval of your system once the criteria for experimental systems has been developed. I assure you that the Secretary, Commandant and I are committed to being able to approve alternative ballast water treatment technologies at the earliest possible date.

Sincerely,

A handwritten signature in black ink, appearing to read "R. E. HOSKINS".

R. E. HOSKINS
Rear Admiral, U.S. Coast Guard
Assistant Commandant for Marine
Safety and Environmental Protection.