

## DEPARTMENT OF HOMELAND SECURITY

### Coast Guard

#### 33 CFR Part 151

[USCG-2001-9267]

RIN 1625-AA66

#### Approval for Experimental Shipboard Installations of Ballast Water Treatment Systems

**AGENCY:** Coast Guard, DHS.

**ACTION:** Notice of withdrawal.

**SUMMARY:** The Coast Guard is withdrawing its proposal to proceed with an interim rule establishing a program through which vessel owners can apply for approval of experimental ballast water treatment (BWT) systems installed and tested on board their operating vessels. Instead of a rulemaking, the Coast Guard will proceed with establishing this voluntary experimental approval program using a Coast Guard Circular. Details of the program are published in Coast Guard Navigation and Vessel Inspection Circular (NVIC) 01-04.

**DATES:** The project "Approval for Experimental Shipboard Installations of Ballast Water Treatment Systems, RIN 1625-AA66, is withdrawn on January 7, 2004.

**FOR FURTHER INFORMATION CONTACT:** If you have questions on this Notice of Withdrawal, call Mr. Bivan Patnaik, Environmental Standards Division, Coast Guard, telephone 202-267-1744, E-mail: [bpatnaik@comdt.uscg.mil](mailto:bpatnaik@comdt.uscg.mil).

#### SUPPLEMENTARY INFORMATION:

##### Background

On May 22, 2001, we published a request for comments entitled "Approval for Experimental Shipboard Installations of Ballast Water Treatment Systems" in the *Federal Register* (66 FR 28213). In this request for comments, we sought information on how to further develop ballast water treatment technologies and reduce the potential for introducing nonindigenous species (NIS) to the waters of the United States via discharged ballast water. We have also published our intent to issue an Interim Rule in the Unified Agenda entitled "Approval for Experimental Shipboard Installations of Ballast Water Treatment Systems" in the *Federal Register*, May 27, 2003, (68 FR 30340).

##### Withdrawal

The Coast Guard has decided that the most efficient way of establishing this voluntary experimental approval

program will be with the publication of a Coast Guard Circular. This will allow the Coast Guard to streamline the initiation process and proceed with the overall development of BWT technologies. Therefore, we are withdrawing this project from the rulemaking process. Additionally, we will use this withdrawal notice to respond to comments received in response to the May 22, 2001, request for comments. All comments and documents received in this docket will be available for use in future rulemakings.

This action is taken under the authority of: 16 U.S.C. 4711; Department of Homeland Security Delegation No. 0170.1.

##### Discussion of Comments

The Coast Guard received comments from 12 sources on the notice with request for comments. We received comments from ship owners, vendors, industry associations, an environmental group, the United States Maritime Administration, and Transport Canada.

##### General Comments

The Coast Guard's notice with request for comments described basic procedures and conditions envisioned for the approval program. Four commenters expressed overall approval for the program's concept, but recommended that several details be strengthened and clarified. One commenter criticized the plan and proposed instead a detailed multi-vessel installation project, claiming it would lower the risk of approving an ineffective technology. The latter suggestion indicates that we may not have been sufficiently clear about the basic purpose of the proposed program. The primary purpose of the experimental approval program is to provide assurance to ship owners involved in projects to test the effectiveness of prototype treatment systems under real-world, operational conditions. The commenter's counter-proposal seems more appropriate for evaluating the operation and maintenance aspects of an approved treatment system.

One commenter suggested we also consider ways to counteract hull fouling, another source of NIS. The Coast Guard agrees that fouling of submerged surfaces of vessels both exterior and interior (*e.g.*, sea water cooling systems) may be an important mechanism by which NIS are transported among ecosystems. Current regulations that apply to the Great Lakes mandate mid-ocean ballast water exchange or an alternate approved

practice of minimizing the introduction of NIS. We believe, therefore, that it is important to establish the experimental approval program to facilitate the development of ballast water treatment systems. In any case, the structure of the experimental approval program will allow it to be used in the future for other technologies, such as those used to prevent the transport of organisms in fouling assemblages.

##### Comments on International Impact

Three commenters noted that a program designed solely for the United States would have international ramifications. One commenter asked us to notify Transport Canada of experimental installations affecting the Great Lakes, and two other commenters urged an international approach to experimental installations, possibly through approval by the International Maritime Organization (IMO), in order to make a United States program more attractive to international shippers.

We agree that close communication with pertinent Canadian agencies will be important and necessary for the shared waters of the Great Lakes. We also agree that a program acceptable to the international shipping community will have the greatest potential to facilitate significant advances in the development of effective technologies. The Coast Guard will keep the relevant Canadian and IMO entities fully informed of this program.

##### Comments on Standards

Many commenters wanted to suggest, or wanted the Coast Guard to clarify, the quantitative standards by which a ballast water treatment technology would be evaluated under this program. Given that the intent of this experimental approval program is to facilitate the development of ballast water treatment systems in the absence of a standard, we initially felt it would be inappropriate to create a quantitative "benchmark" that would act as a standard. However, following consideration of the comments on this issue, we agree that a set benchmark for entry into the Program will be useful and appropriate. Consequently, we will incorporate into the review process a minimum quantitative treatment efficacy, expressed as an effluent concentration, that proposed systems will be expected to meet. This will not be a "hard and fast" criterion, because the point of the Program is to facilitate the development of technology, and that goal is best served by a degree of flexibility on conditions for entry. Importantly, the quantitative benchmark we will incorporate will not substitute

for a high degree of rigor, as established by peer review, in the design and implementation of proposed plans for the experimental evaluation of prototype ballast water treatment systems on-board operating vessels applying for acceptance in this Program.

#### Comments on the Approval Process

Three commenters supported the concept of peer-review, although one commenter recommended that reviews by peer panels other than the one we describe below be accepted as well. We also received comments regarding the qualifications of panel members and problems with matching the review process with real world scheduling of commercial vessels.

We agree that peer-review of the proposed test plans is essential for assuring that systems granted experimental approval are evaluated rigorously and scientifically. It is our intent that peer-reviewed panels be composed of experienced researchers in a range of disciplines, such as environmental engineering, water disinfection, marine ecology, naval architecture, and marine engineering. To the extent possible, panels will include researchers with direct experience in conducting experimental tests of engineering, technologies, and practices on-board operating vessels, including ballast water treatment and ballast water exchange. The Coast Guard or its agent will assemble the panel according to explicit criteria for ensuring an appropriate mix and level of expertise and preventing conflicts of interest. It is important to make the reviews as uniform as possible, and this will be achieved through adherence to an explicit process, including standard review questions addressing specific issues. While it is feasible that independent reviews conducted outside the Coast Guard process could evaluate application materials in a comparable manner, there would be inevitable loss of control over the process and increased potential for conflicts of interest and lack of uniformity.

Industry groups asked how rejected applications would be handled. Our intention is to fully justify and explain rejections, and to allow applicants to resubmit revised proposals without prejudice. Approval of the application will be the responsibility of the Coast Guard. In deciding whether to grant or deny approval, the Coast Guard will consider the findings of the peer-review panel regarding the supporting data and test plan. It must be realized that other criteria, such as those related to safety and conformity with all existing environmental regulations, could

outweigh a favorable panel review of the study design. Finally, it is the Coast Guard's intention that this program facilitate the development of ballast water treatment technology, not hinder such efforts through capricious and arbitrary decisions.

#### Comments Regarding Criteria for Review

Two commenters considered our documentation requirements for the testing process generally too complicated, too expensive, and not reflective of real-world field tests. We disagree that requiring comprehensive and scientifically credible test plans is not reflective of the "real world". Only when test plans are carefully designed and executed according to accepted practices of science and engineering will the resulting data provide meaningful information about the capabilities of treatment systems operated under shipboard conditions. It is true that carefully designed and implemented shipboard tests are likely to be expensive. However, the documentation required for review and to maintain approved status is not more than would be expected of a credible test and evaluation project.

One commenter suggested that technologies should be approved for shipboard installation only after they pass full-scale prototype testing. Then, they should be installed on several ships (to provide data from different conditions and environments) rather than on a single vessel and that the Coast Guard should monitor results. The Coast Guard disagrees with this comment. The intent of the experimental approval program is to provide incentives to vessel owners to install and test experimental ballast water treatment systems onboard their operating vessels, not to approve ballast water treatment systems for general installation on several ships.

Two commenters requested clarification about the Letter of Commitment and about the ability of the shipping industry to commit to projects within a 90-day review process. Withdrawal by any party of commitments to conduct an experimental evaluation according to the approved plan would be grounds for rescinding the approved status of the treatment system unless the remaining parties provide assurances that the contributions of the withdrawing party can be replaced. We believe that review of application packages will entail a significant commitment of resources by the government. Letters of Commitment from all parties involved in the experimental installations are necessary

to minimize the possibility of expending public resources on insufficiently supported projects. With regard to the industry's ability to commit to projects with a 90-day review period, we strongly believe that experimental plans should reflect the attributes and operating circumstances of the vessels on which the experiments will be performed. The uncertainties of certain sectors of the shipping industry may prevent some ship owners from participating. It is our intent to be as flexible as possible, but we also believe that adequate review should not be compromised.

Concerning residual concentrations of treatment chemicals, one commenter said that in multi-jurisdictional waters like the Great Lakes, we should require documentation that shows residual chemicals to be within the limits set by the most demanding jurisdiction. As stated in the notice with request for comments, applicants will have to provide evidence that their proposed systems meet all applicable regulatory requirements for protection of both the environment, and human health and safety.

Our suggested procedure requires applicants to provide documentation from preliminary, small-scale experiments. One commenter criticized our use of the phrase "smaller scale" because it might unduly penalize developers who wish to make incremental improvements on existing or future full-scale experiments. Our intent is that applicants demonstrate that the treatment systems have been carefully evaluated in prior tests. While we have assumed that in many cases, these earlier tests will have used smaller scale versions of treatment systems than those proposed for shipboard installation, we recognize that this will not necessarily be so in all cases. The important consideration will be that the submitted evidence indicates the achievement of a consistently high level of treatment by the experimental system.

Some commenters wanted to modify the "suite of organisms" proposed for demonstrating a prototype system's range of effectiveness, although to different ends. While one commenter suggested broadening the list by adding virus-like particles to the suite, another commenter called the suite too expansive and suggested we instead develop a shorter list of organisms of interest. One commenter said it is unlikely that any one technology would be effective across the entire suite, and we should therefore regard a technology that completely eliminates any one

broad taxonomic category as initially sufficient.

We strongly believe that shipboard tests should evaluate effectiveness over as wide a range of organisms as possible. Furthermore, at this time there are no agreed-upon surrogates or indicator species for the diverse array of organisms likely to be encountered by a vessel. Organisms of interest will most likely be useful in laboratory or dockside tests and may be an important component in eventual general approval testing. However, shipboard tests should assess effectiveness as broadly as possible to provide the best understanding of various ballast water management approaches.

We proposed that applicants specify any conditions limiting the effectiveness of a treatment method on certain ships or routes. One commenter assumed the effectiveness of a treatment would not be affected by the ship's route. While we too anticipate that treatment systems will be developed for use under the broadest range of conditions, we do not wish to assume that route-specific treatment systems will have no place in the ballast water treatment market.

One commenter said the representative sampling criterion places a great burden on the investigator to predict what test protocol will satisfy the Coast Guard. This commenter said that if the Coast Guard plans to enforce compliance by using a set of sampling protocols, it should develop that set of protocols now and let it be used for testing purposes by vendors and ship owners. This response indicates a misunderstanding of the intended purpose of the experimental approval program. The experimental approval program is intended to foster the shipboard evaluation of treatment systems, not to serve as part of the general regulatory certification process. Our requirement for representative sampling is intended to assure that project protocols in any tests are able to detect true treatment effects, not introduce unintentional confounding variables. Rather than impose a requirement to use a specific approach or design, we instead expect that credible study plans will address this issue.

A group of commenters wanted us to clarify our statement that only a limited number of experimental systems would be approved. The group wanted to be sure we would not arbitrarily limit the number of test installations approved. We intend to limit the number of installations approved for any one experimental system, unless applicants can strongly justify that multiple ship installations are necessary and that

sufficient resources are available to evaluate all units. The purpose of the program is not to facilitate the marketing of treatment systems, but to foster their development.

#### **Comments Regarding Conditions of Approval**

One commenter said that except for some specific line or tanker trades, it is commercially unreasonable to restrict approval to specific routes. We agree, and our experimental approval program will not have such blanket restrictions. However, treatment systems developed for specific trade routes, if they occur, may be so conditioned. Further, study plans for experimental installations on vessels with geographically diverse trading patterns will be expected to reflect, and take advantage of, spatial and temporal variability.

Two commenters agreed that approval for processes or systems shown to have adverse effects on the environment or human health should be revoked. One of the two commenters indicated that the stringent nature of the approval process makes blanket revocation unnecessary. Instead, case-by-case decisions could be made, taking into account vessel and route characteristics. We disagree because in general, blanket revocations are not anticipated for the simple reason that we do not foresee approving multiple installations of any one system. However, if evidence arises that an underlying unit process common to several systems has undesirable effects, then a wider revocation may be considered.

Several commenters expressed concern about our reporting requirements and recommended instead that approved installations be required to incorporate monitoring and recording systems or be subject to random vessel visits (equated with "real marketplace" conditions). A shipper considered the proposed requirement that principal scientists and engineers attend technical workshops at their own expense a negative incentive. Our reporting requirements are intended to ensure that approved shipboard evaluations are conducted according to the agreed-upon study plan, as well as to verify that treatment systems are used and operated as required under the conditions of approval. We expect that performance-monitoring equipment will be integral components of treatment systems, and that system output and performance will be addressed in the reports. Vessel inspections, by the U.S. Coast Guard or its agents, will be part of the monitoring regime to which approved systems will be subject. We agree that requiring attendance at technical workshops may

require advance planning and budgeting; however, we feel that such interactions among those testing systems and the resource trustees will be valuable. We will, however, look for ways in which to subsidize or offset the costs of participation.

#### **Comments Regarding the Approval Period**

We received many comments pertaining to the proposed five-year approval period and "grandfather" clause. Several commenters signaled strong support for treating test systems as fully complying with ballast water treatment requirements for a period of years. One commenter called "grandfathering" a critical incentive for technology developers and vessel owners. However, several commenters asked for clarification regarding protection for installers in the event performance standards change during the test period. There was particular concern about making the approval of a ballast water treatment technology expire upon the updating of a standard. These specific comments touch on the primary intent of our experimental approval program, which is to foster research and development work on ballast water treatment systems under shipboard scales and conditions. We agree that uncertainty about the period for which approved systems will be accepted as meeting regulatory requirements will work counter to our intent. Therefore, the rule includes an explicit period of approval. Further, we intend to incorporate in the process for general approval of ballast water treatment systems a provision for considering data and information obtained during an experimental approval period. The installation approval process will be part of a proposed rulemaking on ballast water discharge standards. While the details remain to be resolved, the intent of this provision will be to avoid penalizing treatment system developers that have expended significant effort in meeting the requirements of the experimental approval program.

Several commenters favored periods of approval longer than the five years we proposed and suggested instead that experimental systems be approved for periods of 10–12 years. We consider the five-year period of approval to be sufficient, but seek to clarify that the five-year period will begin at the point in time that a specific vessel would be required to manage its ballast water through the use of mid-ocean exchange or other ballast water management practices including treatment systems. For vessels that install experimental

treatment systems prior to the establishment of a ballast water discharge regulation, the five-year period will not begin until the effective date for such a regulation.

One commenter further recommended that approval should be conditional on making the experimental technology available for testing by credible agencies. Because our intent is to provide ship owners with assurance that experimental systems will be approved for a specific period of time, we respectfully disagree. For many, if not most of these systems, there may be only one prototype unit, and therefore it would be onerous to require that the developer and/or the ship owner provide additional units for use by others.

It is also our intent that the review process will guarantee credible testing of approved systems. Further, we anticipate that the general approval of ballast water treatment systems will involve objective testing of such systems by independent evaluators. We see no need to require participants to make their experimental systems available to others because this program is intended for treatment systems under development.

Several commenters expressed concern that a test vessel should be protected in the event a shipboard test program fails by giving the vessel some reasonable time to make retrofits without losing its approved status. They

argued that letting the approval lapse if, after one year, the system had not been installed or testing had not begun, was unrealistic given the complexities of the shipping industry. Instead, these commenters recommended that an expiration date be set in a manner that accounts for the experiment's proposed timeline.

We agree that there needs to be a high degree of flexibility to accommodate unavoidable scheduling or engineering problems. The review process, therefore, will contain a provision for negotiating schedules for implementation based on specific circumstances and for reacting to unexpected process failures or engineering problems.

Some commenters asked us to consider "grandfathering" for those vessels that have already installed experimental ballast water management technology prior to implementation of a Coast Guard policy on testing. One commenter said that numerous cruise ships have already installed experimental technology and should be included in an incentive program so as not to be penalized for being proactive. The commenter advocated streamlining the application and approval process because the installation can already demonstrate results. We agree that owners who have already installed experimental equipment should not be penalized for their proactive efforts. Vessel owners with experimental systems installed prior to

implementation of this program will be able to apply for approval. However, approval will be dependent on an evaluation of the experimental study plan and results to ensure that all approvals are subject to the same degree of rigorous review.

#### Miscellaneous Comments

One commenter stressed the importance of increasing financial support for research and development of sampling and evaluation protocols.

Another commenter recommended the Smithsonian Environmental Research Center as an excellent source of testing protocols.

Three commenters discussed specific treatment methods in detail, and one of these also suggested criteria for any system design.

While these are all notable comments with clear relation to the broad issue of experimental evaluation of treatment systems, they are not directly relevant to the issue of conditional Coast Guard approvals for experimental systems.

We appreciate all comments received and will use them as we develop the Shipboard Technology Evaluation Program.

Dated: December 16, 2003.

**Thomas H. Collins,**  
*Admiral, U.S. Coast Guard, Commandant.*  
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