
2011 General Research Services Application Form

SUBMISSION INSTRUCTIONS

Completed application forms can be submitted electronically using the “submit” button located at the end of this form (page 16). Clicking this button will automatically open your computer’s default email program and attach the application form to a pre-addressed email. Supporting information and reference documents (preferably in PDF format) can be attached to this email prior to sending.

Alternatively, attachments can be sent in a separate email to nmays@nemw.org. Please note that only emails less than 8 MB in size can be accepted. If your attachments are larger than 8 MB, please send the documents in separate emails or via a file delivery website such as www.yousendit.com or www.wetransfer.com.

Clearly label all attachments with the application question to which the document corresponds and list the document name in the space provided within the form, i.e., a study attached in response to Question IV part A number 1 would be named “Supporting Information - Question IV A 1.pdf”. To be considered, all applications must be accompanied by full author reference information.

Please email nmays@nemw.org if you have any problems submitting this application form and/or supporting attachments.

CONFIRMATION OF APPLICATION

All applications will receive an email confirming their receipt within 48 hours of submission. Please email nmays@nemw.org if you do not receive this confirmation email. Also, please email nmays@nemw.org if you have any questions or problems submitting the application form and/or supporting attachment.

APPLICANT INFORMATION

Organization/Company:

Street:

City, State, Zip:

Phone:

Web Page:

Project Officer:

Financial Officer:

Telephone:

Telephone:

Fax:

Fax:

E-mail:

E-mail:

ORGANIZATIONAL DESCRIPTION

Tax Status: Tax ID#: Fiscal Year: / to /

(e.g., For-profit corporation, Individual, etc.)

(month/day) (month/day)

Brief Description of Business/Organizational History:

TREATMENT SYSTEM INFORMATION

I. PATENTS

Is the technology/methodology proprietary?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the technology/methodology patented, copyrighted, licensed or otherwise protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p data-bbox="188 533 1409 600">Is there any specific information regarding your technology/methodology or company that you wish to be treated as strictly confidential? If Yes, please describe (no confidential data please).</p> <p data-bbox="233 617 500 667"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <div data-bbox="204 688 1399 1747" style="border: 1px solid black; height: 500px;"></div>	

II. STATE OF DEVELOPMENT OF THE TREATMENT SYSTEM

Indicate the overall stage of treatment system development for the subject system (please check all boxes that apply), and also explain your response in the space provided.

Product Definition

Proof of concept

Working Model

Engineering Prototype

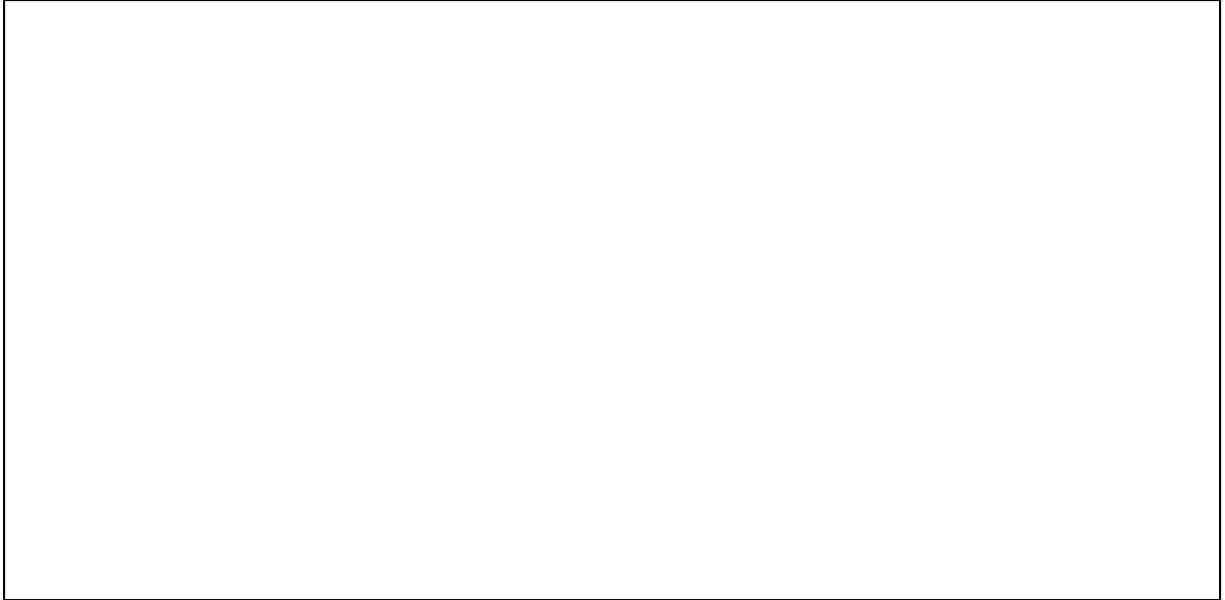
Other (please explain)

If at the stage of "Engineering Prototype" what steps have been taken? Please check all boxes that apply and also explain your response in the space provided.

Scale up Test Refine Production Engineering Product Safety Engineering

III. GENERAL DESCRIPTION OF TREATMENT SYSTEM

A. Provide a general description of the proposed BWT system including treatment stages, treatment processes, physical configuration, materials of construction, and integration with the shipboard ballast system.



B. Discuss the range of shipboard or shore-side applications for the proposed BWT system, including sizes and types of ships for which it would be intended, uptake versus discharge treatment, standard treatment capacities, new or retrofit shipboard applications, etc.



IV. SYSTEM PERFORMANCE AND OPERATION INFORMATION

A. Research has been conducted on this treatment system in the following categories (check all that apply). Supporting studies with full author reference information should be attached for each item checked.

	Fresh	Brackish	Salt
1. Bench-treatment effectiveness			
Zooplankton			
Phytoplankton			
Bacteria			
2. Bench-eco-toxicity			
Zooplankton			
Phytoplankton			
Bacteria			
3. Land-based performance			
Zooplankton			
Phytoplankton			
Bacteria			
4. Ship-board performance			
Zooplankton			
Phytoplankton			
Bacteria			
5. Operational effects on			
Corrosion			
Ballast throughput			
Energy consumption			
Crew time			

Names of attached supporting studies (with category number reference included in file name):

B. Environmental Soundness (i.e., the proposed ballast treatment system will not require regulatory discharge permits for operation in U.S. or Canadian waters; or, routine and prevalent use of the proposed treatment system as a ballast treatment method would not otherwise result in acute or cumulative degradation of environmental quality of receiving ecological systems.)

Please describe what is known about the environmental soundness of the proposed system.

	Yes	No	Maybe
Routine use will require a regulatory permit.			
Environmental soundness will be influenced by voyage duration, ship condition, or salinity of ballast water or receiving waters			
Treatment residue and/or by products will completely degrade prior to discharge into the receiving system.			
Treatment residue and/or by products will require dilution to render them harmless to a receiving system.			
Treatment residue and/or by products will be equally environmentally sound in the context of fresh and salt water.			

Please use the space below to provide any explanation for your responses.

C. Biological Effectiveness (i.e., the treatment system will yield dependable reductions in live biological material surpassing the IMO standard, and any other prevailing standards that may be stricter; or will significantly reduce ballast transfers of harmful microbes and viruses.

Please indicate the probable scope of effectiveness of the treatment system.

	Yes	No	Maybe
The treatment system will significantly reduce live zooplankton from ballast water discharge.			
The treatment system will significantly reduce live phytoplankton in ballast water discharge.			
The treatment system will significantly reduce microbes and viruses in ballast discharge.			
The treatment system effectiveness will likely be affected by salinity			
The treatment system effectiveness will likely be affected by voyage duration.			
The treatment system effectiveness will likely be affected by ship condition (BOB vs. NOBOB).			

Please use the space below for any additional narrative information.

D. Automated System Monitoring Mechanism

Please indicate the state of planning associated with automated monitoring of treatment system function in operational settings. Please attach (and clearly Identify as “Supporting Information for Question III D”) all findings/supporting information related to anticipated monitorability of the proposed treatment system.

No planning yet undertaken Monitoring concept in place Monitoring system developed

Please describe the monitoring concept in the space provided below.

E. Operational Practicability (i.e., the proposed treatment system is compatible with the physical ship environment in terms of its physical footprint and power or other physical requirements, will operate effectively and efficiently in the environment of a commercial vessel for an extended period of time (i.e., 10 years); and will not impose in crew safety concerns.)

Please indicate by checking the appropriate box the degree to which the treatment system has been adapted to maritime applications. Please attach (and clearly Identify as “Supporting Information for Question III E”) all findings/supporting information related to operational practicability of the proposed treatment system.

No evaluation yet undertaken Some initial planning in place System fully marinized

In addition, please provide your best estimates regarding the following questions:

1. What could the onboard physical configuration of the BWT system be, including general arrangement of installed equipment?

2. Could the system be installed in an existing ship? If so, will system installation in an existing ship likely require vessel dry-docking?

3. What, if any, special utility connections (power, water, air), interconnections with shipboard piping and equipment, storage requirements, other ancillary requirements, may be required for operation of this system in a ship?

4. What electrical, instrumentation and control (EI&C) components may be required to operate the proposed BWT system in a ship?

5. What are your plans regarding how can these components may be integrated with the existing shipboard ballast system, including:

Power demand?

Main and local control panels?

Power distribution system?

Power quality equipment?

Instrumentation and control system architecture?

Process control?

6. What health and safety risks may be associated with proposed BWT system, including materials storage, handling and disposal? What health and safety certification/training may be required for system operators? Please attach the MSDS for any chemical components of the treatment system.

7. What start-up, normal and emergency operating and shutdown procedures may be required for the BWT system?

8. What do you believe the overall reliability of the proposed BWT system (e.g., percent downtime per 1,000 hrs of operation) will be?

F. Cost-Effectiveness (i.e., the proposed treatment system will not bear significant net costs relative to other types of ballast treatment, considering effects on ballasting time, crew time demands, capital costs, operating costs, or structural decay)

Please indicate the state of knowledge associated with the extent to which operation will:

1. Significantly slow ballasting rate (please check one);

Unknown Unknown but reason to believe not significantly Certain not significantly

2. Add significantly to crew time demands (please check one);

Unknown Unknown but reason to believe not significantly Certain not significantly

3. Require significantly higher capital cost for purchase, operation (including consideration of any structural impacts on ships) and/or installation than other ballast systems (please check one);

Unknown Unknown but reason to believe not significantly Certain not significantly

Please attach and clearly label all findings/supporting information.

G. Research and Development Needs

Describe the research and development needs that you would like addressed through GSI research services.

V. PROJECT INSTALLATION SCHEDULE

1. Please indicate **the number of days** lead time you would require following any notice of award to deliver a treatment system capable of 300 m³/hour flow rates.

2. Please indicate **the number of days** required to commission the equipment for testing at the site once delivered.

3. Will you be able to provide a system representative qualified to respond to any mechanical issues that may arise around system operation to be present at the site during hook-up and testing?

Yes No

VI. ATTACHMENTS

Ensure the following attachments are included with your application.

- One of the following for any private entity:
 - a. Professional references (3 or more), and, if relevant,
 - b. Most recent audited financial statements;
- Notification of any SEC, IRS or other government agency review, investigation or actions.
- Proof of appropriate insurance against liability for injury to persons or property.
- Certificate of Incorporation (if applicable).
- Correctly labeled supporting information/relevant attachments with full author reference information.

VII. SIGNATURE OF APPLICANT

I certify that the above information is true and accurate.

Signature of Executive or Project Officer

Date

Name, Title