

Checklist for Applicant		
Application for Shipboard Technology Evaluation Program (STEP)		
Documents Required	Completed: Yes-No-NA	Comments
1.0 Letter of Commitment	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
2.0 Environmental Compliance	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<i>2.1 Conditioning of treated water prior to discharge, and assessment of discharge water</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<i>2.2 Management of treatment waste streams</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<i>2.3 Literature Search</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<i>2.4 Documentation</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
3.0 Documentation of prior experiments demonstrating efficacy of the Applicant's treatment system	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<i>3.1 Laboratory experiments (bench scale)</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<i>3.2 Shore side experiments (intermediate scale)</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<i>3.3 Onboard experiments (intermediate or full scale)</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<i>3.4 Data submission requirements</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Checklist for Applicant (page 2)		
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Documents Required	Completed: Yes-No-NA	Comments
4.0 Study Plan	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.1 Format Requirements	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2 Test Organization and Staff	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2.1 Ship owner and operator	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2.2 System vendor(s)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2.3 Test team and affiliations	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2.3.1 Management	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2.3.2 Technical staff	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2.3.3 Laboratories	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2.4 Testing Flow Chart	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.2.5 Public funding sources	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Checklist for Applicant (page 3)		
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Documents Required	Completed: Yes-No-NA	Comments
4.3 Description of Vessel and Ballast Water Treatment System	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.3.1 Test Ship, Location, and Conditions	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.3.2 Treatment System Overview	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.3.3 Treatment Stages	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.3.3.1 Stage #1	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.3.3.2 Stage #2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.3.3.3 Stage #3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.3.4 Powering and other engineering matters	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.3.5 Controls and monitoring	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Checklist for Applicant (page 4)		
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Documents Required	Completed: Yes-No-NA	Comments
4.4 Experimental Design and Protocols	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.1 General Description	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.2 Goals for treatment effectiveness by target taxa	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.2.1 Treatment effectiveness on target taxa	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.2.2 Comparison with ballast water exchange effectiveness	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.3 Experimental Design	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.3.1 Sample collection for each treatment and control.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.3.2 Description of the number of test runs.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.3.3 Range of operational and environmental conditions	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.3.4 Measurement of treatment system and ballast water exchange performance	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.3.5 Experimental comparison of treatment system to BWE	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.3.6 Reporting procedures.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Checklist for Applicant (page 5) Application for Shipboard Technology Evaluation Program (STEP)		
Documents Required	Completed: Yes-No-NA	Comments
4.4.4 <i>Sample collection and analytical protocols, including standard operating procedures</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.4.1 <i>Sample collection and handling</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.4.2 <i>Laboratory/field measurement procedures</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.4.3 <i>Sample archives</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.5 <i>Quality assurance and control for sampling and analysis</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.6 <i>Schedule and milestones</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.7 <i>Review Panel observation of primary tests</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.4.8 <i>Other measures of success</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Checklist for Applicant (page 6)		
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Documents Required	Completed: Yes-No-NA	Comments
4.5 Engineering and Vessel Operations Matters	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.5.1 Treatment system configuration	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.5.1.1 Engineering Documentation Package	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.5.1.2 Mechanical Layout Drawings, PFDs, and P&IDs	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.5.2 Ship operations interface and crew labor impacts	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.5.3 Maintenance and reliability	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.5.4 Classification society approval	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.6 Human Health and Safety	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.6.1 Exposure to treatment system media	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.6.2 Safety impacts of treatment system	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.7 Long Term Treatment System Performance Monitoring	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.7.1 Treatment performance	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.7.2 Engineering performance	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4.7.3 Reporting requirements	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	