



Request for Proposals (RFP)

Environmental Impact of Exhaust Gas Cleaning Systems (Scrubbers) in Canadian Waters

Clear Seas Centre for Responsible Marine Shipping

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PROBLEM STATEMENT

Clear Seas Centre for Responsible Marine Shipping requires consulting services to evaluate the environmental impact of ship-source exhaust gas cleaning systems (EGCS or scrubbers) used to reduce sulphur oxide (SO_x) emissions from commercial marine ships. As fuel is a significant component of operating costs, the International Maritime Organization's (IMO) regulation limiting SO_x emissions is anticipated to result in a marine shipping industry paradigm shift. From 2020, ships must comply with the new regulations by limiting SO_x content in exhaust either by using a fuel containing less than 0.5% sulphur or by using scrubbers.¹

Scrubbers remove sulphur particles from fuel using water after combustion. This technology allows for continued heavy fuel oil (HFO) use but has a capital cost for installation and reduces fuel efficiency by 1.5-3.5%.² As the January 2020 deadline approaches, some ship owners have installed or intend to install scrubbers on both new and existing vessels. Estimates indicate at least 2% of the world fleet will rely on scrubbers by 2020 to comply with SO_x regulations, with the potential for a significantly higher proportion in the future.^{3,4}

This evaluation intends to assess scrubbers' overall environmental impact: both the reduction of SO_x emissions and the production of harmful wastes, either disposed of in the ocean (open-loop system) or on land (closed-loop system). Although some aspects of washwater discharge quality are regulated under MARPOL, the potential environmental impacts of the disposal of scrubber waste remain understudied.

This study also seeks to compare the overall pollution impact of scrubbers with low-sulphur fuel oil (LSFO), using HFO as a baseline of comparison.

COMPANY INFORMATION

Clear Seas Centre for Responsible Marine Shipping is an independent, not-for-profit research centre that provides impartial and fact-based information about marine shipping in Canada. Led by a Board of Directors and advised by a Research Advisory Committee, Clear Seas' work focuses on identifying and sharing best practices for safe and sustainable marine shipping in Canada, encompassing the human, environmental, and economic impacts of the shipping industry.

All Clear Seas reports are publicly released and made available at clearseas.org.

¹ <http://www.ics-shipping.org/docs/default-source/key-issues-2018/the-global-sulphur-cap-is-coming.pdf>

² <https://www.cedelft.eu/en/publications/1618/scrubbers-an-economic-and-ecological-assessment>

³ <https://www.dnvgl.com/news/installation-of-exhaust-gas-cleaning-systems-sox-scrubbers-some-practical-recommendations-131328>

⁴

[https://webapp.sebgroup.com/mbs/research.nsf/0/E834E255E4EAC463C1258257006C2C69/\\$FILE/SEB_IMO2020_Report_March_2018.pdf](https://webapp.sebgroup.com/mbs/research.nsf/0/E834E255E4EAC463C1258257006C2C69/$FILE/SEB_IMO2020_Report_March_2018.pdf)

SCOPE OF WORK

This study is intended to provide an analysis of the net environmental impacts of scrubber use in two phases, first by comparing scrubbers and LSFO use, with HFO as the baseline, in terms of wastes produced from fuel combustion; and second by assessing the potential harm to Canadian coastal waters from the use of open-loop scrubbers due to acidification, eutrophication, and accumulation of hazardous substances.

Over 60% of ordered or installed exhaust gas cleaning systems are open-loop scrubbers (saltwater scrubbers),⁵ with the remainder closed-loop (freshwater scrubbers) or hybrid systems. Open-loop are the cheapest and simplest to operate, relying on the natural alkalinity of seawater to absorb the extracted waste material – up to 90% of sulphur emissions and 70% of particulate matter. Closed-loop systems require a cleaning agent to treat the washwater and require landside disposal of the accumulated waste. Hybrid systems can use either approach.

The potential environmental and health impacts of different types of scrubbers have not been fully investigated. Certain parties, such as the advocacy group Clean Shipping Alliance 2020 and the Exhaust Gas Cleaning Systems Association, state “there is no evidence whatsoever that scrubber discharges have or do cause harm to the aquatic environment.”^{6, 7} However, other sources – Hassellöv et al., 2013⁸ and Turner et al., 2017⁹ – have identified potential consequences for the marine environment as a result of scrubber release of acidic oxides, metals, and other toxic substances. To date, several jurisdictions have banned the use of open-loop scrubbers while others are considering such a ban in port or coastal waters.

The first phase of the research is expected to assess the overall environmental impact of SO_x reduction options by analyzing the quantity and composition of waste produced in the following scenarios:

1. Ships with open-loop scrubbers
2. Ships with closed-loop scrubbers
3. Ships using LSFO
4. Ships using HFO

The second phase of the research is expected to measure the impact of open-loop scrubbers on coastal waters in Canada by investigating whether concentrations of acid oxides and other hazardous substances sufficient to harm coastal ecosystems are likely to accumulate under the following scenarios:

⁵ <https://shipandbunker.com/news/world/811942-imo-2020-how-many-ships-have-scrubbers>

⁶ <https://shipandbunker.com/news/world/523303-alfa-laval-moves-to-guard-against-potential-open-loop-scrubber-ban>

⁷ <https://shipandbunker.com/news/world/526908-scrubber-washwater-is-not-harmful-to-the-sea-says-csa2020>

⁸ <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/grl.50521>

⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5857262/>

1. 10% of ship traffic uses open-loop scrubbers
2. 50% of ship traffic uses open-loop scrubbers
3. 100% of ship traffic uses open-loop scrubbers

The target audience of this report is the public and policymakers. Clear Seas encourages the support of a scientific communications specialist during the report writing process to increase accessibility of the research findings.

Key tasks include:

- Participate in an initial meeting in person or by phone with Clear Seas' representative(s) upon the issuance of the contract to review all functions related to the execution of the project, confirm milestone dates and deliverables and review methodology.
- Conduct a short meeting by phone once every two weeks with Clear Seas' representative(s) to review progress and expectations.
- Assess and compare the net pollution that ships produce from fuel combustion, including quantity and content of air pollution, washwater, and sludge, under the following scenarios:
 - Ships with open-loop scrubbers assessing implications of ocean-based disposal of waste
 - Ships with closed-loop scrubbers assessing implications of land-based disposal of waste
 - Ships using LSFO, either 0.1% sulphur content in the North America Emission Control Area or 0.5% sulphur content in Arctic waters
 - Ships using HFO assessing the baseline scenario

The pollutants for consideration include but are not necessarily limited to SO_x, NO_x, CO₂ and particulate matter, metals, polycyclic aromatic hydrocarbons (PAHs). The respondent is expected to propose a methodology for this comparative analysis, such as a suitable representative vessel and other relevant parameters (e.g., vessel age, design, load, speed, and engine type).

- Estimate the impact of open-loop scrubbers on coastal waters in Canada (defined as inland waters, territorial sea and contiguous zone) by evaluating the distribution and concentration of the above-mentioned pollutants between 2020 and 2025 under the following scenarios:
 - 10% of ship traffic-hours use open-loop scrubbers
 - 50% of ship traffic-hours use open-loop scrubbers
 - 100% of ship traffic-hours use open-loop scrubbers

- Determine whether the previously identified pollutant distribution and concentration is likely to cause harm to ecosystems in Canada’s coastal waters between 2020 and 2025 under the same scenarios. The potential harm such pollutants may cause to ecosystems on Canada’s Pacific, Atlantic, and Arctic coasts includes but is not necessarily limited to chemical oxygen demand, eutrophication, metal toxicity, turbidity, and ocean acidification.
- Compare the net environmental impact of the different options considered in this study to rank the means to achieve compliance with the IMO’s 2020 sulphur cap while minimizing additional environmental harm.

This Scope of Work specifically excludes consideration of the cost or availability of scrubbers. It is acknowledged to be unlikely for 100% of the ship traffic in Canadian waters to be using scrubbers, but this study seeks to consider the full range of possibilities. This study is not evaluating the blend, source or availability of the different fuel types, only the expected sulphur content maximums of 3.5% sulphur for HFO, 0.1% sulphur for LSFO used in the North American Emission Control Area, and 0.5% sulphur for LSFO used in the Canadian Arctic.

TIMELINE

Following the execution of the contract with the successful respondent (the Contractor), Clear Seas anticipates the following schedule:

Responsible Party	Task	Timing
Contractor	Prepare and deliver an outline of the study and of the final report	Within 1 week
Contractor	Prepare and deliver the draft report and reference library	Within 10 weeks
Clear Seas	Review and provide feedback on draft report	Within 11 weeks
Contractor	Incorporate feedback and provide revised draft report for confidential stakeholder review	Within 12 weeks
Clear Seas	Provide stakeholder feedback and final comments on revised draft report	Within 15 weeks
Contractor	Prepare and deliver the final report	Within 16 weeks

BUDGET

The Contractor is expected to submit the estimated level of effort for each phase of the project and a quote for each phase based on a fixed price, including professional fees, expected expenditures and miscellaneous expenses.

DELIVERABLES

The Contractor will be required to prepare and submit the following deliverables:

- **Deliverable #1:** Provide an outline of the study and of the final report prior to initiating work.
- **Deliverable #2:** Prepare and submit an electronic copy of the draft report to Clear Seas for review and comment. The draft report is to be prepared using the template provided by Clear Seas.
- **Deliverable #3:** Provide a library of reference material used in the development of the study for Clear Seas' use while reviewing the draft report.
- **Deliverable #4:** Revise draft report based on Clear Seas' comments and prepare a revised draft report for confidential stakeholder review.
- **Deliverable #5:** Incorporate additional comments and feedback from stakeholder review and prepare and submit the final report (electronic version only).

The deliverables should address the components of the scope indicated above, include all relevant background documentation such as sources of information used in the development of the study, bibliography, methodology, assumptions, analysis, limitations and results, and incorporate comments, if any, received from Clear Seas and Clear Seas' stakeholders on the draft version.

All Clear Seas reports are publicly released and made available at clearseas.org.

CONTRACT TERMS & CONDITIONS

See Appendix A for Clear Seas' Service Agreement which is proposed to apply to this project.

CONTRACTOR SELECTION PROCESS

The selection criteria are provided in Appendix B. Briefly, the Contractor will be selected based on:

- Cost to provide the defined Scope of Work
- Ability to meet defined project timelines
- Methodology proposed to conduct the work
- Composition and experience of project team
- Past experience with environmental impact assessment of ship-source emissions
- Other experience relating to scrubber systems, marine fuels, and marine ecosystems

SUBMISSION DETAILS

In response to this RFP, a proposed Contractor must:

1. Email Meghan Mathieson (meghan.mathieson@clearseas.org), Research Manager with a LUMP SUM bid for the work outlined in this RFP that is to be valid for 60 calendar days after the closing date. Bid to provide following cost breakdown:
 - Total LUMP SUM contract amount in Canadian funds exclusive of GST
 - Breakdown of expected expenditures and miscellaneous expenses
 - Rate (\$/hr) for additional professional services beyond the scope of the contract
2. Include an outline of the methodology to collect the necessary data, conduct the requested analysis, and provide the requested deliverables.
3. Provide Clear Seas with timeline and milestones for deliverables to be written into the service contract. Contractor to include a weekly email update and biweekly conference call (~30 minutes with Clear Seas' Research Manager) outlining the project status and any issues within the contracted scope of work, including % of work completed and % of planned effort expended.
4. Demonstrate previous experience in the areas outlined within this RFP.
5. List of proposed key personnel and their relevant experience. Access to translation services for English to French will be considered favourably but is not required.
6. Declare any potential conflicts of interest.
7. Adhere to the following guidelines in response:
 - a. PDF for electronic submission
 - b. Maximum of 10 pages (excluding resumes and sample report)
 - c. Regular 12-point Arial or Times New Roman font with margins of 2.5 cm
 - d. Structure:
 - i. Research Plan, including methodological approach
 - ii. Declaration of conflict of interest
 - iii. Deliverables
 - iv. Key personnel qualifications
 - v. Costs
 - vi. Schedule, including timeline and milestones
 - vii. Resumes for key personnel
 - viii. Sample report

Bid responses will be accepted until 5 PM Pacific time February 6, 2019. Clear Seas expects to award the contract no later than February 15, 2019. Clear Seas reserves the right to cancel or reissue this bid solicitation at any time, negotiate with a sole bidder or accept or reject any or all bids received in response to this bid solicitation.

We look forward to your submission, and any further questions can be directed to:

Meghan Mathieson, MBA

Research Manager

Clear Seas Center for Responsible Marine Shipping

355 Burrard Street, Suite 630, Vancouver, BC V6C 2G8

604.408.1648 [ext. 105] | meghan.mathieson@clearseas.org

APPENDIX A – Service Agreement

This Agreement (the “**Agreement**”) is made as of the ___ day of _____, 20__.

BETWEEN:

CLEAR SEAS CENTRE FOR RESPONSIBLE MARINE SHIPPING SOCIETY, a society incorporated under the laws of British Columbia and having an office at 630 – 355 Burrard Street, Vancouver, BC V6C 2G8.

(“**Clear Seas**”)

AND:

▼ [Insert Contractor’s full legal name] having an office at _____

(the “**Contractor**”)

WHEREAS:

- A. The Contractor is in the business of providing ▼ [Describe type of services] services; and
- B. Clear Seas wishes to engage the Contractor to perform the Services (as defined herein), and the Contractor agrees to provide the Services to Clear Seas in accordance with the terms and conditions set out in this Agreement, including any terms and conditions that may be set out in other documents incorporated by reference into this Agreement.

THEREFORE in consideration of the agreements and covenants set out in this Agreement Clear Seas and the Contractor agree as follows:

SERVICES

Services

Clear Seas hereby retains the Contractor to provide the services as described generally in Schedule A to this Agreement (the “**Services**”). Clear Seas may deliver to the Contractor variations to the Services in writing or may request the Contractor to submit proposals for variations to the Services.

Standard of Care

The Contractor agrees that it will:

perform the Services with that degree of care, skill and diligence normally provided by a qualified and experienced practitioner performing services similar to the Services, and on the understanding that Clear Seas is relying on the Contractor's experience and expertise;

comply with all reasonable requests from Clear Seas in relation to providing the Services; and

comply, at its own expense, with all relevant legal requirements, and to apply for and obtain all consents required for providing the Services.

Access by Contractor

Where the Contractor requires access to Clear Seas' premises, access will be available at such times as agreed by the parties. When accessing Clear Seas' premises, the Contractor agrees to comply with the policies of Clear Seas, including those in relation to security and occupational health and safety.

Clear Seas may grant, in its absolute and sole discretion, to the Contractor temporary access to Clear Seas' information technology, systems and data (the "**IT Systems**") for the limited purpose of providing the Services. The Contractor will only use and access Clear Seas' IT Systems to provide the Services during the Term. At Clear Seas' option, any access to Clear Seas' IT Systems may be restricted or removed at any time.

Time is of the Essence

The Contractor acknowledges that time is of the essence with respect to the provision of the Services and accordingly the Contractor will undertake the Services in a timely manner, and in accordance with any milestone dates as may be agreed to in writing by Clear Seas and the Contractor.

Independent Contractor

The parties acknowledge that in entering into this agreement and in providing the Services, the Contractor has and will have the status of an independent contractor and that nothing in this Agreement will contemplate or constitute the Contractor as an agent, partner or employee of Clear Seas for any purpose.

FEES

Fees

In exchange for the Services, Clear Seas will pay to the Contractor the fixed fee of \$▼ (the "**Fee**") for performance of the Services described in Schedule A plus applicable GST.

Disbursements

Unless specifically set out in Schedule A affixed hereto, the Contractor will not be reimbursed for travel, office and other general overhead expenses related to the Contractor's performance of the Services.

Payment

Payment terms will be as follows:

Clear Seas will pay the Contractor a deposit of \$▼ on account of the Services to be performed by the Contractor; and

the balance of the Fee will be payable on the following basis:

the Contractor will submit an invoice to Clear Seas requesting payment of the applicable portion of the Fee for performance of the Services as each milestone set out in Schedule A is met plus any permitted disbursements incurred (if applicable), together with receipts and invoices for all permitted disbursements claimed (the Contractor will reduce the amount of the first invoice, and subsequent invoices, as applicable, to apply the deposit paid by Clear Seas); and

Clear Seas will pay the portion of an invoice which Clear Seas determines is payable within 30 days of the receipt of the invoice.

Payment by Clear Seas of the Fee and any permitted disbursements will be full payment for the Services and the Contractor will not be entitled to receive any additional payment from Clear Seas.

INSURANCE AND INDEMNITY**Contractor's Insurance Policies**

The Contractor will, on request from Clear Seas, provide evidence, satisfactory to Clear Seas, of all the Contractor's insurance policies providing coverage relating to the Services, including any professional liability insurance policies.

Indemnity

The Contractor will indemnify and save harmless Clear Seas and all its directors, officers, employees, servants, representatives and agents from and against all claims, demands, causes of action, suits, losses, damages and costs, liabilities, expenses and judgments (including all actual legal costs) which Clear Seas or its directors, officers, employees, servants, representatives or agents incur, suffer or are put to arising out of or in connection with any failure, breach or non-performance by the Contractor of any obligation of this Agreement, or any wrongful or negligent act of the Contractor or any employee or agent of the Contractor. This

indemnity will survive the termination or completion of this Agreement and, notwithstanding such termination or completion, will continue in full force and effect for the benefit of Clear Seas.

Deductions and Remittances

The Contractor is solely responsible for the deduction and remittance of all statutory remittances and deductions, including without limitation income tax, CPP and EI, in respect of all amounts paid by Clear Seas to the Contractor under this Agreement and in respect of any employees or subcontractors retained by the Contractor to perform the Services. Furthermore, if these amounts are not remitted, the Contractor will indemnify and hold harmless Clear Seas from and against any claim for taxes, penalties and for withholding of funds by the Canada Revenue Agency, the Employment Insurance Commission, the Canada Pension Commission, WorkSafeBC, the British Columbia Employment Standards Branch or any other government agency with respect to any amount found to be payable by Clear Seas to such agency or commission in respect of the Fees (and the Services) including any legal fees incurred by Clear Seas in defending such claims.

TERMINATION

Clear Seas may terminate this Agreement at any time and for any reason whatsoever by giving written notice of termination to the Contractor. Clear Seas will pay the Contractor for Services performed by the Contractor (a percentage of the Fee based on the percentage of the Services completed), and permitted disbursements incurred by the Contractor, up to and including the date of termination. Upon payment of such amounts no other payment will be owed by Clear Seas to the Contractor, and, for certainty, no amount will be owing on account of lost profits relating to the portion of any Services not performed. If the amount payable for Services performed is less than the amount of the deposit paid by Clear Seas, the Contractor will refund the balance to Clear Seas.

CONFIDENTIALITY AND DISCLOSURE OF INFORMATION

[Except as provided for by law or otherwise by this agreement, the Contractor will keep strictly confidential any information supplied to, obtained by, or which comes to the knowledge of the Contractor as a result of the performance of the Services and this Agreement (the “**Confidential Information**”), and will not, without the prior express written consent of Clear Seas, publish, release, disclose or permit to be disclosed any such information to any person or corporation, either before, during or after termination of this Agreement, except as reasonably required to complete the Services.]

[OR use the following language if wish to couple this services Agreement with the generic NDA]

[The Contractor agrees that, either before or immediately following its execution of this Agreement, it will enter into a non-disclosure agreement with Clear Seas (the “**NDA**”) in substantially the same form as set out in Schedule B attached hereto to govern how the Contractor handles Clear Seas’ Confidential Information (as such term is defined in the NDA).]

PRIVACY

Privacy

The Contractor acknowledges that as a service provider to Clear Seas, it is subject to the *Personal Information Protection Act* (British Columbia) (“**PIPA**”), and in particular the provisions concerning the protection, use and disclosure of personal information, as defined by PIPA (“**Personal Information**”). The Contractor agrees to comply with all applicable requirements of PIPA as service providers, including without limitation:

any applicable order of the commissioner under PIPA; and

any direction given by Clear Seas under this Agreement.

The Contractor will ensure that the Services are provided so as to comply with the confidentiality obligations under this Agreement and/or the requirements of PIPA, as applicable.

WORK PRODUCT

Definition

For the purposes of this agreement, “**Work Product**” means all of the work product that the Contractor prepares and delivers to Clear Seas as part of the Services.

Ownership of Work Product

Clear Seas will be the exclusive owner of the Work Product, and the Contractor agrees to assign and cause its employees, agents and contractors to assign to Clear Seas, effective at the time of creation, all right, title and interest, including all copyright, in and to the Work Product. The Contractor also hereby irrevocably waives and agrees to waive and cause its employees, agents and contractors to waive in favour of Clear Seas and its successors, assigns and licensees any and all moral rights which it may have in and to the Work Product.

The Contractor will keep and maintain adequate and written records of all Work Product made. These records will be available to Clear Seas and will be the sole property of Clear Seas. The Contractor agrees not to, and not to cause or permit anyone else to, include any third party intellectual property into the Work Product unless otherwise agreed in writing by Clear Seas. The Contractor will assist Clear Seas in obtaining and enforcing, for Clear Seas' benefit, patents, copyrights and any other protections in any and all countries for any and all Work Product made by the Contractor (in whole or in part) the rights to which belong to or have been assigned to Clear Seas. The Contractor agrees, upon request, to execute all applications, assignments, instruments and papers and perform all acts that Clear Seas or its counsel may deem necessary or desirable to obtain any and all patents, copyrights or other protection in such Work Product and to protect the interests of Clear Seas therein.

NO COMMITMENT TO FUTURE WORK

The parties have entered into this Agreement on the basis that Clear Seas makes no commitment to retain the Contractor to perform any additional services.

DISPUTE RESOLUTION

Notice of Dispute

Any dispute under this Agreement which cannot be resolved by the parties within thirty (30) days of one party giving written notice to the other of a dispute will be mediated.

Mediation

Clear Seas and the Contractor will agree on the choice of mediator and will share the cost equally. If Clear Seas and the Contractor cannot agree on the choice of mediator within forty-five (45) days of one party giving written notice to the other of a dispute, then the President of the British Columbia Arbitration & Mediation Institute will be requested to appoint a mediator.

Mediation Rules

The National Mediation Rules and Code of Conduct for Mediators will apply to the mediation.

GENERAL

Applicable Laws

This Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia.

Compliance with Laws and Clear Seas' Rules

The Contractor will provide the Services in full compliance with all applicable laws. The Contractor agrees to abide by all of Clear Seas' applicable policies, security and safety regulations provided to it.

The Contractor agrees that it will comply with all applicable health and safety regulations including the *Workers Compensation Act*. On request from Clear Seas, the Contractor will provide evidence of registration and good standing with WorkSafeBC or other provincial body as relevant to the Contractor's location under the *Workers Compensation Act*.

Subcontracting and Assignment

The Contractor will not sub-contract or assign its obligations under this Agreement, in whole or in part, without the prior written approval of Clear Seas.

Entire Agreement

This Agreement, including [the NDA and] **[delete square brackets if NDA not used]** all attached schedules, contains the entire Agreement of the parties regarding the provision of Services and no understandings or agreements, oral or otherwise, exist between the parties except as expressly set out in this Agreement.

Further Assurances

Each of the parties will execute and deliver (and cause to be executed and delivered) such further and other documents and do and perform (and cause to be done and performed) such further and other acts or things as may be necessary or desirable to give full effect to this Agreement, including the execution and delivery of assignments of title to and copyright in the Work Product, and waivers of moral rights, in favour of Clear Seas, at the request of Clear Seas from time to time.

Amendment

This Agreement may be amended only by agreement in writing, signed by both parties.

Notices

Any notice, report or other document that either party may be required or may wish to give to the other must be in writing, and will be deemed to be validly given to and received by the addressee, if served personally, on the date of such personal service or, if delivered by mail, fax or email, when received. The addresses for delivery will be as follows:

To Clear Seas at:
630 – 335 Burrard Street,
Vancouver, BC V6C 2G8
Attention: ▼
Fax: ▼
E-mail: ▼

To the Contractor at:

▼
▼
Attention: ▼
Fax: ▼
E-mail: ▼

Unenforceability

If any provision of this agreement is invalid or unenforceable, it will be severed from the Agreement and will not affect the enforceability or validity of the remaining provisions of the Agreement.

Headings

The headings in this agreement are inserted for convenience of reference only and will not form part of nor affect the interpretation of this Agreement.

Waiver

No waiver by either party of any breach by the other party of any of its covenants, obligations and agreements will be a waiver of any subsequent breach or of any other covenant, obligation or Agreement, nor will any forbearance to seek a remedy for any breach be a waiver of any rights and remedies with respect to such or any subsequent breach.

IN WITNESS WHEREOF the parties have duly executed this Agreement as of the day and year first above written.

[If Contractor is a corporation, use the following execution blocks]

**CLEAR SEAS CENTRE FOR RESPONSIBLE
MARINE SHIPPING SOCIETY**

**▼ [INSERT FULL LEGAL NAME OF
CONTRACTOR]**

Per: _____
Authorized Signatory

Per: _____

OR

[If Contractor is an individual, use the following execution blocks]

**CLEAR SEAS CENTRE FOR RESPONSIBLE
MARINE SHIPPING SOCIETY**

Per: _____
Authorized Signatory

SIGNED AND DELIVERED in the presence of:)

)

)

)

)

Signature of Witness

)

**[INSERT FULL LEGAL NAME OF
CONTRACTOR]**

Name of Witness

)

)

Address

)

)

Occupation

)

)

SCHEDULE A – SCOPE OF SERVICES

[describe milestones and percentage of fee payable at each milestone]

SCHEDULE B – NDA

[delete this Schedule B if NDA not opted to be included in Services Agreement]

APPENDIX B – Evaluation Criteria

Experience	Score
Team has necessary technical and project management experience to successfully complete the work and report	
Team has a good track record in this research field	
Team provides a unique insight to this issue	
Canadian company (Y/N) and/or working in Canada (Y/N)	
Experience Score:	
Methodology	
Proposal methodology is realistic and sufficient to meet project objectives	
Proposal includes plan for quality assurance	
Proposal includes methodology to assess net environmental impact and effectiveness of SOx reduction options (fuel vs. scrubber)	
Proposal includes methodology to assess how open-loop scrubbers will impact Canadian coastal ecosystems	
Methodology Score:	
Schedule	
Schedule compared to other respondents' schedules (start/end dates and time to complete)	
Proposal includes project schedule aligned with RFP timeline	
Proposal includes milestones for deliverables	
Proposed schedule is aligned with proposed methodology and budget	
Schedule Score:	
Cost	
Proposed LUMP SUM budget amount	
Budget ranking (lowest budget = 5; highest budget = 1)	
Proposal includes comprehensive breakdown of costs	
The proposed deliverables are worth the cost	
The budget is sufficient to provide the deliverables in accordance with the timeline	
Cost Score:	
Final Ranking	

Interpretation	Scale
Excellent. The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.	5
Very Good. The proposal addresses the criterion very well, but a small number of shortcomings are present.	4
Good. The proposal addresses the criterion well, but a number of shortcomings are present.	3
Fair. The proposal broadly addresses the criterion, but there are significant weaknesses.	2
Poor. The criterion is inadequately addressed, or there are serious inherent weaknesses.	1
Fail. The proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.	0

Category	Weighting
Experience	40
Methodology	20
Schedule	20
Cost	20