Request for Proposals
Feasibility Study: Tidal Sector Service Barge/Drydock

RFP Release Date: Tuesday, February 6, 2018
Proposal Due Date: Monday, March 5th 2018; 4 pm (Atlantic Time)

Contract Manager
Rodrigo Menafra, Research Manager
Offshore Energy Research Association (OERA)
1690 Hollis Street
Unit 1001
Halifax, NS B3J 1V7
rmenafra@oera.ca
902.406.7018
Context

The Nova Scotia Department of Energy (DOE) is committed to the sustainable development of Nova Scotia’s tidal energy potential to the benefit of all its citizens. Both the provincial and federal governments have in the past and continue to make research and infrastructure investments to ensure the economic benefits of this emerging industry will be captured by Nova Scotia’s technology and service providers.

Marine operational experience in the Bay of Fundy and elsewhere in the world has highlighted the difficulties and elevated costs associated with vessel operations in high flow environments. The recent Marine Renewable Energy (MRE) Infrastructure Assessment Update report suggests that a large, shared use submersible barge/drydock for turbine transport from the manufacturing site in Nova Scotia, and possibly deployment/retrieval might reduce operational costs, leading to more rapid tidal project implementation. A common use barge shared by different project developers for turbine transport may provide other services as well, such as facilitating device inspections and cable connections, and might possibly be useful to other marine industries (e.g., aquaculture).

The contracting organization for this request for proposal (RFP) is the Offshore Energy Research Association of Nova Scotia (OERA). OERA leads energy-related research projects that enable the sustainable development of Nova Scotia’s offshore energy resources through strategic partnerships with academia, government and industry.

Objectives

This study will investigate the feasibility of a generic, shared use, multi-function turbine transport, deployment and retrieval barge/drydock. This work would include discussions with project developers and local engineering firms to assess the utility, basic design features and preliminary costs of such a barge/drydock.

The objective of this study is to determine if there is an economic justification to proceed with the detailed design and build of a common use tidal deployment and retrieval barge/drydock. To achieve this objective, two primary tasks will be undertaken:

1) Determine the barge basic design and essential operational features that would result in cost savings to the different technology developers and other non-tidal marine operators; and

2) Describe (on a conceptual level) the ownership, operating modes and order-of-magnitude cost (design/construction) of such a barge.

1 Allswater et al. 2016, posted on OERA’s website here.
2 “Turbine” is used for simplicity. The project should consider various tidal energy conversion devices, including (for example) technology under development by Big Moon Power.
Scope of Work

The Respondent should be familiar with the two Nova Scotia infrastructure assessment reports conducted to date (the 2011 report is [here](#)). These reports describe the infrastructure requirements of tidal project developers themselves, along with existing infrastructure already in place around the Bay of Fundy. The Respondent should also be familiar with the supporting marine operations at other tidal energy projects around the world. While many operational requirements of a Nova Scotia service barge/drydock can be inferred from these information sources, the Respondent is expected to further assess these in discussions with local developers, service providers and engineering firms. Given the nature of this project, Respondents must have marine engineering (naval architecture) expertise within their project team.

Task 1: Vessel Rationale

Gather information regarding the technical drivers and service requirements of the barge/drydock. Using existing information (see below) and discussions with project developers, marine architects, local marine engineering firms and other marine operators, describe what operational needs the barge/drydock would meet and what design attributes it should have to meet these needs. This includes investigating the supporting role that such a vessel could play for other industries[^3]. In addition to its operational requirements as described by project developers, the Respondent should describe the operational constraints (current speed, draft requirements, lift capacity, etc.). This task will describe the potential benefits to project developers and to Nova Scotia service suppliers whom might be commissioned to build or utilize the vessel.

Gather information regarding the economic justification for such a barge. Describe how operational costs and project risks can be minimized using a barge/drydock, compared to the default scenario, mobilizing turbines from St John, NB.

Task 2: Ownership and Usage Models

Provide one or more vessel development and ownership scenarios and compare the advantages and disadvantages of each, as appropriate. Please address the following items and propose any other subjects that might be applicable:

1. Compare the costs and feasibility of procurement from elsewhere with a Nova Scotia design-build option. Consider lowest cost options such as the purchase and refit of a used vessel and equipment.
2. Compare ownership models, considering how such a vessel would be accessed by tidal project developers and other industries.
3. Describe the vessel’s expected order of magnitude cost and lifespan (to design, build, operate, decommission). Consider whether a modular approach (where new capabilities are ‘bolted’ on if/when they are needed by industry) is appropriate. Describe the estimated minimum use cost rate that would sustain the vessel.

[^3]: such as aquaculture, offshore wind, defense, transportation, oil and gas exploration, the Canadian Coast Guard (buoy and harbor maintenance, research), yacht clubs, Ports/Transport Canada, etc.
Task 3: Deliverables

Kickoff Meeting: The Respondent will attend (in person or via teleconference) a kickoff meeting with Department of Energy, Atlantic Canada Opportunities Agency (ACOA) and OERA staff. The general objective is to introduce staff, describe project administration, and discuss the project plan and expected outcomes, timing and deliverables. The Respondent will prepare an agenda and circulate post-meeting actions.

Draft and Final Reports: Approximately six weeks after project kickoff and upon completion of Tasks 1 & 2, the Respondent will submit a Draft Report for review and comment by the Department of Energy, ACOA and OERA staff. Approximately three weeks following submission of the Draft Report, OERA will convene a meeting with the Department, ACOA and Respondent to discuss the findings of the Draft Report. Respondent should expect significant feedback and comments on the Draft Report’s content, findings and direction. Following the meeting, OERA will consolidate and present one set of comments to the Respondent for incorporation in the Final Report. The Final Report will be submitted approximately three weeks following receipt of comments from OERA.

Project Funding

The total available funding for this project is $30,000 (including applicable taxes).

The project will be guided by a project management committee (PMC) consisting of representatives from the Department of Energy, ACOA and OERA.

Project Timelines

The Respondent must provide an estimated project schedule in the proposal. The following timelines are provided for guidance and can be flexible upon agreement between the Respondent and OERA. It is anticipated this project can be completed within 3 months.

- **RFP release date:** Tuesday, February 6, 2018
- **Proposal due date:** Monday, March 5, 2018; 4 pm (Atlantic Time)
- **Consultant selection:** Within two weeks of due date
- **Project kickoff:** Mid to late March 2018
- **Project completion:** June 30, 2018
Proposal Requirements

1. The proposal should be concisely worded with clearly described objectives, methods, timelines and outcomes.

2. The proposal should include a brief description of the Respondent’s company and its relevant experience with similar projects. The Respondent must also describe the relevant work experience of the staff assigned to this project. Please refrain from including excessive corporate information.

3. Familiarity with the tidal energy industry at the international level is an asset, along with an understanding of Nova Scotia’s tidal energy service sector, port facilities and other local subjects relevant to this RFP.

4. A simple task-cost breakdown and schedule must be included to illustrate the costs assigned to each task of the Respondent’s project plan. The Respondent’s cost estimate should clearly show the number of hours or days estimated to perform the services as well as the hourly or per diem rate of team members proposed for the project.

5. This funding is open to non-Canadian entities as well as project teams consisting of Canadian and non-Canadian partners. Funding cannot be used for travel costs.

Application

A single electronic document is sufficient. Please include:

- **One (1) Cover Letter** – This should be signed by an officer or equivalent with signing authority to bind the Respondent to the statements made in the proposal.

- **One (1) Proposal Copy** – As described in Proposal Requirements section above.

The file name should include an abbreviated form of the proponent’s name. The electronic copy should be uploaded in WORD and/or PDF format to the OERA-FTP site available at: [https://oera.sharefile.com/r-r1889b88e2f74367b](https://oera.sharefile.com/r-r1889b88e2f74367b)

Questions and Clarifications

The OERA will accept questions from interested applicants. A Q&A page will be available on the OERA website: [http://www.oera.ca/news/requests-for-proposals-funding/current-opportunities/](http://www.oera.ca/news/requests-for-proposals-funding/current-opportunities/). The names and organizations of those submitting questions will remain anonymous, whereby only the question and requisite OERA response will be posted. Throughout the Call process, interested parties are encouraged to check the Q&A page for updated information and/or clarifications that may help in completing their proposal.

Please submit your questions by email to Rodrigo Menafra, Research Manager at OERA (rmenafra@oera.ca). Questions will only be received until Wednesday, February 28th, 2018 at 4 pm (Atlantic Time).
**Evaluation**

Proposals will be quantitatively evaluated against a set of criteria by a project management committee (PMC).

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<th>Factor</th>
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<td><strong>Experience and Knowledge:</strong></td>
<td>Max: 40</td>
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<td>Qualifications and capabilities of the company and project delivery team; demonstration of local and international knowledge relevant to this study.</td>
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<td><strong>Project Plan, Approach and Methodology:</strong></td>
<td>Max: 30</td>
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<td>Proponent demonstrates an understanding of the project service requirements and has outlined a clear and effective workplan. Proposal describes the objectives, methodology, milestones and deliverables that will be used, and a sound approach in undertaking this project. Communication format and frequency between the Respondent and OERA are clearly described.</td>
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<td><strong>Timeline:</strong></td>
<td>Max: 10</td>
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<td>Proponent describes an achievable timeline with well-defined milestones and demonstrates the ability to complete the work on or before the desired completion date.</td>
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<td><strong>Cost:</strong></td>
<td>Max: 15</td>
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<td>The project will offer very good value for the proposed budget. The budget (task-cost breakdown) is clear, complete and well described.</td>
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<td><strong>Proposal Presentation</strong></td>
<td>Max: 5</td>
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<td>Includes all RFP requirements, demonstrates attention to clarity, grammar, presentation, comprehensibility, etc.</td>
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