



Request for Proposals

Ship Charter and Equipment 2021 Cruise

RFP Release Date: Monday, June 29th, 2020

Proposal Due Date: Monday, July 20th, 2020; 4 pm (Atlantic Time)

Contract Manager

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Purpose

The Offshore Energy Research Association (OERA), in partnership with the Nova Scotia Department of Energy and Mines (NSDEM), is leading the planning for a research cruise over portions of the Scotian Slope during the summer of 2021. Proposals are being sought from companies with the capability to conduct the cruise and undertake the ROV and coring activities described in this document. This work had been the subject of a previous Request for Proposals (RFP) and a decision had been issued by the Canadian Transportation Agency (CTA) that would have allowed the importation of a foreign flagged vessel to conduct this work in 2020. Due to ongoing requirements arising from the COVID-19 pandemic, OERA and NSDEM determined that conducting the work in 2020 would not be feasible. As a result, we are again requesting proposals to undertake this work. The maximum budget for the scope of work set out below has been set at \$1.45 million (Canadian). This has been established based on the total budget for the research program of which this is a component. Bids in excess of this amount will be deemed non-compliant and not be considered.

The remainder of the document provides more information on the outcomes expected from the cruise, the specific sites to be surveyed and sampled during the cruise, the approximate timing for the cruise(s), the content to be provided in responses to this RFP, and instructions for responding.

Expected Cruise Outcomes:

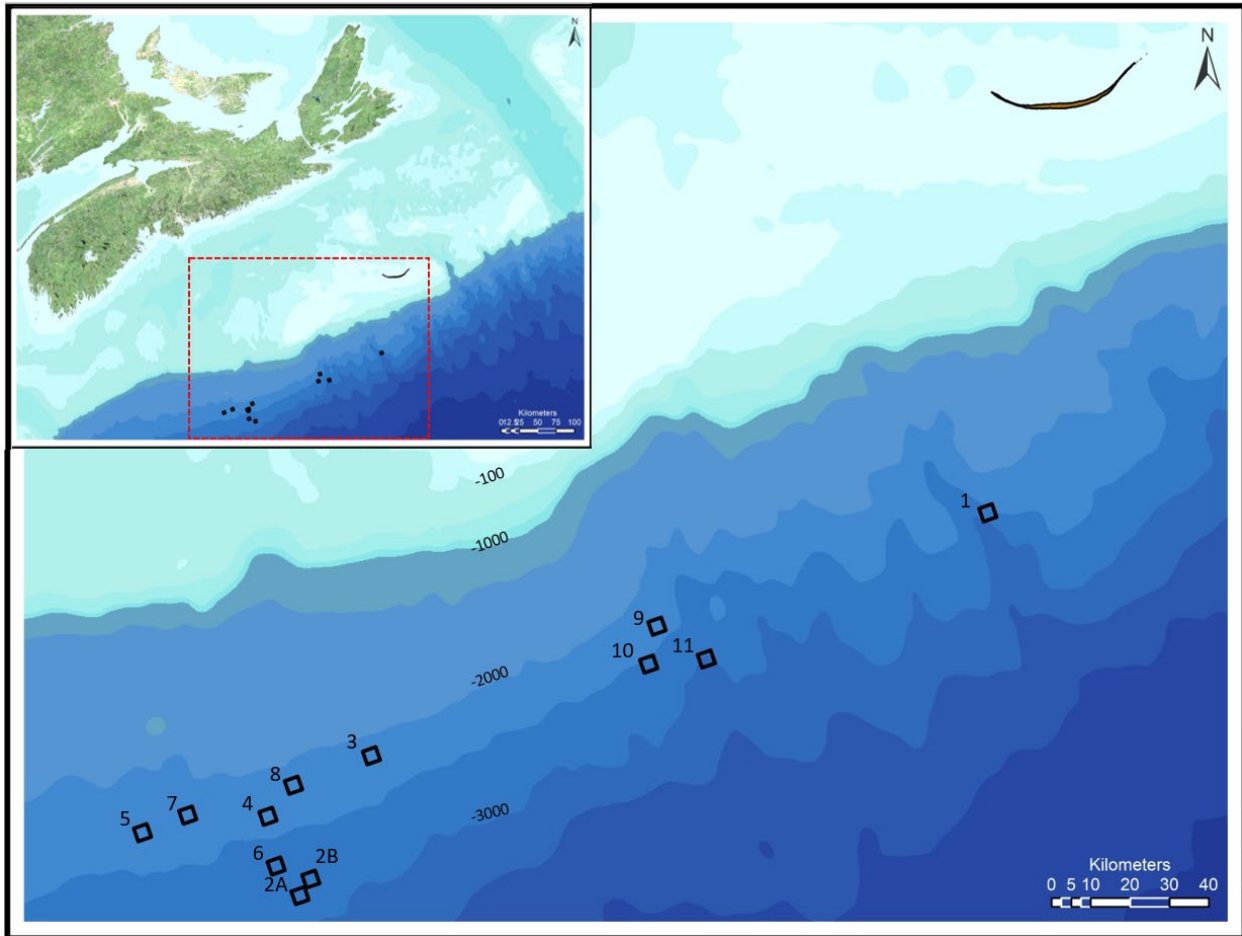
The vessel will provide a platform for the scientific team to collect samples and data, and to carry out preliminary analytical work. The scientific team will consist of approximately 12 individuals from the University of Calgary, Saint Mary's University, Natural Resources Canada, APT Canada Ltd. and possibly other organizations. Many of the team members have been on previous cruises and have worked together on a joint basis to accomplish the scientific objectives of those cruises. The vessel owner and any subcontractors will provide all ship crew as well as operators for the ROV and coring equipment. The charterer will appoint a chief scientist who will act as the principal liaison between the scientific team and the ship captain and officers. The ship and equipment to be provided are expected to be fully capable of enabling the attainment of the following scientific outcomes from the cruise.

1. Through the use of a deep water ROV (certified to at least 3000m) direct sampling of hydrocarbon seep sites showing evidence of thermogenic hydrocarbons, and to validate genomic bioassay strategies through the collection of sediment 'push cores' along transect lines.
2. Seabed samples in proximity to naturally occurring hydrocarbon seeps at these sites obtained using gravity coring and/or piston coring. Cost and operational considerations will determine whether or not piston coring is undertaken at particular sites for seabed sample collection.
3. Preservation of all samples for subsequent onshore scientific analyses by our co-partners (University of Calgary, Saint Mary's University and possibly others) with sample preservation and storage at 1) +4° C conditions 2) -20° C and 3) at -80° C.
4. Preliminary data and analytical results obtained through onboard geochemical and microbiological analysis of collected samples by our third-party consultant.

- Establishing the feasibility and utility of conducting onboard genetic sequencing as well as testing other new approaches to improve sampling accuracy, speed processing time and generate useful analytical results.

Survey Site Locations

The 2021 cruise will visit the sites along the Scotian Slope with approximate locations shown on the following map and table with longitudes, latitudes and water depths. Each location has extensive seafloor mapping from high resolution 3D seismic and or multibeam bathymetry. Additionally, it is anticipated that detailed AUV data will be available for some and possibly all of the sites.



Site No.	Latitude	Longitude	Approx. Water Depth (m)
1	43.019447	-60.23415	2405
2A	42.175935	-62.388752	2150
2B	42.213241	-62.355268	2730
3	42.494358	-62.164810	2800

4A	42.35783	-62.486237	2210
5	42.321726	-62.873808	2930
6	42.243926	-62.462052	2500
7	42.36132	-62.733508	2043
8	42.428344	-62.406798	2180
9	42.780886	-61.272628	2190
10	42.694123	-61.301123	2419
11	42.703055	-61.131644	3000

Cruise Timing

OERA and NSDEM expect the ROV and coring program to be conducted during the late spring or summer of 2021. The determining factors will be vessel and equipment availability, cost and operational considerations. The window for conducting the cruise is between the beginning of May 2021 and the end of September 2021. One factor that respondents should consider is the availability of a suitable ROV. With respect to the ROV, one that has been considered is ROPOS owned by the Canadian Scientific Submersible Facility. If this ROV is used, the cruise timing will be driven by its availability.

Basic Vessel Requirements

The following sets out the requirements that the vessel must meet in order to be considered capable for the planned cruise(s):

- Capable of operating in a deep water North Atlantic offshore environment.
- Ability to work within a dynamic schedule of shifting priorities as determined by the Chief Scientist.
- Minimum overall length of 60 m plus; draft of 5 m or more.
- Ability to operate without resupply for a minimum of 30 days.
- Established HSE policies and procedures with a track record of training and compliance.
- Officers and crew with the experience and the skills necessary to safely deploy and retrieve the equipment needed for the success of this cruise.
- Navigational system with suitable accuracy for a scientific research cruise of this nature.
- Dynamic positioning with accurate station keeping ability.
- Echosounder and sub-bottom profiler.
- ROV capable of operating in a minimum of 3000 m of water and with the capability to collect and store a minimum of 12 push cores during each dive, as well as the ability to collect high resolution still and video images. Other capabilities would be an asset.
- Plan for effective harsh environment launch and recovery for the ROV to prevent excessive down time.
- Sufficient open deck space for housing the ROV and associated operational/equipment modules, as well as coring equipment and accommodating core samples.

- Cabin space for no less than 12 scientific and technical personnel (ideally more).

Additional capabilities that qualified vessels should have are:

- A-frame or crane suitable for the deployment and recovery of sampling equipment.
- Winch capable of a 4000-4500 m cable spool of wire to compensate for drift with coring equipment.
- Coring equipment (piston or gravity and possibly a box corer)
- Laboratory space – a minimum of 25 sq. m. of laboratory space with 12 m of bench space suitable for both wet and dry lab work with suitable stable AC power availability.
- Space for sample preservation and storage including for core storage (+4 °C) and freezers, one operating at -20 and the other at -80 °C.
- Any additional equipment or capabilities that would help in achieving the objectives of the cruise.

Other Requirements and Considerations

Preference will be given to Canadian flagged vessels that meet the budgetary limit of \$1.45 million (Canadian). Any vessel modifications that may be needed to meet the vessel requirements as set out will be the responsibility of the vessel owner. Any proposed vessel that is more than 20 years old must provide a copy of the most recent marine survey conducted, confirm that all deficiencies have been fully addressed and provide certification that the vessel is fit for the intended purpose. The vessel owner must carry adequate and suitable insurance against all normal risks. Any additional insurance that must be obtained by the charterer must be specified. While there are always a number of unpreventable risks that may affect the ability to fully accomplish the objectives of the research cruise, the vessel owner is expected to clearly indicate the risks for which they are responsible and how those risks will be mitigated (e.g. mechanical breakdown as a consequence of inadequate maintenance).

The decision will be based on the total cost and logistical/organizational requirements faced by OERA, the NSDEM and its partners to accomplish the objectives of the cruise. This will include such considerations as the need to rent equipment versus having it supplied by the vessel owner; whether or not additional personnel will be required to operate equipment; the logistical effort that will be required to organize all aspects of the cruise and the implicit cost (i.e. the closer to one stop shopping, the better); and the operational experience of the vessel and crew so that downtime is minimized.

Requirements for Responses to the RFP

The following information is to be provided in responses to this RFP:

1. The vessel and equipment to be provided to enable the client to achieve the outcomes being sought, including:
 - a. The vessel name, registration, specifications and major equipment relevant to achieving the objectives of the cruise. Note that the vessel must be able to accommodate at least 12 scientific and technical staff.
 - b. The age of the vessel and if more than 20 years old meet the requirements set out in the previous section.
 - c. The dates the specific vessel is available and its location prior to the cruise.

- d. Laboratory space available (wet and dry labs), their layout, lab equipment and power supply.
 - e. Freezers (-80 and -20 C) and cold storage (+4 C) space available for sample preservation and storage.
 - f. Communications and IT capabilities specifically for voice communications, internet access and data transfer.
 - g. All significant equipment not already included with the vessel that will be required for the cruise; the supplier, source, specifications and capabilities of the equipment; and delivery times if not available locally. Of particular interest is the ROV proposed for the cruise(s).
 - h. In particular provide a description of both the ROV, its capabilities, its launch and recovery system, the operational limits and turnaround time between deployments. Indicate the ability to deploy additional equipment modules on the ROV.
 - i. With respect to the ROV provide details on the manipulator arms and the ability to collect and store multiple (minimum of 12) push core samples on each dive as well as the dimensions of the push cores that can be obtained.
 - j. Work required to mobilize and demobilize the vessel, including any retrofits required to accommodate the equipment, the estimated time for both mobilization and demobilization, any regulatory or insurance requirements that must be met, and the expected time for approvals.
 - k. A schematic showing the deck layout with all equipment, modules, containers, core layout space, etc. to demonstrate the ability of the vessel to provide the required deck space for all aspects of the work program.
 - l. Details of expected risks that will affect operating time for ROV deployment and sample collection. This includes expected weather delays based on historical records for the area during the time of the year the work will be conducted.
 - m. The response must address the potential impacts of Covid-19 and mitigation steps such as company policies including testing, how positive tests will be addressed, quarantining for any foreign workers and meeting the health requirements of the jurisdiction in which the work will be conducted (Nova Scotia and Canada). The responsibility for the costs associated with that particular risk should be detailed.
 - n. If a foreign flagged vessel is being proposed, please indicate the steps required to bring the vessel and crew into Canadian waters and the regulatory risks involved.
2. The proposed plan for the cruise which should include the following:
 - a. Delivery of the vessel to the mobilization site
 - b. Operational testing and calibration of equipment prior to the cruise
 - c. Transit to the survey area
 - d. Deploying the ROV, conducting the ROV surveys and collection of push core samples; sampling at sites of interest (gravity and/or piston coring) and in particular proposed options as an alternative to piston coring for the collection of seabed samples.
 - e. Return to port and demobilization
 3. A detailed financial proposal for the cruise is required. Note that this cruise is being conducted on behalf of the Nova Scotia Department of Energy and Mines and will involve significant participation from Saint Mary's University and the University of Calgary. Therefore, if government and/or university rates are available, these should be applicable to the vessel and equipment.
 - a. All vessel charter costs exclusive of any equipment that may be provided:

- Day rates or total cost for delivery to departure port, including fuel and lubes, and the basis for the costs.
- Pre-mobilization vessel preparation costs (if any) with details on what work is to be carried out, why and the costs for each element.
- Vessel day rate for mobilization, estimated time based on equipment to load on the vessel including any costs for retrofitting and securing equipment.
- Vessel day rate for the research cruise(s) including fuel and lubricants (i.e. all-in cost).
- Stand-by rate for weather and other downtime
- Any additional costs for accommodations and food, as well as any other costs not already noted for the charter of the vessel such as additional insurance duties, etc.
- b. The costs for each of the equipment packages.
 - Provision of an ROV capable of operating at 3000 m or greater, launch and recovery system and protocol, and operators for 24-hour operation
 - Day rate for ROV with video guidance system, ability to collect push core samples, and any other unique capabilities of benefit to the achievement of program objectives.
 - Day rate for operators
 - Shipping costs to and from mobilization site
 - Costs for set up, testing and calibration prior to the cruise
 - Any other costs associated with the provision, mobilization, demobilization or operation of the ROV and operators
 - Sampling equipment and operations
 - Day rate or total cost for the provision of a gravity corer
 - The ability of vessel personnel to operate the equipment and any incremental costs for its operation
 - Day rate or total cost for the provision of a piston corer and any incremental costs for its operation
 - Winches required that are not already on the vessel and their costs
 - Costs associated with other proposed options for seabed sample collection
 - Other equipment deemed necessary to achieve the desired outcomes from the cruise.
 - Identify any other additional equipment necessary to achieve the objectives of the cruise
 - Provide day rates or rental costs for the length of the cruise for all significant additional equipment, as well as expected mobilization and demobilization costs

Proposal Submission

Responses to the RFP are to be submitted to:

Offshore Energy Research Association of Nova Scotia (OERA)
Joseph Howe Building, Suite 1001
1690 Hollis Street
Halifax, NS B3J 1V7



Attention: Ms. Nalani Perry, Operations Manager
Email: nperry@oera.ca

by not later than **4:00 p.m. AST, Monday, July 20th, 2020.**

Questions and Clarifications

The OERA will accept questions from interested applicants. Any questions should be directed in writing to:

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Email: careyryan@ns.sympatico.ca