



STATEMENT OF WORK – MARITIMES REGION 2019 AZOMP

1.0 Scope

1.1 Title

Vessel and Crew to Support Fisheries and Oceans Canada – Spring 2019 Atlantic Zonal Offshore Monitoring Program

1.2 Introduction

Fisheries and Oceans Canada (DFO) is seeking availability of a capable non-Canadian Coast Guard (CCG) Oceanographic Research Vessel to conduct its spring 2019 Atlantic Zonal Offshore Monitoring Program (AZOMP). Specifically, an Oceanographic Research Vessel is required for a period of 30 continuous days within the time period of May 1, 2019 up to June 15, 2019 at the latest. The Atlantic Zonal Offshore Monitoring Program is a time sensitive survey and needs to be conducted during this time period in order to allow for a meaningful measurement of the Deep Water Convection and description of the phytoplankton bloom period. The period is also critical for comparability of data and results with previous annual surveys conducted at this time and location.

1.4 Objectives of the Requirement

The AZOMP has the aim of collecting and analyzing the biological, chemical, and physical field data that are necessary to (1) characterize and understand the causes of oceanic variability at the seasonal, inter-annual, and decadal scales, (2) provide multidisciplinary data sets that can be used to establish relationships among the biological, chemical, and physical variables, and (3) provide adequate data to support the sound development of ocean activities.

1.5 Background, Assumptions and Specific Scope of the Requirement

1.5.1 Background

1.5.2 Scope

The Science Branch, Fisheries and Oceans Canada, Maritimes Region, Dartmouth, Nova Scotia, CANADA, requires the complete services of an Oceanographic Research Vessel charter (vessel and crew) to deliver its AZOMP monitoring program in the spring of 2019, to operate within the offshore waters of the Labrador Sea between the coasts of Canada and Greenland and offshore Nova Scotia. The monitoring program was implemented with the aim of increasing DFO's capacity to understand, describe, and forecast the state of the marine ecosystem and to quantify the changes in the ocean's physical, chemical, and biological properties.

The AZOMP cruise will consist in conducting operations at up to 70 designated water sampling stations (e.g., Conductivity, Temperature, Depth (CTD), plankton nets, and water bottle samples), up to 8 biological and chemical sampling stations

(e.g., CTD, Optical properties profiling, and plankton net and water bottle sampling) and servicing sub-surface oceanographic moorings. Sampling will consist of the core and ancillary AZOMP work, with sampling up to 450 nautical miles offshore and down to water depths of 6000 m [19685 ft]. In support of the AZOMP monitoring program, deep water sampling will require a 24-bottle rosette with 10- or 12-litre (L) bottles. The vessel needs enough deck space to carry all of the mooring equipment for deployment in the Labrador Sea and on the Scotian Slope break. The Oceanographic operations (CTD, plankton nets and Optical package) require the vessel to maintain station in a manner such that the hydro wire remains as close to vertical as possible while the instruments are lowered through the water column.

With the additional biological and chemical sampling for standard AZOMP work, there is a demand for large laboratory space, including a specialized radioisotopic laboratory (C-14). The area of operation for AZOMP is the Labrador Sea between the coast of Labrador, CANADA, and coast of GREENLAND, and south from the Scotian Shelf from within the Gulf Stream to the mouth of the Halifax harbour, CANADA. This annual monitoring program is usually carried out from CCG vessels. However, no CCG oceanographic research vessels are available in the spring of 2019.

2.0 Requirements

2.1 Tasks, Activities, Deliverables and Milestones

The Statement of Work outlines all requirements that an Offshore Research Vessel will include to be considered capable of completing the spring 2019 Atlantic Zonal Offshore Monitoring Program. The Bidder must provide proof of Contractor capability and vessel's capacity to meet all mandatory requirements. Copies of all relevant certificates (listed below) must be included in a Bidder's submission as proof. References to certificates (e.g., listed in Curriculum vitae) are not considered proof, as they cannot be substantiated. The onus is on the Bidder to submit all information and proof needed to clearly demonstrate that all criteria are met. This information must be included in the bid package and properly referenced from the table in Annex E.

Note: before contract award, Fisheries and Oceans Canada reserves the right to conduct a scheduled site visit with the compliant Bidder(s) to confirm contractor capability and vessel capacity in accordance with the Statement of Work and Evaluation Criteria.

2.2 Specifications and Standards

Section A: Mandatory Requirements

Vessel Certification and Documentation

- The Bidder must provide an unconditional and valid copy of the vessel's Transport Canada certificate Minimum Safe Manning Document – Convention with a Trading Area of Unlimited Voyage, or international equivalent, for the duration of the contract.

- The Bidder must clearly demonstrate that the vessel has a tonnage of >500GT and provide a valid copy of the vessel's Transport Canada tonnage certificate (or recognized organization) and Safety Management Certificate or international equivalent.
- The Bidder must provide a valid copy of the vessel's Transport Canada (or recognized organization) Safety Equipment Certificate or international equivalent.
- The Bidder must provide documentation from an insurance broker, or an insurance company licensed to operate in Canada, stating that the Bidder, if awarded the contract as a result of the bid solicitation, can be insured in accordance with all conditions including Insurance Requirements.
- The Bidder must provide proof (copy) that the Captain(s) and officer(s) of the vessel possesses a valid certificate of competency that meets or exceeds the operation for size (gross tonnage) of the vessel and the area of Work (Unlimited Voyage or international equivalent).
- The Bidder must provide proof (copies of certificates) that all crew members have valid Marine Emergency Duty (MED) A1 certificates or Standard for Training, Certification and Watchkeeping (STCW Basic Safety).
- The Bidder must provide a copy of the vessel's Health and Safety Plan that is consistent with Transport Canada Safety Inspection Certificates or international equivalents.

Vessel Particulars

- The Vessel must be equipped for continuous operations for a period of up to 30 days (e.g., endurance range of Vessel, provisions, water making system, etc.).
- The Vessel must be able to accommodate a minimum of 22 scientific personnel (individuals consisting of both genders) for the duration of the mission. This includes:
 - provide sleeping accommodations (minimum of 22 berths and max of 4 person/cabin);
 - provide a minimum of 3 on-board meals per day;
 - provide drinking water, toilets, sinks, showers and hot water;
- The vessel must have lifesaving equipment sufficient for both the crew and 22 scientific personnel.
- The Vessel must be equipped with an oceanographic water-sampling system that consists of:
 - 24-bottles oceanographic rosette with 10- or 12-litre (L) bottles;
 - a launch and recovery system (LARS) – winch (minimum of 50 HP) and a crane or A-frame – to launch and recover the oceanographic rosette;
 - a dedicated metering block to accommodate wire size and minimum bend radius specification;
 - a minimum of 7000 m [23,000 ft] of conducting cable on the winch (12000 lbf [5400 kgf] minimum breaking strength);
 - a Seabird Electronics SBE 911Plus CTD system with dual Temperature, Conductivity and Dissolved Oxygen sensors (DFO may provide

- additional sensors to be interfaced to the CTD). The operator must demonstrate that the CTD system has been serviced and calibrated within the last 12 months;
- a CTD rosette-mounted bottom-detection system capable of detecting when the rosette is approaching 30 m [100 ft] above the ocean bottom in order to stop the winch 5 m [16 ft] before the CTD rosette hits the ocean bottom (10 m/33ft in rough weather); and
 - a dedicated work space (minimum area - 2.4 m X 2.4 m [8 ft X 8 ft]) on the working deck for handling the rosette before launching and for sampling bottles upon its recovery.
- The Vessel must be equipped with a Launch and Recovery System (LARS) that can accommodate the deployment of zooplankton nets, preferably from the side of the ship. The system should include:
 - winch with a minimum of 2000 m [6500 ft] of wire rope or cable (800 lb [360 kg] WLL);
 - a dedicated metering block;
 - a crane or A-Frame, and;
 - a source of seawater must be available nearby to wash down nets.
 - The Vessel must be equipped with a Launch and Recovery System (LARS) that can accommodate the deployment of a MultiNet system. The same water-sampling LARS system could be used, but switching instruments (between the CTD-Rosette and Multinet systems) must take 10 minutes or less. The system should include:
 - winch with a minimum of 2000 m [6500 ft] of conducting cable (1500 lb [680 kg] WLL);
 - a dedicated metering block to accommodate wire size and minimum bend radius specification;
 - minimum area for on deck storage - 1.5 m X 2.0 m [5 ft X 6.5 ft]);
 - a crane or A-Frame (with minimum clearance height of 7m [23 ft]), and;
 - a source of seawater must be available nearby to wash down nets.
 - The Vessel must be equipped with a hull mounted echosounder capable of deep water sounding to a depth of at least 6000m [20000 ft] with a graphical display and serial NMEA (National Marine Electronics Association) depth output.
 - The Vessel must have a minimum unobstructed working deck space of 36 m² [380 ft²] to accommodate mooring operations.
 - The Vessel must have a minimum storage deck space of 36 m² [380 ft²] for mooring equipment. The storage space needs to be accessible from the working deck area where mooring operations will be conducted.
 - The Vessel must be equipped with a fantail A-frame for mooring operations. DFO's minimum requirements are
 - a minimum clearance height of 6 m [20 ft];
 - a minimum width 3 m [10 ft];
 - the capability to swing inboard 2 m [6 ft] and outboard 1.5 m [5 ft]; and
 - a minimum Working Load Limit (WLL) of 5 tons.

- The Vessel must be equipped with a block that can be mounted on the fantail A-frame. Block minimum requirements for DFO are:
 - WLL of 5 tons [4.5 tons]
 - sheave Ø 12” [30 cm]
 - minimum mouth dimensions 4” [10 cm] X 4” [10 cm]
- The Vessel must be equipped with a mooring winch that is positioned in-line for use with the fantail A-frame located on the stern. The minimum requirements for the mooring winch for DFO are:
 - minimum drum barrel of Ø15” [38 cm];
 - spooling capacity of 1000 m [3300 ft] for Ø1/4” mooring wire, and;
 - minimum line pull of 900 kg [2000 lb].
- The Vessel must be equipped with a telescoping or knuckle boom marine crane. DFO minimum requirements are:
 - a minimum WLL of 1 ton at minimum scope listed below;
 - a minimum lift height over the vessel rail of 10 m [33 ft];
 - a minimum outboard scope of the side of the vessel of 2 m [6.5 ft]; and
 - a crane whip cable that reaches the waterline
- The Vessel must provide a combination of interior and/or containerized laboratory space on deck for sample processing with a total minimum area of 104 m² [1120 ft²], and have:
 - 28 m [92 ft] of linear laboratory bench space to accommodate water sample extraction/preparation/and analyzing instrumentation;
 - a minimum of one (1) sink in each lab/container or a minimum total of three (3) sinks in the combined lab areas. The sinks must have a freshwater supply and the ability to dispose of seawater.
 - access to a clean source of running sea-water in at least one lab;
 - 2 working fume hoods; one in the radioisotope laboratory and at least one in the other laboratories;
 - supply power to each lab;
 - access to a ship-wide local area network and;
 - include a public address system and a mean of communication (e.g., phone, UHF radio, etc.) in each lab.
 - include a certified Radioisotope Laboratory (11 m² [120 ft²]).
- The Vessel must provide access to navigation data (NMEA data strings for position, speed, and heading) in each lab.
- The Vessel must have sufficient dry space for storing DFO and partner equipment and sample boxes (minimum required is 30 m³ [1059 ft³]).
- The Vessel must provide a minimum refrigerated storage space of 1.5 m³ [53 ft³] and a minimum freezer storage space of 0.5 m³ [18 ft³] OR has sufficient dry space to accommodate 3 refrigerators (total of 1.5 m³/53 ft³) and 1 freezer (total of 0.5 m³/18 ft³) for storage of scientific samples.

2.3 Technical, Operational and Organizational Environment

N/A

2.4 Method and Source of Acceptance

N/A

2.5 Reporting Requirements

N/A

2.6 Project Management Control Procedures

N/A

2.7 Change Management Procedures

N/A

2.8 Ownership of Intellectual Property

Delivery of goods/services does not lead to the creation of intellectual property

3.0 Other Terms and Conditions of the SOW

3.1 Authorities

Project Authority Name to be provided upon contract award.

3.2 DFO Obligations

In support of the successful completion of the spring 2019 Atlantic Zonal Offshore Monitoring Program, DFO will provide the following personnel, equipment, and mission planning information:

- DFO will provide 22 scientific personnel for the survey;
- DFO will provide a mission plan;
- DFO will work with the Contractor to obtain clearance for Marine Science Research for sampling in Greenland waters through DFO's Vessel Clearance process and Global Affairs Canada.
- DFO will provide zooplankton nets, Multinet, Optical profiler and XBT's required for the program; and
- Prior to the commencement of the contract, the Chief Scientists shall submit a written tentative mission plan that shall include:
 - date, time, and point of departure;
 - estimated time at sea;
 - estimated date, time, and point of arrival;
 - anticipated cruise track, including all station positions and area of operation;
 - statement of all scientific operations to be carried out; and
 - list of all scientific equipment and cargo to be mobilized on board the vessel.

3.3 Contractor's Obligations

Vessel and Crew

- Captain and crew will be expected to communicate in English and must be

available for each 12 h shift to ensure successful communication with scientific personnel.

- Crew will be expected to accommodate two 12-hour science personnel shifts (e.g. 0600h-1800h and 1800h-0600h). Crew deckhand(s) must be available to operate winches and cranes during each science personnel shift.
- Crew will be expected to provide a familiarization tour of the ship for scientific personnel and inform them of safety equipment and procedures, ensuring the safety of equipment and personnel throughout duration of the contract, and provide safe working areas on the ship.
- The Vessel will provide space for one (1) mammal/bird observer to look out the forward and side windows on the bridge throughout the daylight period, each day at sea, including a small space for a laptop.
- Crew will be expected to assist with the loading and unloading of science equipment as required (e.g., shipboard crane operations, manual lifting if necessary, etc.).
- Crew will be expected to deploy/recover and/or assist with the deployment/recovery of oceanographic measurement devices and sea sampling equipment according to information provided by the Chief Scientist.
- A ship-supplied technician(s) is expected to be on board and available 24-hours to trouble shoot, repair, and maintain ship-supplied science equipment and manage associated data collection. The technician(s) must also liaise with DFO science staff for the duration of the contract.
- The Vessel will provide satellite internet service available to science personnel for communication to shore with a minimum capacity of 20 GB over the 30 day period.
- The vessel and crew is expected to be available for the full period of the contract.
- The vessel and crew is expected to be able to stay at sea without calling port for a period of up to 27 days.
- The vessel is expected to be able to berth, and its crew disembark, at various ports around Nova Scotia, CANADA.

3.4 Location of Work, Work site and Delivery Point

The study area includes the Labrador Sea between the coast of Labrador, CANADA, and coast of GREENLAND and a section off the Scotian Shelf from within the Gulf Stream to the mouth of the Halifax harbor.

3.5 Language of Work

All work will be carried out in English Speaking Environments.

3.6 Special Requirements - LICENSES AND PERMITS

N/A

3.7 Security Requirements

There are no security requirements for this project.

3.8 Insurance Requirements

Upon contract award the successful bidder will be required to supply insurance as per the attached insurance conditions. Additionally, the following conditions must be met:

1. The Contractor must obtain Protection & Indemnity (P&I) insurance that must include excess collision liability and pollution liability. The insurance must be placed with a member of the International Group of Protection and Indemnity Associations or with a fixed market in an amount of not less than the limits determined by the [Marine Liability Act](#), S.C. 2001, c. 6. Coverage must include crew liability, if it is not covered by Worker's Compensation as detailed in paragraph (2.) below.
2. The Contractor must obtain Worker's Compensation insurance covering all employees engaged in the Work in accordance with the statutory requirements of the Territory or Province or state of nationality, domicile, employment, having jurisdiction over such employees. If the Contractor is assessed any additional levy, extra assessment or super-assessment by a Worker's Compensation Board, as a result of an accident causing injury or death to an employee of the Contractor or subcontractor, or due to unsafe working conditions, then such levy or assessment must be paid by the Contractor at its sole cost.
3. The Protection and Indemnity insurance policy must include the following:
 - a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.
 - b. Waiver of Subrogation Rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Fisheries & Oceans Canada and Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.
 - c. Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation.
 - d. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
 - e. Litigation Rights: Pursuant to subsection 5(d) of the [Department of Justice Act](#), S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to:
Director Business Law Directorate,
Quebec Regional Office (Ottawa),
Department of Justice,
284 Wellington Street, Room SAT-6042,
Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to:
Senior General Counsel,
Civil Litigation Section,
Department of Justice
234 Wellington Street, East Tower
Ottawa, Ontario K1A 0H8

4. A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

3.9 Travel and Living

There is no provision for travel and/or living expenses under this contract.

4.0 Project Schedule

4.1 Expected Start and Completion Dates

Project work will take place between May 2019 and June 15, 2019, and will consist of 30 working days (including 26 working days at sea).

4.2 Schedule and Estimated Level of Effort (Work Breakdown Structure)

TIMEFRAME AND DELIVERY REQUIREMENTS

Mobilization of the vessel at the port of Halifax, Nova Scotia, CANADA (May 2019*)

- DFO equipment loading, installation of laboratories, and safety inspection(s) (2 days)

Conduct Atlantic Zonal Offshore Monitoring Program (May to June 2019*)

- Monitoring Survey along predetermined sampling lines/stations (26 days at sea)

Demobilization: return to the port of Halifax, Nova Scotia, CANADA (June 2019*)

- Unloading of DFO equipment and survey samples (2 days)

** Specific dates and times for Mobilization, Departure, Arrival, and Demobilization will be determined in consultation with the vessel operator upon Contract award.*

5.0 Required Resources or Types of Roles to be Performed

Section B: Rated Requirements

- Bidder to provide details on their recent experience (up to 5 years) with conducting CTD (ie., Seabird 911Plus and 24 bottle rosette) operations to depths of at least 2000 m [6500 ft](e.g., list of missions, dates, approximate number of casts, cruise reports/summaries).
- Bidder to provide details on their recent experience (up to 5 years) with conducting scientific mooring operations (e.g., list of missions, dates, approximate number of deployments and recoveries, cruise reports/summaries).

6.0 Applicable Documents and Glossary

6.1 Applicable Documents

6.2 Relevant Terms, Acronyms and Glossaries

Acronyms	Definition
CTD profiler	Conductivity-Temperature-Depth profiler
LARS	Launch and recovery system
NMEA	National Marine Electronics Association
MultiNet	System for collecting Mesozooplankton samples at discrete depths in the water column
Rosette	System for collecting seawater samples at discrete depths in the water column
WLL	Working Load Limit

EVALUATION CRITERIA

BIDDERS' PROPOSAL

The Bidders' proposal must demonstrate that similar services to those described in the Statement of Work (Annex "C" herein) have been provided and the information provided will be used to assess against both the Mandatory Criteria and the Point-Rated criteria. The Bidder shall cite specific examples from their work history that will address both criteria. For the purposes of this Request for Proposal (RFP), "experience" shall refer to the experience the Bidders' Commanding Officer and crew have in performing the operation mentioned in the criterion

The Bidders' proposal should contain a statement of the name under which the Charter is legally incorporated and a statement of the Canadian or foreign ownership of the firm, if applicable.

In addition to addressing the noted requirements, the Bidder's **Financial Proposal** (reference Annex "B" herein) must include a daily rate for the vessel charter costs.

MANDATORY CRITERIA:

Proposals will be evaluated in accordance with the mandatory evaluation criteria as detailed herein. Bidders' Proposals must clearly demonstrate that they meet all Mandatory Requirements for the proposal to be considered for further evaluation. Proposals not meeting the mandatory criteria will be excluded from further consideration.

Those proposals that are found to meet the Mandatory Criteria shall be evaluated further against the Point-Rated Criteria. All compliant proposals will be ranked based on highest combined Point-Rated Criteria points and Cost evaluation points.

*****The Bidder must include the following tables in their proposal, indicating that their proposal meets the Mandatory Criteria or Point Rated Criteria, providing the proposal page number, section that contains information to verify that the criteria has been met or inserted the information within the appropriate table.**

EVALUATION FORM – MANDATORY CRITERIA

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
Vessel Certification and Documentation		
<p>M1. The Bidder must provide an unconditional and valid copy of the vessel’s Transport Canada certificate <u>Minimum Safe Manning Document – Convention</u> with a Trading Area of <i>Unlimited Voyage</i>, or international equivalent, for the duration of the contract.</p>		
<p>M2. The Bidder must clearly demonstrate that the vessel has a tonnage of >500GT and provide a valid copy of the vessel’s Transport Canada tonnage certificate (or recognized organization) and Safety Management Certificate or international equivalent.</p>		
<p>M3. The Bidder must provide a valid copy of the vessel’s Transport Canada (or recognized organization) Safety Equipment Certificate or international equivalent.</p>		
<p>M4. The Bidder must provide documentation from an insurance broker, or an insurance company licensed to operate in Canada, stating that the Bidder, if awarded the contract as a result of the bid solicitation, can be insured in accordance with all conditions including Insurance Requirements.</p>		

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
M5. The Bidder must provide proof (copy) that the Captain(s) and Officer(s) of the vessel possesses a valid certificate of competency that meets or exceeds the operation for size (gross tonnage) of the vessel and the area of Work (<i>Unlimited Voyage</i> or international equivalent).		
M6. The Bidder must provide proof (copies of certificates) that all crew members have valid Marine Emergency Duty (MED) A1 certificates or Standard for Training, Certification and Watchkeeping (STCW Basic Safety).		
M7. The Bidder must provide a copy of the vessel's Health and Safety Plan that is consistent with Transport Canada Safety Inspection Certificates or international equivalents.		
Vessel Particulars		
M8. The Bidder must clearly demonstrate that the Vessel is equipped for continuous operations for a period of up to 30 days (e.g., endurance range of Vessel, provisions, water making system, etc.).		

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
<p>M9. The Bidder must clearly demonstrate that the Vessel can accommodate a minimum of 22 scientific personnel (individuals consisting of both genders) for the duration of the mission. This includes:</p> <ul style="list-style-type: none"> • provide sleeping accommodations (minimum of 22 berths and max of 4 person/cabin); • provide a minimum of 3 on-board meals per day; • provide drinking water, toilets, sinks, showers and hot water; 		
<p>M10. The Bidder must clearly demonstrate that the Vessel has sufficient lifesaving equipment for both the crew and 22 scientific personnel.</p>		

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
<p>M11. The Bidder must clearly demonstrate that the Vessel is equipped with an oceanographic water-sampling system that consists of:</p> <ul style="list-style-type: none"> • 24-bottles oceanographic rosette with 10- or 12-litre (L) bottles; • a launch and recovery system (LARS) – winch (minimum of 50 HP) and a crane or A-frame – to launch and recover the oceanographic rosette; • a dedicated metering block; • a minimum of 7000 m [23000 ft] of conducting cable on the winch (12000 lbf or 54 kgf minimum breaking strength); • a Seabird Electronics SBE 911Plus CTD system with dual Temperature, Conductivity and Dissolved Oxygen sensors (DFO may provide additional sensors to be interfaced to the CTD). The operator must demonstrate that the CTD system has been serviced and calibrated within the last 12 months; • a CTD rosette-mounted bottom-detection system capable of detecting when the rosette is approaching 30 m [100 ft] above the ocean bottom in order to stop the winch 5 m [16 ft] before the CTD rosette hits the ocean bottom (10 m/32ft in rough weather); and • a dedicated work space (minimum area - 2.4 m X 2.4 m [8 ft X 8 ft]) on the working deck for handling the rosette before launching and for sampling bottles upon its recovery. 		

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
<p>M12. The Bidder must clearly demonstrate that the Vessel is equipped with a LAunch and Recovery System (LARS) that can accommodate the deployment of zooplankton nets, preferably from the side of the ship. The system should include:</p> <ul style="list-style-type: none"> • winch with a minimum of 2000 m [6500 ft] of wire rope or cable (800 lbs/360 kg WLL); • a dedicated <u>metering</u> block; • a crane or A-Frame, and; • a source of seawater must be available nearby to wash down nets. 		

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MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
<p>M13. The Vessel must be equipped with a Launch and Recovery System (LARS) that can accommodate the deployment of a MultiNet system. The same water-sampling LARS system could be used, but switching instruments (between the CTD-Rosette and Multinet systems) must take 10 minutes or less. The system should include:</p> <ul style="list-style-type: none"> • winch with a minimum of 2000 m [6500 ft] of conducting cable (1500 lb [680 kg] WLL); • a dedicated metering block to accommodate wire size and minimum bend radius specification; • minimum area for on deck storage - 1.5 m X 2.0 m [5 ft X 6.5 ft]); • a crane or A-Frame (with minimum clearance height of 7m [23 ft]), and; • a source of seawater must be available nearby to wash down nets. 		
<p>M14. The Bidder must clearly demonstrate that the vessel is equipped with a hull mounted echosounder capable of deep water sounding to a depth of at least 6000m [19600 ft] with a graphical display and serial NMEA (National Marine Electronics Association) depth output.</p>		
<p>M15. The Bidder must clearly demonstrate that the Vessel has a minimum unobstructed working deck space of 36 m2 [400 ft2] to accommodate mooring operations.</p>		

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
<p>M16. The Bidder must clearly demonstrate that the Vessel has a minimum storage deck space of 36 m² [400 ft²] for mooring equipment. The storage space needs to be accessible from the working deck area where mooring operations will be conducted.</p>		
<p>M17. The Bidder must clearly demonstrate that the Vessel is equipped with a fantail A-frame for mooring operations and must provide its specifications. DFO's minimum requirements are</p> <ul style="list-style-type: none"> • a minimum clearance height of 6 m [20 ft]; • a minimum width 3 m [10 ft]; • the capability to swing inboard 2 m [6 ft] and outboard 1.5 m [5 ft]; and • a minimum Working Load Limit (WLL) of 5 tons. 		
<p>M18. The Bidder must clearly demonstrate that the Vessel is equipped with a block that can be mounted on the fantail A-frame and provide the specifications for this block. Block minimum requirements for DFO is:</p> <ul style="list-style-type: none"> • WLL of 5 tons [4.5 tons] • sheave Ø 12 inches [30cm] • minimum mouth dimensions 4" [10 cm] X 4" [10 cm] 		

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
<p>M19. The Bidder must clearly demonstrate that the Vessel is equipped with a mooring winch that is positioned in-line for use with the fantail A-frame located on the stern. The Bidder must provide the specifications for the winch. The minimum requirements for the mooring winch for DFO are:</p> <ul style="list-style-type: none"> • minimum drum barrel of Ø15” [38 cm]; • spooling capacity of 1000 m [3,300 ft] for Ø1/4” mooring wire, and; • minimum line pull of 900 kg [2000 lb]. 		
<p>M20. The Bidder must clearly demonstrate that the Vessel is equipped with a telescoping or knuckle boom marine crane and provide the specifications. DFO minimum requirements are:</p> <ul style="list-style-type: none"> • a minimum WLL of 1 ton at minimum scope listed below; • a minimum lift height over the vessel rail of 10 m [33 ft]; • a minimum outboard scope of the side of the vessel of 2 m [6.5 ft]; and • a crane whip cable that reaches the waterline 		

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
<p>M21. The Bidder must clearly demonstrate that the Vessel can provide a combination of interior and/or containerized laboratory space on deck for sample processing with a total minimum area of 104 m² [1120 ft²], and have:</p> <ul style="list-style-type: none"> • 28 m [92 ft] of linear laboratory bench space to accommodate water sample extraction/preparation/and analyzing instrumentation; • a minimum of one (1) sink in each lab or a minimum total of three (3) sinks in the combined lab areas. The sinks must have a freshwater supply and the ability to dispose of seawater. • access to a clean source of running sea-water in at least one lab; • 2 working fume hoods: one in the radioisotope laboratory and at least one in the other laboratories; • supply power to each lab; • access to a ship-wide local area network, and; • include a public address system and a mean of communication (e.g., phone, UHF radio, etc.) in each lab, and; • include a certified Radioisotope Laboratory (11 m² [120 ft²]). 		
<p>M22. The Bidder must clearly demonstrate that the Vessel can provide access to navigation data (NMEA data strings for position, speed, and heading) in each lab.</p>		

MANDATORY CRITERIA	Meets Criteria Yes/No	BIDDER RESPONSE (response should make reference to the relevant proof in bidder proposal and/or appended documentation).
<p>M23. The Bidder must clearly demonstrate that the Vessel has sufficient dry space for storing DFO and partner equipment and sample boxes (minimum required is 30 m³ [1059 ft³]). The Bidder must state how much dry space is available on the Vessel.</p>		
<p>M24. The Vessel must provide refrigerated storage space of 1.5m³ [53ft³] and freezer storage space of 0.5m³ [18ft³] OR has sufficient dry space to accommodate 3 refrigerators (total of 1.5m³/53ft³) and 1 freezer (total of 0.5m³/18ft³) for storage of scientific samples.</p>		

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EVALUATION FORM – POINT-RATED CRITERIA

Proposals meeting **ALL** Mandatory Criteria will be evaluated and rated against the following Point-Rated Criteria, using the evaluation factors specified for each criterion. It is imperative that these criteria be addressed in sufficient depth in the Bidders’ proposal to substantiate the Bidder’s response and to permit the Evaluation Team to rate the proposals accordingly.

RATED CRITERIA	Criteria #	BIDDER RESPONSE (bidder must substantiate response as much as possible)
<p>Bidder to provide details on their recent experience (up to 5 years) with conducting CTD (ie., Seabird 911Plus and 24 bottle rosette) operations to depths of at least 2000 m [6500ft] (e.g., list of missions, dates, approximate number of casts, cruise reports/summaries).</p> <ul style="list-style-type: none"> • Experience in the last 1-2 years: 25 points • Experience in the last 3-5 years: 10 points • Experience in both periods above: 35 points 	R1	
<p>Bidder to provide details on their recent experience (up to 5 years) with conducting scientific mooring operations (e.g., list of missions, dates, approximate number of deployments and recoveries, cruise reports/summaries).</p> <ul style="list-style-type: none"> • Experience in the last 1-2 years: 25 points • Experience in the last 3-5 years: 10 points • Experience in both periods above: 35 points 	R2	