



**Encana Corporation
Expression of Interest (EOI)**

Supply of High-Pressure (HP) Riser System & Conductor Cutting Equipment & Services

BIDS Category: 0840
Reference: EOI DC08
Issue Date: May 17, 2018
Closing Date: May 31, 2018

GENERAL

Encana Corporation (Encana) is the owner and operator of the Deep Panuke natural gas project in Nova Scotia's offshore. The project includes facilities required to produce natural gas from the Deep Panuke field, located approximately 175 kilometers offshore Nova Scotia. Natural gas from the Deep Panuke Development is processed offshore and transported, via subsea pipeline, to Goldboro, Nova Scotia for further transport to market via the Maritimes & Northeast Pipeline.

The Development includes the following major infrastructure (the "facilities"):

- Production Field Centre (PFC);
- Five (5) - subsea wells, trees, and protection structures;
- Infield flowlines and umbilicals;
- Gas export pipeline and onshore metering facility;

The Deep Panuke reservoir fluids contain H₂S and CO₂ which are removed from the fluid stream during processing on the PFC and disposed of into a dedicated subsea acid gas injection well. The sales ready product is exported from the PFC via an export pipeline.

Encana's strategy towards the decommissioning of the Deep Panuke facilities will include cost efficient solutions that minimize risk to personnel, provide the least impact on the environment, and utilize proven technology. It is currently Encana's plan that the suspension and decommissioning of the Deep Panuke Development will generally be completed as follows:

- Suspension of Production Operations;
- Decommissioning of the subsea and onshore facilities and PFC removal; and
- Well Abandonment and Final Field Survey.

It is important to note that Encana has not set a date for the cessation of production operations or for the formal commencement of suspension and decommissioning activities.

Respondents are advised that the Work carried out on Deep Panuke shall comply fully with Canada-Nova Scotia Offshore Petroleum Board Regulations and all regulatory requirements. Respondents shall also be required to comply with the Canada Nova Scotia Offshore Petroleum Resources Accord Implementation Act including but not limited to the Benefits requirements as set out in Section 45.

Encana is committed to providing opportunities for Nova Scotian and Canadian companies through employment, procurement and contracting on an internationally competitive basis, with full and fair opportunity for Nova Scotians and Canadians where competitive on a best value basis, and first consideration to Nova Scotians. Pre-qualified companies will be required to complete a Canada-Nova Scotia Benefits Questionnaire and demonstrate their commitment to



and compliance with Encana's requirements regarding Canada-Nova Scotia Benefits, during the tender process.

Encana is a leading North American energy producer that is focused on growing its strong portfolio of diverse resource plays producing natural gas, oil and natural gas liquids. By partnering with employees, community organizations and other businesses, Encana contributes to the strength and sustainability of the communities where it operates. Encana common shares trade on the Toronto and New York stock exchanges under the symbol ECA. Further information on Encana Corporation is available on the company's website, www.encana.com. Further information on Deep Panuke is available at www.encana.com/deeppanuke

SCOPE OF WORK

Encana is seeking qualified companies to supply the following on a rental basis:

- 1) High Pressure (HP) Riser equipment & services including full engineering analysis for same; and
- 2) Abrasive Jet or Mechanical Conductor cutting equipment & services.

HP Riser System:

The HP Riser system will be used for well abandonment operations on the Deep Panuke Project. In addition to the HP riser package and associated equipment, COMPANY also requires a full engineering analysis (mechanical, strength, and fatigue) of the proposed HP Riser, conductor and other associated or affected equipment which is involved in its operation. The analysis shall consider well abandonment operations at the five (5) Deep Panuke wellsite locations and must include recommendations for primary and secondary tension requirements during normal and storm operating conditions. All of the information required for the analysis, inclusive of the drilling rig, subsea tree, conductor, metocean and geotechnical data, will be provided by Encana in the subsequent Request for Proposal (RFP) package.

The rig that will be used for this Work will be a harsh environment Jack-Up with an independent cantilever capable of working in 45m water depth. The HP Riser will need to have a minimum ID of 19", a minimum pressure rating of 25 MPa and be compliant with NACE MR 0175 specifications. The HP Riser will be connected subsea to the 18-3/4" H-4 connector located on top of each horizontal subsea tree (originally supplied by GE-Vetco). The subsea connection must be operated from the rig without the need for intervention by divers. The surface connection of the HP Riser will be connected to the rig's 18-3/4" 15k BOP stack and the riser system must have provisions for pulling tension on the riser via the rig's tensioning system.

In addition, the HP riser system will need to undergo successful function and system integration testing (SIT), which shall be witnessed by COMPANY (at its sole discretion), prior to shipment to Nova Scotia. The SIT will primarily involve verification that the subsea connector is compatible with the H-4 connector provided on the GE-Vetco Horizontal Subsea Trees.

COMPANY will require the HP riser system to be on location in Halifax at least two (2) months prior to the start of rig operations. Once the HP riser system is being used for the Work, periodic NDT may be required by Encana. However, a visual inspection will be conducted every time the HP riser is removed from the sea bed.



Abrasive Jet or Mechanical Cutter:

One of the last operations involved in the well abandonment consists of cutting each well conductor at a specified location below the mudline. This will require cutting four (4) strings of pipe as set out in Table 1 below and the associated cement between each one. The 508mm string was run as a guide only on the wellhead high pressure housing and has not been a pressure containing string. However, the planned cut depth includes this string. The specifications for each string of pipe are as follows:

Table 1 – Well Conductor Pipe String Specifications

Diameter		Weight		Grade
Inches	mm	Lbs / Foot	Kg / M	
30	762	310.5	463.0	X-52
20	508	169.0	251.5	
13-3/8	339.7	68.0	101.3	L-80
9-5/8	244.5	47.0	79.6	T-95

The planned cut depth will be between 1-3m below the mudline. It is preferable to cut through all strings of pipe simultaneously however, consideration will be given to cutting individual strings one at a time if required. The wellhead/conductor will not be pulled to surface from the drilling rig due to interference with the Wellhead Protection Structure (WPS). The wellhead/conductor will be pulled later using a construction vessel when removing the WPS. Verification that the cut is complete by either pulling on it or other means is required prior to moving the rig off location.

Schedule for the Work

No date for cessation of production of the Deep Panuke field has been identified. The selection of the specific jack-up drilling rig has also not yet been finalized by Encana.

Encana is issuing this Expression of Interest to identify the availability of suitable companies, equipment and services to conduct the Work in the offshore Nova Scotia location during the Q3 of 2019 to Q2 of 2021 timeframe. The preferred window for carrying out the Work is between the months of May and September however, the timing for the Work is dependent on rig availability. Any decisions on specific timing for the Work will be made at a later date.

The pre-planning and engineering effort is expected to take up to one (1) year prior to commencement of field operations. The total time for abandonment operations of all five (5) wells is expected to be approximately 120 days.

Responses to this Expression of Interest must contain the following information:

- A: Confirmation of Respondent’s North Atlantic harsh weather experience with both the provision of High Pressure (HP) Riser equipment & services and with Abrasive Jet or Mechanical Conductor cutting services including references to previous projects similar to the Work. Information provided by Respondent should include but not be limited to the following:
- Project management, and engineering experience;
 - Integrated wellbore project execution experience; and
 - Available proven technologies and emerging technology potential.



- B: Confirmation of equipment and personnel availability (identifying the time frame that the equipment would be available for the Work), current location and present contract status of proposed equipment. Respondent should include the proposed structure of the services package to successfully accomplish the Work indicating all subcontracts and any preferred vendors.
- C: Details of the make-up of Respondent's early planning team complete with a detailed description of the core competencies of any nominated personnel. This should include details of Respondent's plan to integrate into Encana's Project team in Halifax, Nova Scotia.
- D: A duly completed Pre-Qualification Questionnaire.

GENERAL REQUIREMENTS

The equipment must be capable of working year-round in shallow water offshore Nova Scotia where seasonal temperature ranges from -20C to +35C and where severe seasonal ice accretion is expected to occur. The equipment must also be capable of managing an Annular Velocity Controlled (AVC) work program for which the rig will be equipped with a rotating BOP (RBOP) and associated equipment between the BOP and Diverter Housing.

All personnel and equipment must be qualified and certified to meet the Canadian Association of Petroleum Producers (CAPP) requirements for working offshore Nova Scotia, including but not limited to, the "Atlantic Canada Offshore Petroleum Industry Standard Practice for the Training & Qualifications of Personnel" requirements for working offshore Nova Scotia (see www.capp.ca/publications-and-statistics/publications/223065) and the "Atlantic Canada Offshore Safe Lifting Practices" (see www.capp.ca/publications-and-statistics/publications/226080).

EOI respondents are required to have an implemented EH&S Management System and a registered Quality Management System (complete with a current certificate issued by a recognized third party that certifies that the Quality Management System meets the requirements of the ISO 9001 or equivalent). Respondents are also notified that the Work carried out on Deep Panuke shall comply fully with Canada-Nova Scotia Offshore Petroleum Board Regulations and all regulatory requirements.

Respondents are requested to provide a brief Company profile, contact details, managers and key personnel and a summary of related experience on past projects which are similar in scope including details of Respondent's Nova Scotia and Canadian capabilities.

Interested firms are requested to demonstrate their capabilities and experience via a formal response to this EOI and the **Prequalification Questionnaire**, which can be obtained from the email address provided below.

Encana will select qualified bidders using the respondents to this EOI as a guide. Any eventual list of Bidders will be posted on the Encana website website and other industry websites such as the Maritimes Energy Association bulletin.

Encana is under no obligation to proceed with a Request for Proposal as a result of this Expression of Interest. Only those respondents deemed acceptable by Encana will be invited to participate in the event Proposals are solicited. Encana also reserves the right to award more than a single contract resulting from a Request for Proposal.

Expressions of Interest must be received on or before **May 31, 2018, 2:00 PM Atlantic time**.



All inquiries and Expression of Interest must be clearly marked with the EOI reference number and should be directed to:

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Deep Panuke Project
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