

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

**WELLHEAD EQUIPMENT ENGINEERING SERVICES**

**BIDS Category:** 0227, 0251, 9122  
**Reference:** EOI Z2007048PK  
**Issue Date:** March 16<sup>th</sup>, 2007  
**Closing Date:** March 23<sup>rd</sup>, 2007

**GENERAL**

EnCana Corporation is proposing to develop its Deep Panuke gas prospect located offshore Nova Scotia. The Project Mobile Offshore Production Unit (MOPU), which will contain all of the main facilities, will be located approximately 250 km southeast of Halifax, approximately 47 km west of Sable Island and in 44 metres water depth. Development of the Project is subject to regulatory approval and EnCana Corporation project sanction.

The Deep Panuke Project will generate important activity and provide significant opportunities within Nova Scotia and Canada. In recognition of this, EnCana Corporation is committed to using and encouraging capable and competitive Nova Scotian and Canadian companies for the provision of the high quality goods and services required in these activities.

The Project MOPU will be capable of producing  $8.5 \times 10^6$  m<sup>3</sup>/day (300 MMscfd) of natural gas from an initial five (5) subsea wells. Each subsea well will have its own dedicated flowline and umbilical. The Deep Panuke reservoir fluids contain H<sub>2</sub>S and CO<sub>2</sub> which will be removed from the fluid stream during processing on the MOPU and disposed of into a dedicated subsea acid gas injection well. The sales ready product will be exported from the MOPU via an export pipeline.

**SCOPE OF WORK**

EnCana Corporation seeks qualified companies interested in providing engineering support for the conversion of mudline suspension equipment to subsea wellheads. Four of the producing wells for Deep Panuke have been previously drilled from a jack-up rig with surface wellheads and subsequently suspended for development. The wells have been suspended by isolating the producing interval with bridge and cement plugs. The surface and production casing (13-3/8" & 9-5/8" respectively) tie-backs to the wellhead on the drilling unit have been removed from the FMC SD-1 mudline suspension equipment and temporary abandonment caps set in place. The 30" conductor pipe was backed off at various depths for each well above the mudline using a Drill-Quip H-90D Box Up Left Hand Connector.

The development plan for Deep Panuke requires converting each of these suspended wells to subsea producers. The conversion will be done using the FMC SD-1 mudline hangers and supporting the 18" subsea wellhead from the 762mm (30"), 38.1mm WT (1.5"), X-56 conductor pipe. Once the conversion is completed a completion guidebase will be run and a 10K horizontal subsea X-Mas tree with an 18" collet type subsea connector will be installed on the subsea wellhead. The completions are expected to be 177.8mm (7") tubing with two 3/8" control lines for the SCSSSV as well as two independent electrical data transmission lines for

downhole permanent gauges and two 2" downhole chemical injection lines. The subsea tree will be connected back to the drilling unit with an 18 1/2" collet type subsea connector run on a high pressure riser (HPR) with an 18-3/4" 10K surface BOP stack connected to the top of the riser. The HPR will be held in tension by the rig and will be required to withstand environmental loading as well as the internal pressure loads resulting from a well control situation or for pressure testing requirements. The produced fluid for Deep Panuke is sour gas with 2000 ppm H<sub>2</sub>S and 3.5% CO<sub>2</sub> and therefore the HPR and flow wetted components of the wellhead will be required to meet NACE requirements. The maximum expected shut-in wellhead pressure is 30 MPa (4350 psi). As the water depth is relatively shallow, all work is to be completed using a harsh environment jack-up rig.

Two additional new drill wells are required for the field development, one as a producing well and the other an acid gas disposal well with similar completion to the existing re-entry wells. Three further production wells may be required depending on the reservoir performance after start-up.

Engineering assistance is required to determine the feasibility of conducting this work. The deliverables for this scope of work will include;

- 1) Confirmation of the technical feasibility of a tieback between the mudline suspension equipment and subsea wellhead system.
- 2) Development of a conceptual design of a subsea system tied back to a mudline suspension system and completed for production.
- 3) Development of installation sequence drawings with existing mudline system with major steps shown.
- 4) Development of installation sequence drawings in a new drill scenario with major steps shown.
- 5) Identification of technology gaps and technology improvement opportunities.
- 6) Development of a budgetary cost and time schedule for the procurement of designed subsea equipment:
  - a. Mudline system
  - b. Subsea wellhead system
  - c. Tension System
  - d. Drilling / completion riser complete with subsea collet connector and connection for surface BOP stack
  - e. Running & retrieving tools for the wellhead system

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

- A: Technical abilities to complete the work.
- B: Previous experience with similar designs.
- C: Estimated schedule to complete Scope of Work

## **PROJECT SCHEDULE**

A Request for Quotation will be issued in late March / early April 2007. It is anticipated the Contract will be awarded in early May 2007.

## **GENERAL REQUIREMENTS**

EOI respondents are required to have an implemented Quality Management System that complies with the requirement of the ISO-9000 series of Standards and Safety Management System(s). Respondents are also notified that the Work carried out on the Deep Panuke Project shall comply fully with Canada Nova Scotia Offshore Petroleum Board Regulations.

Respondents must submit a brief Company profile, contact details, key personnel and a summary of related experience including local Nova Scotia capabilities.

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, and first consideration to Nova Scotians where competitive on a best value basis. 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.

Interested firms are requested to demonstrate their capabilities and experience via a formal response to this EOI.

EnCana will select qualified bidders using the respondents to this EOI as a guide. Any eventual list of Bidders will be posted on BIDS Nova Scotia’s website.

EnCana is under no obligation to proceed with a Request for Proposal as a result of this call for Expressions of Interest. Only those respondents deemed acceptable by EnCana will be invited to participate in the event Proposals are solicited.

Expressions of Interest must be received on or before **Friday, March 23<sup>rd</sup>, 2007, 1:00 PM** Atlantic time.

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

Ted Russell  
Contract Procurement Specialist  
EnCana Corporation  
Deep Panuke Project  
Suite 700, Founders Square  
Halifax, NS  
B3J 3M8  
Fax: 902-425-2766  
ted.russell@encana.com

IN ADDITION:  
POTENTIAL SUPPLIERS FOR THIS PROJECT, IF THEY HAVE NOT ALREADY DONE SO,  
MUST REGISTER THEIR COMPANIES BY CONTACTING BIDS NOVA SCOTIA AT:

Phone: 902-462-4824  
1-800-397-0393  
Email: bids@istar.ca