



## **CANADA-NOVA SCOTIA BENEFITS**

### **2008 ANNUAL BENEFITS REPORT**

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EnCana Corporation  
Halifax, Nova Scotia

March 31, 2009

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## I. Executive Summary

During 2008, activity on EnCana's Deep Panuke offshore natural gas development project (Deep Panuke project) included:

- Submission to the National Energy Board and subsequent approval of the project's detailed pipeline route, in tandem with the start of construction at Goldboro, NS of the pipeline landfall preparation program before the end of the year;
- Completion of the offshore pipeline coating process at Sheet Harbour, NS to prepare for pipeline installation in the field in 2009;
- Transition from design engineering to construction of the offshore production field centre (PFC) by contractor Single Buoy Moorings Inc. (SBM);
- Continuation of contracting and procurement activities in all project elements.
- Activities to prepare for the installation of the export pipeline in 2009 and the PFC in 2010 including a geophysical survey in January 2008 along the export pipeline route, Deep Panuke well locations and the PFC location as well as a geotechnical survey in September 2008 to investigate the PFC site location and locations along the export pipeline route, with both surveys taking place from kilometer point 126 to the PFC site.

The Deep Panuke project is managed through five functional elements, with each advanced in parallel in 2008:

Element 1 – Drilling and Completions

Element 2 – Subsea

Element 3 – Export Pipeline

Element 4 – Production Field Centre

Element 5 – Ready for Operations and Operations

The following report provides an overview of EnCana's activities in Nova Scotia from January 1, 2008 until December 31, 2008.

Highlights of the report include:

- Total spending by EnCana in 2008 on Deep Panuke was \$238.6 million Canadian dollars.
- 282,334 person hours of work by Nova Scotia Residents.
- 31,222 person hours of work by Canadians residing in other provinces.

## Person Hours (January-December 2008) & Cumulative Hours

	2008	CUMULATIVE
CATEGORY BY RESIDENCY	PERSON HOURS	PERSON HOURS
Nova Scotian Residents	282,334	433,117
Canadian Residents from Other Provinces	31,222	43,805

NOTE: Table above includes all Nova Scotian and all Canadian Person Hours for all elements of the project.

## II. Introduction

The following report is filed in compliance with Condition 10 (Monitoring, Reporting and Auditing) of the Decision Report for Deep Panuke as issued by the Canada-Nova Scotia Offshore Petroleum Board, hereafter the Decision Report.

This report covers the period from January 1, 2008 to December 31, 2008.

### II.I Local Office

EnCana's local office in Halifax, Nova Scotia is located in Founders Square at 1701 Hollis Street. The office is the base of activity for the Deep Panuke project. Resident in the office are the project general manager and an interdisciplinary project management team, supported by staff and contractors, for a total complement of 78 individuals at December 31, 2008.

Appropriate levels of decision-making are directed from or take place in the office including project management, engineering, procurement, commercial arrangements, accounting, human resources, regulatory, community relations, drilling and completions and environment, health, safety and quality.

EnCana's PFC contractor SBM established an office in Nova Scotia with the opening of the SBM Nova Scotia Contractors office adjacent to the Deep Panuke project office in Founders Square in Q2 2008.

In Q2 2008, pipe coating contractor Shaw & Shaw opened offices at the North Atlantic Marine Terminal in Sheet Harbour, NS to oversee and direct the coating of the Deep Panuke offshore pipeline at the site.

In Q4 2008, Allseas Canada and its subcontractor McNally-Tideway Joint Venture opened local offices at Isaacs Harbour, Guysborough County, NS to oversee the pipeline landfall preparation program taking place nearby at Goldboro, NS. EnCana also maintains a small operational office at this work site, where at year end 2008 one full-time EnCana field representative was based to liaise between the work site and the Deep Panuke office in Halifax.

### **III. Business Opportunities and Supplier Development**

#### **III.1 Update on Activities**

Throughout 2008, EnCana utilized recognized channels of distribution to share business opportunities at Deep Panuke with the local supply community. Such channels include the electronic bulletin board BIDS Nova Scotia, postings to the Deep Panuke pages on the EnCana web site, sponsoring supplier workshops, presentations, report/newsletter distribution and in some cases local advertising of direct business opportunities or general advertising providing useful links to Deep Panuke business opportunities.

As well, EnCana's Deep Panuke business opportunities are frequently reported through third party organizations. For example, information on EnCana's Expressions of Interest (EOI), Requests for Proposal (RFP) and Contract Awards typically are posted the day of issue in the Offshore/Onshore Technologies Association of Nova Scotia (OTANS) Daily Bulletin to members.

Major contractors to Deep Panuke such as SBM, Allseas Canada, Shaw & Shaw and Acergy also utilized BIDS Nova Scotia in 2008 to share information on business opportunities created by Deep Panuke with potential subcontractors and suppliers. In turn, distribution of these opportunities was supplemented by regular listing of the opportunities in the OTANS Daily Bulletin circulated to OTANS members.

EnCana sponsored two OTANS breakfast briefings for the supplier community in 2008. The first breakfast, which took place in February 2008, featured a presentation by SBM, the Deep Panuke production field centre contractor. Approximately 300 offshore suppliers and service providers attended the breakfast where SBM provided a full overview of business opportunities at Deep Panuke, shared relevant timelines for the Deep Panuke project and provided insight into expected contracting requirements through 2008 for the PFC. The second breakfast took place in April 2008 and featured the launch of Trade Circle, an on-line service aimed at connecting Aboriginal suppliers and service providers with contractors in the offshore oil and gas industry.

In 2008, EnCana was invited to join the programming committee for the CORE conference and exhibition. CORE is the annual gathering of the offshore supply and service community in Nova Scotia hosted by OTANS. To support business development for the local supplier community and to share information on Deep Panuke, EnCana also directly sponsored the 2008 CORE conference with Atlantic Canada Vice President Dave Kopperson providing a well-attended project update to delegates.

EnCana supported educational programming by OTANS via sponsorship of Oil and Gas 101 in November 2008. Oil and Gas 101 is a learning day for the business community about the province's offshore oil and gas industry. Course curriculum includes regulatory, geology, geophysics, exploration and production drilling, project development, producing hydrocarbons and life offshore, liquefied natural gas (LNG), safety, guidelines and certification.

To help alert suppliers to business opportunities at Deep Panuke, EnCana inserted a Procurement Update in the four 2008 editions of the project newsletter. Approximately 4,000 hard copies of the newsletter are circulated. As well, the newsletter is posted to the Deep Panuke pages on the EnCana web site at [www.encana.com/deeppanuke](http://www.encana.com/deeppanuke)

EnCana awarded 48 contracts for the Deep Panuke project in 2008. Among the contracts awarded for Deep Panuke in 2008 were:

- Engineering, Procurement, Installation and Commissioning for the Deep Panuke export pipeline – Allseas Canada Limited
- Drilling Unit – Rowan Companies Limited
- Concrete Weight Coating – Shaw & Shaw Limited
- Engineering, Procurement, and Supply of Subsea Trees and Wellheads – VetcoGray
- EPIC Infield Flowlines and Umbilicals – Acergy Canada Inc.
- Helicopter Services – Cougar Helicopters Inc.
- CRA Production Tubing – HNS Tubulars
- Completions Equipment – Halliburton
- OCTG 9-5/8-inch & 13-3/8-inch – HNS Tubulars
- OCTG 30-inch – HNS Tubulars
- High Pressure Riser – Claxton Engineering
- Wellhead Adjustment Subs – Dril-Quip Inc.
- DHPT Gauges – Halliburton
- Drilling & Completions Fluids & Services – M-I Swaco
- Surface control subsurface safety valve – Halliburton
- Cementing & Acid Stimulation – Schlumberger
- Fishing Tools – Weatherford
- Verticality Equipment – Romor

- Aluminum Plate – Mulgrave Machine Works
- CRA Casing for AGI well – Corrosion Resistant Alloys LP
- Engineering Procurement & Supply of Subsea Trees & Wellheads – Vetco Gray
- Installation and Commissioning Support Services & Rental of Tooling – VetcoGray
- Subsea Project Management & Engineering Support Services – Pegasus International (UK)
- Wellhead Protection Structure (WHP) Design – ACCENT Engineering Consultants
- Wellhead Protection Structure Fabrication – Cherubini Metal Works Ltd
- Offshore Construction Activities – Aker Marine Contractors
- Pile Connectors for WHP – Britannia Engineering Consultancy Ltd.
- Supply & Delivery Structural Steel for WHP – Russel Metals Inc.
- Onshore Pipeline and Facilities Design – Atlantic Gas Engineers
- Onshore Topographical Survey – Terrain Group Inc.
- Onshore Geotechnical Survey – Jacques Whitford/Stantec
- Storage yard for CRA Tubing – Supply Base Logistics JV Inc.
- Geotechnical Survey – Seaforth Geosurveys Inc.
- 3<sup>rd</sup> Party Inspection Services – Spectrol Group & PV Inspection Services Ltd.
- Traditional & Current Land Use Study (MEK) – Membertou Geomatics Consultants
- Marine Warranty Surveyor – London Offshore Consultants Canada
- Basic Survival Training – Survival Systems Limited
- Archaeological Monitoring Pipeline Corridor – Davis Archaeological Consulting
- 2008 Subsea Program ROV – DOF Subsea
- Aboriginal Monitoring Pipeline Corridor – Kwilmu'kw Maw-klusuaqn (Mi'kmaq Rights Initiative)
- Marine Consultant – Sagaris Nautical Inc.

In 2008, EnCana submitted four quarterly procurement forecasts to the CNSOPB, with a further two submitted to date in 2009.

### **III.II Expenditures**

The total expenditure for Deep Panuke by EnCana in 2008, during the period of January 1 to December 31, 2008 was \$238.6 million Canadian. This excludes expenditures for the PFC, which will be owned and operated by SBM and leased to EnCana.

## IV. Project Employment

### IV.1 Update on Activities

EnCana is fully committed to employing a competitive, open and fair recruitment process for Deep Panuke, with full and fair opportunity for Nova Scotians and all Canadians, and with first consideration to qualified Nova Scotians. Foreign workers will be hired when specialized knowledge or experience is required and when qualified Canadian workers are not available.

To support growing project activities, EnCana increased its resources in the Halifax office from approximately 70 persons at the beginning of 2008 to nearly 80 persons in total by the end of the year.

During 2008, EnCana advertised for 34 positions with Deep Panuke including:

- 18 positions in engineering, drilling and completions, commercial services and IT;
- 16 potential positions for the Developing Skills Initiative, expected to lead to the hiring of 10 developing professionals from Nova Scotia in late 2008 and early 2009;

In Nova Scotia, Deep Panuke positions typically are advertised at [www.CareerBeacon.com](http://www.CareerBeacon.com), a well recognized web site for local opportunities in the offshore oil and gas industry. Advertisements for Deep Panuke positions also are placed in The Chronicle Herald, and from time to time in specialty oil and gas publications such as Upstream and local, community media in Nova Scotia. As well, all positions are posted on the EnCana web site at [www.encana.com](http://www.encana.com) and applicants are encouraged to send their resumes to the Deep Panuke dedicated careers mailbox [dpcareers@encana.com](mailto:dpcareers@encana.com)

The Developing Skills Initiative is an undertaking to foster the participation of developing professionals in Nova Scotia in the offshore oil and gas industry. The initiative is in keeping with EnCana's commitments outlined in the Offshore Strategic Energy Agreement (OSEA) with the Province of Nova Scotia. Priority areas for hiring include engineering, business or science, as well as journeymen trades people and technicians. The initiative is designed to provide candidates with the skills and experience that are in demand in Nova Scotia's offshore oil and gas industry. Candidates will gain valuable exposure to many aspects of the Deep Panuke project as the focus transitions from engineering to procurement, fabrication and pre-commissioning and finally to transportation, offshore integration, commissioning and production start-up. The Developing Skills opportunities are two-year contract positions based in the Halifax Deep Panuke office or in the offices of major Deep Panuke contractors in Nova Scotia and abroad. Information on the initiative was shared via:



- Advertisements in The Chronicle Herald, Cape Breton Post and Guysborough Journal;
- Postings at Dalhousie University, Saint Mary's University, St. Francis Xavier University, Nova Scotia Community College Campus Recruitment Centres and their online job boards;
- Career Beacon and the EnCana online Career centre at [www.encana.com](http://www.encana.com);
- Direct email to representatives of disadvantaged groups;
- Presentation by Atlantic Canada Vice President Dave Kopperson at annual CORE conference in October 2008;
- OTANS Daily Bulletin and in the Fall 2008 and December 2008 editions of the Deep Panuke newsletter.

By the end of 2008, four of the 10 positions were filled, with the balance of candidates expected to be in place early in 2009.

The formalized Deep Panuke co-op student program for Nova Scotia university students began in January 2008. During the year, 12 students joined the Deep Panuke team, for the most part on four-month work terms. To date, participating co-op students are enrolled at Acadia, Dalhousie and Mount Saint Vincent universities in engineering, commerce and public relations fields of study.

#### **IV.II 2008 Person Hours**

Total Person Hours by Nova Scotia residents from January 1 to December 31, 2008 for Deep Panuke were 282,334 and Person Hours by Other Canadian Residents hours were 31,222.

#### **V. Community Liaison**

##### **V.I Update on Activities**

In 2008, EnCana continued to liaise with key stakeholders to share information on Deep Panuke. Methods of liaison in 2008 included face to face meetings, presentations and/or participation at conferences, workshops and to audiences of university students and faculty, an open house in Guysborough County, print material distribution, media relations, community sponsorships, an email contact point via [dpinfo@encana.com](mailto:dpinfo@encana.com) and ongoing web site updates to [www.encana.com/deeppanuke](http://www.encana.com/deeppanuke)

Four project newsletters were distributed in 2008 to provide stakeholders with updated information on Deep Panuke.

Each edition of the newsletter is:

- Posted to the Deep Panuke pages on the EnCana web site;
- Inserted in the weekly Guysborough Journal to help ensure circulation in Guysborough County, the location of Deep Panuke pipeline landfall;
- Delivered by Canada Post to mailboxes in Guysborough County;
- Distributed to representatives of local, provincial and federal government, fisheries organizations, environmental groups, suppliers and other diverse stakeholders on a large mailing list.

In addition, the newsletter is directly distributed to participants at meetings, conferences and events attended by representatives of EnCana to share information on the Deep Panuke project.

The Deep Panuke pages at [www.encana.com/deeppanuke](http://www.encana.com/deeppanuke) are refreshed regularly to include up to date information on project business activities, EnCana conference presentations, recent speeches and other relevant materials. In 2008, the direct link [www.encana.com/deeppanuke](http://www.encana.com/deeppanuke) was launched to make it more straightforward for stakeholders to locate Deep Panuke information on the EnCana web site.

The general information mailbox [dpinfo@encana.com](mailto:dpinfo@encana.com) is monitored on a daily basis. During 2008, the Deep Panuke project responded to approximately 20 inquiries from the general public with respect to business and employment opportunities and community sponsorships for the project.

In 2008, a construction supplement was produced describing the pipeline landfall preparation work at Goldboro, NS that commenced in the fourth quarter. The supplement has been posted to the Deep Panuke pages on the EnCana website, was inserted in the December 2008 edition of the Deep Panuke newsletter and copies are available at the Goldboro work site for local residents and visitors.

## **V.II Disadvantaged Groups**

During 2008, EnCana progressed its approach to sharing Deep Panuke business and employment opportunities with disadvantaged groups in Nova Scotia.

### **A. Sharing Business and Employment Opportunities**

In April 2008, two new links were established from the Deep Panuke pages of the EnCana web site to publicly accessible databases of companies owned and operated by members of disadvantaged groups. The links were established to facilitate connections between Deep Panuke contractors and companies owned and operated by members of disadvantaged groups.

By the fall of 2008, the number of databases linked from the Deep Panuke web pages had grown to nine, and included databases representing all four disadvantaged groups: Aboriginal groups, persons with disabilities, members of visible minorities and women. The links can be accessed at [www.encana.com/deeppanuke/business](http://www.encana.com/deeppanuke/business), and then click on the link 'Encouraging diversity'.

To directly share information on Deep Panuke contracting opportunities with disadvantaged groups, beginning in April 2008 an email distribution list was established to immediately alert key representatives of disadvantaged groups to the issuing of an EOI, RFP or Contract Award by EnCana.

In a similar fashion, beginning in July 2008, an email notification tree was established to immediately alert key representatives of disadvantaged groups to job opportunities with the Deep Panuke project, both contract and permanent.

To assess interest in a targeted workshop to review the contract award process for Deep Panuke, EnCana contacted representatives of disadvantaged groups in November 2008 with a view to hosting a workshop early in 2009.

To further communicate business and employment opportunities at Deep Panuke, EnCana ran advertisements in the fourth quarter of 2008 in targeted publications representing disadvantaged groups including the quarterly newsletter of the Entrepreneurs with Disabilities Network, the Black to Business magazine produced by the Black Business Initiative of Nova Scotia, the Native Council of Nova Scotia newsletter and the Aboriginal Business Directory - Atlantic Canada edition produced by Indiana Marketing.

Also in 2008, EnCana established links from the Deep Panuke pages of the EnCana web site to major contractors for the project. The intent is to provide relevant contact information with major contractors for potential sub-contractors in Nova Scotia, including members of disadvantaged groups. See [www.encana.com/deeppanuke/business](http://www.encana.com/deeppanuke/business) and click on the icon for major contractors.

## **B. Aboriginal and Community Liaison**

The Aboriginal Liaison Advisor position started with EnCana's Deep Panuke Project under contract in mid-November 2007. Following EnCana's commitment in mid-2008 to fund a Mi'kmaq liaison position housed at the Assembly of Mi'kmaq Chiefs, Rights Office, the EnCana in-house role formally expanded to include liaison with other disadvantaged groups and community organizations and is now titled Aboriginal & Community Liaison Advisor.

In 2008, the individual holding the EnCana in-house role had more than 70 meetings with various disadvantaged groups, attended 28 community events, had 240 direct business related contacts, and gave 15 presentations on the business and employment opportunities associated with the Deep Panuke project. Regular contact is maintained by the advisor with more than 30 community agencies representing Aboriginals, African Nova Scotians, persons with disabilities, other visible minorities and women. Of these 30 ongoing regular contacts, 10 are Aboriginal/Mi'kmaq representative groups.

During all communications, the EnCana advisor emphasizes the importance of math and science education courses and other specialized training and safety certifications required for work in the offshore oil and gas industry in Nova Scotia.

In late June 2008, EnCana was pleased to confirm funding to the Assembly of Mi'kmaq Chiefs, Rights Office, for the establishment of a Deep Panuke Aboriginal Liaison position resident in the Rights Office. The successful candidate was in place at the end of 2008 and is expected to act as a bridge between EnCana and Mi'kmaq communities in Nova Scotia, sharing information on Deep Panuke business and education and training opportunities.

Also in Q2 2008, EnCana awarded a contract for the Current and Traditional Land Use Study, or Mi'kmaq Ecological Knowledge Study (MEKS), at pipeline landfall to Membertou Geomatics. A final MEKS was provided to EnCana by Membertou Geomatics in August 2008.

To support Aboriginal community development, in 2008 EnCana sponsored National Aboriginal Day at the Glooscap Heritage Centre in Truro, NS, Treaty Day activities in Halifax, NS and Ulnoweeg's annual Atlantic Aboriginal Business Achievement Awards.

### **C. Members of Visible Minorities**

EnCana is developing closer working relationships with organizations representing the business interests of visible minorities in Nova Scotia, particularly the Black Business Initiative (BBI) and the Metropolitan Immigrant Services Association (MISA).

In June 2008, EnCana sponsored the annual Black Business Summit, a gathering of business leaders in Nova Scotia's African Nova Scotian community. The Aboriginal & Community Liaison Advisor for Deep Panuke represented EnCana at the event. In October 2008, the EnCana advisor gave a presentation on the business and employment opportunities at Deep Panuke to a gathering of BBI program managers.

It is anticipated that the meetings with MISA will lead to EnCana's participation in that organization's New Beginnings program, which offers new Canadians working internships in their fields of professional expertise.

#### **D. Persons with Disabilities**

EnCana provided funding to sponsor the "Believe and Achieve" conference hosted by the Entrepreneurs with Disabilities Network. The conference was comprised of workshops focused on business essentials for entrepreneurs with disabilities.

Core program support was provided to the Canadian Paraplegic Association, the Canadian National Institute for the Blind and Nova Scotia's Provincial Autism Centre through EnCana's regular purchase of tickets for charitable dinners and events in 2008.

In Q4 2008, EnCana met with the Abilities Foundation of Nova Scotia to explore potential program partnerships. These meetings have led to contract work for persons with disabilities employed by New Leaf Enterprises with respect to the quarterly mail-out of the Deep Panuke newsletter and EnCana's sponsorship of a significant Easter Seals fundraising initiative for 2009 and 2010.

#### **E. Women**

EnCana's liaison with women's organizations in 2008 included meetings with representatives of the province's Status of Women office as well as other groups to discuss education and training requirements for work in Nova Scotia's offshore, as well as opportunities at Deep Panuke.

EnCana's 2008 focus was placed on the Techsploration program aimed at encouraging Nova Scotia girls to consider careers in the science, technology and trades fields which are vital to the ongoing development of Nova Scotia's offshore oil and gas industry.

EnCana provided funding in 2008 to assist Techsploration in developing online video testimonials of women working in science, trades and technology careers. The online delivery of the videos is aimed at increasing the reach of Techsploration to schools in Nova Scotia that are not participating in the program.

In 2008, Techsploration hosted 53 events around the province involving 30 schools and approximately 2,500 students.

## **VI. OSEA**

### **VI.I Update on Activities**

During 2008, EnCana advanced activity on several fronts with respect to the Offshore Strategic Energy Agreement (OSEA) commitments with the Province of Nova Scotia. During this period, 345,384 Person Hours of work were conducted in Nova Scotia with 282,334 of these Person Hours being performed by Nova Scotian residents.

- Engineering, Procurement and Management Activities

EnCana's office in Halifax continues to be the centre of project management activity, as well as engineering and procurement management.

During 2008, the project team in Halifax grew to include specialized engineering roles required in the lead up to construction, installation and production operations at Deep Panuke. Other additions included contract and permanent positions in the Drilling and Completions group as well as positions in the Commercial group to assist with project procurement activities.

In addition, EnCana established an operational presence in Goldboro, NS with the commencement of the pipeline landfall preparation program in Q4 2008.

- Export Pipeline - Coating

In 2008, contractor Shaw & Shaw initiated and completed operations at the North Atlantic Marine Terminal in Sheet Harbour, NS, to coat the export pipeline for the Deep Panuke project.

In March 2008, iron ore used to coat the pipeline arrived at the terminal. In June 2008, the concrete coating plant was mobilized and shipped to Sheet Harbour where it began operations in July following the first delivery of pipe from an Italian mill. In total, more than 14,000 sections of 12 metre long pipe were unloaded and concrete coated. By October 2008, the pipe coating process was complete and the concrete coating plant was demobilized.

The coated sections of pipe were stored at Sheet Harbour beginning in Q4 2008. In 2009, the pipe will be loaded out for installation in the field to connect the Deep Panuke PFC to landfall at Goldboro, NS.

To recruit workers to the Sheet Harbour facility, Shaw & Shaw engaged in an active recruitment campaign in the spring of 2008 in provincial, community and Aboriginal media. Approximately 250 applications were received with 106 positions filled at Sheet Harbour. Most workers were from the Sheet Harbour area.

- Flare Tower

This structure is an integral part of the PFC for Deep Panuke. It will have an estimated height of 93 metres and an estimated weight of 130 tonnes. Delivery date is planned for Q4 2009.

A bidders list of five Nova Scotia firms resulted in four firms submitting a response to the Request for Quotation (RFQ) for the tower in the first half of 2008. Contract award to Aecon Fabco took place in January 2009. The tower will be fabricated in Pictou, NS.

- Accommodations Unit

By February 2008, two Nova Scotia bidders were identified for the Accommodations Unit fabrication: Irving Shipbuilding Inc. and Atlantic Fabricators. Through to the end of June 2008, a detailed examination of the bids was ongoing.

In the summer of 2008, the preferred bidder withdrew its bid following the withdrawal of the bid's engineering partner. Following a review of options and alternatives, the accommodations unit was awarded to a fabrication yard in the Middle East.

- Offshore Supply Vessels

On March 20, 2008, EnCana issued an RFP to seven bidders for each to determine if they wanted to submit a tender for the construction (in Nova Scotia) of a new-build Platform Supply Vessel and for the provision of a Stand-By Vessel for the production operations phase at Deep Panuke. Following an initial evaluation of responses, five companies were invited to bid and four bids were evaluated during 2008.

The contract for the new-build platform supply vessel was awarded to Atlantic Towing in Q1 2009. The vessel is to be built by Irving Shipbuilding at the Halifax Shipyard. Design and engineering for the vessel is slated to begin in Q2 2009.

- Wellhead Protection Structures

In Q2 2008, a contract was awarded to Accent Engineering of Dartmouth, NS for the design of trawl resistant wellhead protection structures (WHP). These steel, tubular structures will be installed over the top of each wellhead to protect from impacts or damage and provide support to the existing conductor housing.

In October 2008, contract award was made to Cherubini Metal Works Limited of Dartmouth, NS for the fabrication of these five structures, each measuring 8 m by 8m by 10 m and weighing approximately 55 tonnes. One will be installed at each

production well and one at the acid gas injection well. The supply and delivery of the structural steel for the structures was undertaken by Russel Metals Inc. of Lakeside, NS.

The structures are to be installed in the field by Aker Marine Contractors (awarded contract in November 2008) in 2009.

In addition, Cherubini fabricated the piles to be used to anchor the WHPs to the seabed. Steel for the fabrication of the piles also was supplied by Russel Metals.

Cherubini also fabricated a WHP 'Mock-up' Structure (18 tonnes) for trials to be carried out by wellhead supplier VetcoGray, as well as four conductor protection covers installed at each of the Deep Panuke production well sites by DOF Subsea in the November-December 2008 wellhead inspection program for EnCana. As part of the program for EnCana, DOF cleared previously abandoned flowlines and communications cables from future pipeline routes for Deep Panuke.

- Onshore Drilling Rig Program

EnCana committed financial and human resources to facilitate the development of the capability of an onshore drilling rig manufacturing operation in Nova Scotia.

In 2008, Laurentian Fabricators at Sydport, NS undertook the building of two complete onshore drilling rigs for Nabors Canada. This activity built upon Laurentian's 2007 work in the Onshore Drilling Rig Program that saw Laurentian successfully deliver components for Nabors heli-rig initiative. The contract to build complete rigs marked the success in the transfer of technology and expertise to Nova Scotia regarding the capability to undertake an onshore drilling rig manufacturing operation.

Unfortunately, due to a downturn in the Canadian drilling industry, the manufacture of the rigs was suspended in Q1 2009.



## VI.II 2008 Person Hours

Person Hours performed in Nova Scotia from January 1 to December 31, 2008 for OSEA related activities were 345,384, with 282,334 of these Person Hours being performed by Nova Scotian residents.

	<b>2008</b>	<b>CUMULATIVE</b>
<b>CATEGORY</b>	<b>PERSON HOURS</b>	<b>PERSON HOURS</b>
Person Hours Worked by Nova Scotian Residents	282,334	433,117
Total Person Hours Worked in Nova Scotia	345,384	512,398

NOTE: Table above includes Person Hours related to activities in OSEA commitments described in Section 3.3 of OSEA Agreement.

## VII. Education & Training/ Research & Development

During 2008, EnCana continued to invest in education & training, research & development initiatives in Nova Scotia, with a view to continuing to develop the foundation for targeted Deep Panuke education & training and research & development spending in relation to offshore petroleum activities in the province.

### VII.I Project Education & Training/ Research & Development Plan Update

In January 2008, EnCana submitted a plan to the CNSOPB to comply with Condition 4 Education & Training / Research & Development of the Decision Report for the Deep Panuke project.

Subsequently, EnCana submitted 33 initiatives for funding consideration in October and December 2008 to the CNSOPB, largely in the areas of education & training. The December submission also outlined other potential initiatives for funding in 2009, with the commitment made to submit more detailed information on each 2009 initiative by early January 2009.

As outlined in EnCana's January 2008 submission to the CNSOPB, with capital expenses of approximately \$40 million for 2007 at Deep Panuke, it was recommended that the modest funds (~\$200,000) available for 2008 be allocated as follows:

- \$100,000 to Petroleum Research Atlantic Canada;
- \$50,000 to the Techsploration program, which encourages girls to consider careers in science and technology, for the first year of a planned three-year program expansion;

- \$15,000 to Discovery Centre, the province's hands-on science centre, for ongoing support to begin planning for expansion of the Science-on-the-Road program to reach more Nova Scotian students;
- \$10,000 to the Energy for Students initiative aimed at providing materials and information on careers in the offshore oil and gas industry to educators in Nova Scotia;
- \$25,000 on initiatives/programs yet to be finalized, but among those described in the submission.

EnCana awaits final feedback from the CNSOPB on education & training or research & development initiatives in Nova Scotia that qualify for funding based on a calculation of 0.5% of the allowed capital expenditures during development and 0.5 % of the gross revenue from Deep Panuke during production.

### **VII.II Petroleum Research Atlantic Canada (PRAC)**

PRAC is a core regional research organization receiving funding from EnCana. In 2008, EnCana's investment in PRAC totalled \$110,000 in Nova Scotia, with \$90,000 directed at core program support for PRAC and an additional \$20,000 for a study to be undertaken by local contractor Jacques Whitford/Stantec to review research & development (R&D) capacity in the province, with a focus on R&D potential in the private sector particularly in offshore service and supply companies.

In 2008, EnCana selected PRAC as the manager for the Deep Panuke annual R&D Call for Proposals. In this capacity, PRAC is expected to leverage its experience in R&D calls for proposals with Nova Scotia researchers.

Through 2008, EnCana's Vice President Atlantic Canada continued to sit on PRAC's Board of Directors.

### **VII.III Other Research & Development**

During 2008, EnCana helped to fund activities to support the advancement of education & training and research & development with respect to offshore petroleum activities in Nova Scotia.

In 2008, EnCana participated in and/or provided funding support for industry technical conferences, learning events and programs such as:

- The Nova Scotia Research and Development Forum at St. Francis Xavier University, held May 21-22, 2008 which was hosted by the province's offshore energy research associations – at the event, EnCana representatives provided presentations on acid gas injection and safety and risk management at Deep Panuke;

- The annual Fishermen and Scientists Research Society conference in February 2008 in Truro, NS;
- The Conjugate Margins conference hosted by Dalhousie University in the summer of 2008 focusing on Nova Scotia geology. The Deep Panuke Subsurface Lead provided a poster presentation on Deep Panuke geology and EnCana was the student sponsor of the event, facilitating the participation at the conference by undergraduate and graduate earth sciences students from Nova Scotia; and,
- In December 2008, the establishment of the EnCana-Native Council of Nova Scotia Opportunities Fund (ENCOF). ENCOF will provide seed support of \$200,000 annually for five years for the off reserve Mi'kmaq/Aboriginal peoples in Nova Scotia interested in relevant and useful oil and gas training, education opportunities and insight into goods and services opportunities with the offshore oil and gas industry.

In 2008, EnCana continued to provide funding and/or participation through a number of task forces and committees on safety and environmental issues linked to the offshore, such as the Eastern Scotian Shelf Integrated Management (ESSIM) Initiative, the Sable Island Stakeholder Committee, the Gully Advisory Committee and the Northern Bottlenose Whale Recovery Strategy working group. In addition EnCana participated in a multi-stakeholder Country Harbour Roseate Tern Monitoring Project. EnCana was a joint funder of this major research project which took place in the spring and summer of 2008 to study Roseate tern behaviour in the Country Harbour area near landfall for the Deep Panuke export pipeline. A final report from the research project was posted on Bird Studies Canada website in March 2009.

As well, EnCana confirmed support in Q1 2008 for the ongoing lobster monitoring program overseen by the Guysborough County Inshore Fishermen's Association.

EnCana provides representation on various committees of the Offshore Energy and Environment Research (OEER), a not-for-profit association dedicated to fostering offshore energy and environmental research and development.

In addition, EnCana participated in several Technical Advisory Groups from the Environmental Studies Research Funds (ESRF).

#### **VII.IV Education & Training**

In 2008, EnCana continued to focus on initiatives and programs that encourage youth to consider careers in science and technology, particularly the offshore oil and gas industry.

EnCana's main support in 2008 has been directed to ongoing development of science fairs in Nova Scotia for students in junior and senior high school. EnCana's core activities to support science fairs in 2008 have included:

- Funding for the annual science fair promotional campaign with media partners Global Television and the *Chronicle Herald*. Ads featuring science fair students from across Nova Scotia started running June 25 in the *Chronicle Herald* and continued until the end of the summer followed by spots on Global Television through the Fall of 2008.
- Funding for Nova Scotia Youth Experiences in Science (NSYES) projects, in particular support for ongoing development of [www.sciencefairinfo.ns.ca](http://www.sciencefairinfo.ns.ca) and the development of a three-year calendar depicting Nova Scotians in local science-related careers – the calendar was distributed to all science teachers in Nova Scotia starting in Q1 2009 and will be downloadable from <http://www.sciencefairinfo.ns.ca/scienceismybusiness.php>
- Support for regional science fairs in Halifax and Port Hawkesbury, NS and for Mi'kmaq students in Nova Scotia. Top projects from the regional fairs participated in the national science fair in Ottawa where in 2008 Nova Scotia students had one of their best showings ever, winning two gold medals, five silver, and six bronze.
- Sponsorship of the Discovery Centre's Youth Award given to science fair student(s) in Nova Scotia as selected by their peers. The Award is part of the annual Discovery Awards ceremony, with the 2008 event taking place in November.

Among other initiatives and organizations that received funding in 2008 from EnCana:

- The *Chronicle Herald* newspapers in education program for an educational supplement on geology and the role that rocks play in our daily lives. The supplement was distributed in the *Herald* in Q1 2009 and will be delivered directly to all Grade 7 students in Nova Scotia via school delivery of the *Herald*.
- The Eastern Counties Regional Library for the:
  - EnCana Energy for Families Collection, a collection of books and learning materials focusing on the oil and gas industry including publications on geology, pipelines, engineering, the marine environment, drilling rigs, etc.; and,

- The annual Share a Book, Build a Community campaign which helps to provide needed funding for new books and audiovisual materials for the public library serving Guysborough, Richmond and Inverness counties.
- Ducks Unlimited Canada for delivery of Project Webfoot to elementary students in Halifax and Guysborough counties. Project Webfoot teaches children about the importance of wetland conservation. EnCana sponsors the program in recognition of the construction onshore of a three-kilometre segment of pipeline connecting the project's offshore subsea pipeline with the Maritimes & Northeast Pipeline facilities.
- Energy for Students (EFS) energy education modules for educators offered by the Energy Solutions Group during educator professional development days. The 2008 EFS Series was presented in Halifax, Dartmouth, Mulgrave and Fall River to 408 participants. The EFS presentations consist of an overview of the energy industry including a narrated slide presentation, general overviews of the history, present and future of the oil & gas industry; the upstream, midstream & downstream sectors including the geology, seismic exploration, development, production refining, distribution components, pipelines, renewable energy sources & projects, and government's role. In 2008, EnCana provided support for the launch and ongoing distribution of the EFS newsletter which highlights recent energy developments in Nova Scotia for educators and is aimed at fostering interest in the energy industry and the careers offered in it. In 2008, eight newsletters were distributed to more than 600 educators. To view the newsletters, please visit [http://www.energyforstudents.ca/content/EFS\\_Newsletter](http://www.energyforstudents.ca/content/EFS_Newsletter).
- The Super NOVA science summer camp program offered via Dalhousie University for Mi'kmaq students living on reserve in Nova Scotia – the program is delivered in partnership with the Atlantic Policy Congress. The first EnCana funded camps are to take place in 2009;
- The Math-On Olympiad, targeting junior high students in Halifax and Cape Breton, to encourage interest in mathematics;
- Atlantic Science Links, a service that provides schools with science guest speakers from local universities;
- The Discovery Centre (Nova Scotia's hands-on science centre);

- The Nova Scotia Community College led Underwater Robotics – International ROV (Remote Operated Vehicle) Competition for Nova Scotia high school students. Dalbrae Academy, the winning team from 2008, participated in an international ROV competition in May 2008 in the U.S. and placed 3<sup>rd</sup> out of 26 teams;
- The Canadian Association of Petroleum Producers Energy in Action program as delivered at a Halifax area elementary school – the educational program is aimed at teaching students where different types of energy come from, what their impacts are as well as ways to conserve energy;
- To support educators interested in better understanding the offshore oil and gas industry and the careers open to students in the industry, EnCana has developed packages of information including publications from the Petroleum Human Resource Council, the Atlantic Geoscience Society, the Canadian Association of Petroleum Producers and the Canadian Centre for Energy. In 2008, 15 of the packages were distributed to teachers in Nova Scotia.

### **VIII. Activity Forecast for 2009**

Project activity at Deep Panuke is organized into functional elements as noted in Section I of this report. The following section describes activity anticipated in 2009 for each of these elements. Overall, increased activity with respect to major contracts such as pipeline installation, drilling and completions and construction of the PFC are expected to occur through to the end of 2009.

EnCana will continue to comply with CNSOPB conditions in the Decision Report, and will keep the CNSOPB informed of project activities through required reporting documents such as the quarterly procurement forecast, the quarterly stakeholder consultation report and other documentation as required.

#### **VIII.I Project Management Element**

In 2009, EnCana's project management team will continue to closely track critical path items in the project schedule. Cost control will continue to be an integral part of regular monitoring to capitalize on potential synergies and ensuing savings.

During 2009, liaison will continue with communities at pipeline landfall as well as with the interested parties in Nova Scotia, particularly in support of the installation of the Deep Panuke offshore pipeline, the drilling program, the fabrication and installation of the wellhead protection structures and the fabrication of the flare tower for the PFC all scheduled for 2009.

## **VIII.II Element 1 – Drilling and Completions**

An estimated 180 day drilling program is scheduled to begin in 2009 to convert four existing exploration wells (currently suspended) to production wells and to drill one new acid gas injection well: D-70. The four wells to be converted are D-41, F-70, M-79A and H-08.

The conversion process has the following key steps:

- Convert wells from surface wellhead system to subsea wellhead system;
- Exploration wells were sealed with cement and temporary plugs. Cement will be drilled out and plugs removed to “open” well;
- Install corrosion resistant alloy production tubing to allow natural gas to flow to surface;
- Flow the wells for clean-up;
- Suspend the wells for handover to production.

Rowan is the drilling contractor for the Deep Panuke program and is expected to mobilize the Rowan Gorilla III jack-up drilling rig to the province in mid-2009.

## **VIII.III Element 2 – Subsea**

The installation of the wellhead protection structures by Aker Marine Contractors is expected to take place in the field in mid-2009 once fabrication is completed.

Key subsea contractor Acergy is to deliver an overview for suppliers and service providers at an OTANS breakfast scheduled for April 22, 2009 in Halifax. The presentation is expected to include an overview of the company and an explanation of its plans for its Deep Panuke contract, including supply chain management and other supplier opportunities.

Manufacture of production control umbilical components is underway in the United Kingdom and linepipe manufacture is well advanced in Japan. Delivery of the subsea trees and wellheads from VetcoGray is anticipated in mid 2009.

Core offshore activity for the subsea installation program is expected to take place in 2010 following the installation of the export pipeline in 2009.

#### **VIII.IV Element 3 – Export Pipeline**

In 2009, the export pipeline will be installed in the field from landfall at Goldboro, NS to the PFC site. Allseas Canada is the lead contractor for the installation. Allseas will mobilize the pipelay vessel Lorelay, support vessel Calamity Jane complete with pipeline trenching equipment Digging Donald as well as pipe vessels, material supply vessels and survey vessels to Nova Scotia in 2009 for the installation program.

In February 2009, Allseas advertised in local media for positions to support the pipelay process which is expected to take approximately eight weeks to complete and will be followed by another nine weeks of trenching.

Through Q1 2009, Allseas subcontractor McNally-Tideway Joint Venture continued trenching activity at Goldboro from landfall up to one kilometre from shore utilizing a trenching barge (Canadian Argosy) as well as excavators working from a temporary berm. As well, civil work continued below Highway 316 to prepare for pipeline landfall.

Early in Q2 2009 prior to the start of the lobster season, nearshore activities at Goldboro will be suspended until the close of the lobster season.

#### **VIII.V Element 4 – Production Field Centre (PFC)**

Construction of the Production Field Centre (PFC) is now underway in the Middle East and will continue through all of 2009. The majority of all major equipment and materials will be delivered to site throughout 2009 which will be incorporated into the overall build sequence.

Fabrication in the Middle East will continue on the hull and topsides modules. Fabrication will commence in mid-2009 on the spud cans which will anchor the PFC to the seabed, and work will also advance on the accommodations unit and helideck. The hull sections will be placed in the dry dock and welded together to complete the hull, followed by the placement of topside modules onto the hull. Integration activities to interconnect the modules and hull subassemblies will commence late in the year and carry on into 2010.

In Europe, fabrication work will commence/continue on the legs, jacking systems and riser caisson in readiness for integration in 2010.

Construction of the flare tower for the PFC will start in Pictou, NS in 2009 and progress through the remainder of the year.



## **VIII.VI Element 5 – Ready for Operations and Operations**

During 2009, EnCana and SBM will continue to develop and implement their long-term strategies for operations, in particular the provision of logistics services which overlap between the development and operations phases at Deep Panuke. These services will include, helicopter transport, support vessels, ROV services and supply base.

After finalizing the platform crewing distribution, SBM will begin the platform operations staff ramp-up by conducting the first of two local recruitment campaigns during Q2 2009. The first campaign will target more senior positions for individuals whom will be utilized during the mechanical completion and pre-commissioning of the PFC. A second recruitment campaign is planned for late in 2009 to fill all remaining positions.

During 2009, there will be significant effort in developing the field specific operations management system and associated manuals. During Q4 2009 SBM intends to begin the procurement process to secure sub-contractors for various support services such as waste disposal, chemical supply, inspection, etc. required for the long-term operations phase.

Also in 2009, construction of the platform supply vessel is expected to be underway in Q3/Q4 following design and engineering to begin in Q2 2009.