
ExxonMobil Canada Properties

Sable Offshore Energy Project

2010 Canada-Nova Scotia Benefits Report

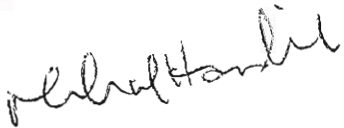
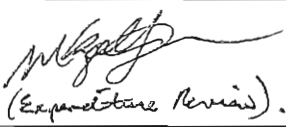
Submitted to the

Canada Nova Scotia Offshore Petroleum Board

March 31, 2011

Internal Discipline Check (IDC)

The following list identifies that this document has been reviewed and is satisfactory to the individuals listed.

Reviewed By	Position/Title	Signature	Date
Michael Honderich	Sable Asset Manager and Operations Superintendent		March 31, 2011
Mark Botham	Financial Reporting Supervisor - EMCE UBS	 (Expenditure Review).	March 31/11
Greg MacDonald	Regulatory and Environment Supervisor		March 31/11



Executive Summary	4
1.0 Introduction.....	5
2.0 Project Update.....	5
3.0 Economic Impacts.....	7
4.0 Diversity and Inclusion	11
5.0 Capacity Development.....	13
6.0 Research and Development Initiatives.....	16
7.0 Community Education and Participation	21
APPENDICES.....	26

List of Tables

Table 1 - 2010 Expenditures (\$ Million)	07
Table 2 - Expenditures - Historical (\$millions)	08
Table 3 - 2010 Person Hours	08
Table 4 - Person Hours - Historical.....	09
Table 5 - Estimated Year End Headcount	09
Table 6 - Residency of New Hires	10
Table 7 - Co-op Work Placements.....	10
Table 8 – Traditionally Underrepresented Groups.....	12
Table 9 - Training and Education Expenditures.....	13
Table 10 - Training and Education Expenditures – Historic	14
Table 11 - Research and Development Initiatives - Historical.....	16

Appendices

- Appendix 1 - 2010 Sable Project Person Hours
- Appendix 2 - 2010 Research and Development Investments

Executive Summary

ExxonMobil Canada Properties (EMCP) as the operator of the Sable Offshore Energy Project (SOEP) is pleased to submit to the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) our 2010 Canada - Nova Scotia Benefits Report. The report is submitted in accordance with the requirements under Section 2.6 and Condition # 9 of the Sable Offshore Energy Project Canada-Nova Scotia Offshore Petroleum Board Benefits Plan Decision Report and addresses Sable Project benefits activities for the period January 1, 2010 to December 31, 2010.

The cumulative Nova Scotia expenditures through December 31, 2010 total \$2,341.6 million or 38.1% of total project expenditures. The cumulative Canadian content of the total project expenditures was 17.0% based on \$1,048.5 million expenditures to date.

The 2010 expenditures in Nova Scotia amounted to \$106.6 million or 60.6% of the total project expenditures. During 2010, ExxonMobil Canada Properties and the Sable Project owners continued to support initiatives aimed at developing and sustaining the natural gas industry in Nova Scotia.

Significant accomplishments during 2010 included the Pioneer Award presented by the Offshore/Onshore Technology Association of Nova Scotia (OTANS) to ExxonMobil Canada and the Sable Project workforce and the Carolita Kallaur Award presented by the International Regulators Forum to the Atlantic Canada Marine Safety Council.

Expenditures were made in the areas of community education, research and development, training, technology transfer and support of diversity and inclusion programs.

1.0 Introduction

ExxonMobil Canada Properties (EMCP) as the operator of the Sable Offshore Energy Project (SOEP) is pleased to submit to the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) our 2010 Canada - Nova Scotia Benefits Report. The report is submitted in accordance with the requirements under Section 2.6 and Condition # 9 of the Sable Offshore Energy Project Canada-Nova Scotia Offshore Petroleum Board Benefits Plan Decision Report and addresses Sable Project benefits activities for the period January 1, 2010 to December 31, 2010.

The report includes economic impact data from our 2010 producing operations as well as cumulative data, which includes project development and producing activities for previous years.

The following facilities were operated by EMCP in 2010 as part of the SOEP and are included in the scope of this report:

Offshore Facilities

- Thebaud Central Processing Platform
- Venture Platform
- North Triumph Platform
- Alma Platform
- South Venture
- Export and Inter-field Pipelines

Onshore Facilities

- Goldboro Gas Plant
- Point Tupper Fractionation Plant
- Interconnecting NGL Pipeline

2.0 Project Update

For the Sable Offshore Energy Project 2010 was a milestone year. The project celebrated 10 years of successful production, and continued an impressive record for safe and reliable service.

In Guysborough, the anniversary was marked in September with a well-attended community barbecue at the New Harbour Community Centre. A highlight of the event was the presentation of a framed photograph by Lloyd Hines, Warden of the Municipality of Guysborough. Mike Honderich, Sable Operations Superintendent, accepted the memento on behalf of the Sable Project.



Earlier in the year, ExxonMobil Canada and the Sable workforce, received the Pioneer Award presented by the Offshore/Onshore Technology Association of Nova Scotia (OTANS). The Pioneer Award celebrates individual or group achievement in the province's petroleum industry, and was presented during a dinner at Halifax's Cunard Centre attended by 450 industry and community representatives.

Dinner guests watched video highlights of Sable construction, and heard testimonials from across different sectors of the economy describing the employment and business opportunities and other benefits created the by Sable Project.

A consistent theme during the evening was the focus on safety at the Sable project, and the contribution Nova Scotia contractors have made in ensuring a "best in class" safety record at the Sable Project.

EMCP encourages active participation and support of safety management programs by all personnel involved in our operation. This includes proactive identification of hazards, resolution of items identified and reporting of incidents. The structured safety management systems and programs have been instrumental in sustaining a well established safety culture.

Contractor safety initiatives that include workshops and one-on-one meetings, structured to communicate expectations and share lessons learned from events locally and globally continued to be a cornerstone of SHE management program. These workshops and meetings were held regularly during 2010 and were well attended by the contracting community.

The Marine Safety Council continued to play an important part in reinforcing the safety culture in the marine service aspects of the Sable project. The Council helps to further demonstrate the fact that co-operation, shared expertise and shared experience can and does positively influence and enhance safety for those working on our facilities in Atlantic Canada.

The Atlantic Canada Marine Safety Council initiative was recognized by the International Regulators Forum (IRF) in October 2010 as one of two recipients of the Carolita Kallaur Award. The award was presented at the IRF's International Offshore Safety Conference held in Vancouver.

Established in 2003 by ExxonMobil Canada as a method of sharing best practices with marine contractors working on the Sable Project, the Marine Safety Council soon grew to include other operators in the Atlantic Canada offshore industry as well as their marine contractors, including vessel masters, vessel owners and shorebase operators.

Since the Marine Safety Council's inception, the Total Recordable Incident Rate for offshore vessels has been reduced from 6.81 per million hours worked in 2003, to 1.96 in 2009. Vessel safety improvements have included: enhanced deckhand training, implementation of critical procedures, job safety analysis, last-minute risk assessment and hazard awareness, leading indicators, third party safety assessments on every vessel, and proactive case management to mitigate injuries.

The IRF's offshore safety awards are named after the late Carolita Kallaur, who directed the U.S Minerals Management Service's offshore program. IRF participants are the National Offshore Petroleum Safety Authority, Petroleum Safety Authority, Norway, U.S. Bureau of Ocean Energy Management, Regulation and Enforcement, New Zealand Department of Labour, Canada-Nova Scotia and Canada-Newfoundland and Labrador, Offshore Petroleum Boards, Brazilian National Petroleum Agency, The Health and Safety Executive, Great Britain and State Supervision of Mines, The Netherlands.

Over the past number of years Nova Scotia contractors and service providers have played an increasingly important role in sustaining EMCP's success at Sable. The local industry maintains critical support services utilized by our ongoing offshore and onshore operations. The following are important support services provided to ongoing operations in 2010:

- aviation services
- catering personnel
- communications services
- courier services
- customs clearance/brokerage
- diving and ROV personnel
- environmental services
- equipment inspection services
- fabrication services
- inland transportation services
- insulation and painting
- local trades personnel (welding, mechanical, electrical, instrumentation, etc.)
- logistics/stevedoring
- maintenance materials and consumables
- marine crews and supply vessels
- medical personnel
- medical services
- safety advisory services
- safety equipment
- safety training services
- scaffolding services
- staffing services
- survey services
- tools and equipment rentals
- valve services
- warehousing
- weather forecasting

3.0 Economic Impacts

Data on the 2010 and cumulative Sable Project expenditures are provided in the tables below. The expenditures have categorized as 'Nova Scotia', 'Other Canadian' or 'Foreign' based on the *Canadian General Standards Board Method*, which has been adopted by the Canada-Nova Scotia Offshore Petroleum Board for local benefits reporting purposes. In addition to expenditures, three other indicators of economic impact (person hours, headcount and new hires) are also reported.

In preparing the 2010 report EMCP reviewed information provided by SOEP vendors, the scope of work for the vendor and the guidance available from the Canadian General Standards Board (CGSB) reporting guidelines. Data quality assurances methods used in the preparation of previous Benefits Reports were applied in the preparation of the 2010 report.

Project Expenditures

The economic impact of expenditures for the Sable Project is identified in the following tables:

Table 1 – 2010 Expenditures (\$ millions)

	Nova Scotia	Other Canadian	Foreign	Total
Total Expenditures	\$106.6	\$37.3	\$32.1	176.0
% Content	60.6%	21.2%	18.2%	100%

Table 2 – Expenditures - Historical (\$millions)

	Nova Scotia	Other Canadian	Foreign	Total
Cumulative to December 31, 2005	1,677.0	788.2	2230.9	4696.2
Percent of Total	35.7%	16.8%	47.5%	100.0%
Cumulative to December 31, 2006	1,853.9	859.5	2,445.7	5159.2
Percent of Total	35.9%	16.7%	47.4%	100.0%
Cumulative to December 31, 2007	1,960.6	900.6	2,539.0	5,401.3
Percent of Total	36.3%	16.7%	47.0%	100.0%
Cumulative to December 31, 2008	2,066.6	944.2	2,586.5	5,598.3
Percent of Total	36.9%	16.9%	46.2%	100%
Cumulative to December 31, 2009	2,235.0	1,011.2	2,733.4	5,979.6
Percent of Total	37.4%	16.9%	45.7%	100%
Cumulative to December 31, 2010	2,341.6	1,048.5	2,765.5	6,155.6
Percent of Total	38.1%	17.0%	44.9%	100.0%

Project Employment

Person Hours

Person hours of employment is a measure of economic benefit arising from the Sable Project and in 2010 there were 836,565 hours of work conducted. The Nova Scotia component of this total was 763,275 or 91.2%. This equates to 382 full-time equivalent positions in 2010.

As with expenditures, person hours are categorized as 'Nova Scotia', 'Other Canadian' or 'Foreign' based on the location of the work. A breakdown of the 2010 person hours and data on the cumulative person hours for the project is provided in the tables below. Data on person hours by major vendor is included in Appendix 1.

Table 3 – 2010 Person Hours

(Thousands of Person Hours)

	Nova Scotia	Other Canadian	Foreign	Total
Person Hours of Employment	763.3	70.9	2.4	836.6
Percent of Total	91.2%	8.5%	0.3%	100.0%

Table 4 – Person Hours - Historical
(Millions of Person Hours)

Year Cumulative as of December 31	Nova Scotia	Other Canadian	Foreign	Totals
1998	2.70	1.00	2.91	6.61
% of Total	40.85	15.13	44.02	100
1999	5.93	1.48	5.25	12.66
% of Total	46.84	11.69	41.47	100
2000	8.39	1.74	5.36	15.49
% of Total	54.16	11.23	34.6	100
2001	9.75	1.90	5.49	17.14
% of Total	56.88	11.09	32.03	100
2002	10.73	2.19	6.04	18.96
% of Total	56.59	11.55	31.86	100
2003	12.67	2.50	6.83	22.00
% of Total	57.59	11.36	31.05	100
2004	14.30	2.71	7.46	24.47
% of Total	58.44	11.07	30.49	100
2005	15.33	2.82	8.57	26.72
% of Total	57.37	10.55	32.07	100
2006	16.70	3.00	9.18	28.88
% of Total	57.83	10.39	31.79	100
2007	17.77	3.10	9.23	30.10
% of Total	59.0	10.3	30.7	100
2008	18.63	3.18	9.23	31.04
% of Total	60.1	10.2	29.7	100
2009	19.92	3.30	9.29	32.51
% of Total	61.27	10.16	28.57	100
2010	20.69	3.37	9.29	33.35
% of Total	62.03	10.10	27.87	100

Employment Headcount

The estimated Project employment headcount on December 31, 2010 was 225. The table below includes those individuals working directly on the Sable Project and those working for major contractors on the specified date. Of the 225 people working on the Sable Project on December 31, 2010, 218 or 96.9% were working in Nova Scotia.

Table 5 – Estimated Year End Headcount

Year End	Activity in Nova Scotia	Activity in the Rest of Canada	Total Project Activity
2001	953	16	1,041
2002	900	38	1,150
2003	974	42	1,206
2004	1,082	40	1,413
2005	733	32	1,407

2006	697	33	893
2007	411	27	438
2008	336	22	363
2009	320	11	342
2010	218	0	225

Residency of New Hires

The total number of New Hires reported for the Sable Project and its major contractors during 2010 was 32. The table below shows the historic distribution of the Residency of New Hires for the Sable Project.

Table 6 – Residency of New Hires

Year	Nova Scotia	Other Canadian	Foreign	Total
2001	400	105	115	620
2002	324	83	684	1091
2003	826	83	204	1113
2004	565	41	198	804
2005	268	28	330	626
2006	577	100	326	1003
2007	99	17	54	170
2008	89	8	0	97
2009	392	30	4	426
2010	29	3	0	32

Co-op Student Employment

Support for co-op and work placement programs by EMCP and our contractors continued in 2010. These programs have provided individuals with meaningful assignments that enhance their education and provide benefits to the business activities. There were seven placements at ExxonMobil and our contractors during the year that provided work opportunities for students of varied disciplines. Total co-op expenditures for the year were \$100,360.

Cumulative expenditures for the 577 co-op/work placements are provided in the table below.

Table 7 – Co-op/Work Placements

Year	Number of Placements	Cumulative Placements	Investment	Cumulative Investment
1998	36	36	\$250,000	\$250,000
1999	61	97	\$325,263	\$575,263
2000	58	155	\$334,133	\$909,396
2001	71	226	\$608,394	\$1,517,790
2002	73	299	\$572,932	\$2,090,722
2003	90	389	\$706,539	\$2,797,261
2004	64	453	\$646,345	\$3,443,606

2005	11	464	\$592,985	\$4,036,590
2006	47	511	\$444,120	\$4,480,710
2007	20	531	\$286,387	\$4,767,097
2008	18	549	\$310,240	\$5,077,337
2009	21	570	\$252,400	\$5,329,737
2010	7	577	\$100,360	\$5,430,097

During the year, ExxonMobil employed four co-op students in the Nova Scotia office. The students worked in engineering and accounting functions. Students worked with mentors and gained hands on experience with day-to-day operational and business challenges. Students receive a broad exposure to ExxonMobil's engineering practices and specifications, PC computer applications, accounting system (SAP R3) with a focus on reporting and analysis activities.

The 2010 co-op student assignments included:

- Updating the asset surveillance plan:
 - interacting with various engineering disciplines and operations personnel to develop list of key performance indicators to be monitored;
 - Setting operating envelopes for each facility; and developing tools to conduct monitoring of identified performance indicator;
 - Developing documents to update facility drawings;
- Updating operational documents based on facility changes that had been made;
- Evaluating pressure data on field wells to identify opportunities to improve production;
- Completing flare volume calculations using computer simulations;
- Developed tools to improve scheduling of product deliveries from onshore facilities;
- Regular month end accounting duties, through which the student gains a basic understanding of the accounting activities and business controls that are required to support a production operation;
- Assist staff in ensuring integrity of financial reports;
- Assigned special projects supporting the East Coast Operations accounting team to broaden; skills and provide interaction with all local accounting staff and certain Operations personnel;

Projects allow students to gain overall knowledge of engineering, economics, and project management and enhance overall knowledge of the oil and gas industry. Students are required to submit a technical report on their co-op term experience, to fulfill their educational requirements and the student completes a presentation to the Engineering and / or Controllers management team at the end of their term. Project activity provides subject material to allow completion of a work term report to fulfill Co-op program requirements. The work activities provide relevant experience for those students planning to pursue P. Eng., CMA or CGA accounting designations upon graduation.

4.0 Diversity and Inclusion

During 2010 EMCP efforts continued with efforts to encourage representation of traditionally under-represented groups, namely:

- Aboriginal Persons
- Racially Visible Persons
- Women
- Persons with Physical/Mental Challenges

EMCP does not make assumptions about membership in a traditionally under-represented group. Rather, EMCP encourages voluntary self-identification which occurs when individuals identify themselves as members of a traditionally under-represented group either on an application or resume, proactively to their supervisor or organization, or through other voluntary means.

The following table provides a historical tally of individuals who identified themselves as a member of a traditionally under-represented group since 2001. The table includes data from ExxonMobil and our contractors.

Table 8 – Traditionally Under-represented Groups

Year	Aboriginal Persons	Racially Visible Persons	Women	Persons with Physical/Mental Challenges
2001	32	46	405	14
2002	81	145	370	14
2003	23	77	390	24
2004	7	80	412	14
2005	8	49	332	6
2006	9	36	235	4
2007	5	13	83	4
2008	4	9	61	3
2009	6	11	60	4
2010	7	7	55	3

In 2010 the Imperial Oil and ExxonMobil Foundations invested in an innovative national community leadership program for Canadian Indigenous women with The Coady International Institute of Antigonish. The goal of the Indigenous Women in Community Leadership (IWCL) program is to engage the next generation of Aboriginal women leaders and provide them with practical leadership skills and experience so that they can promote community development from within.

The program will be further developed in close consultation with Indigenous women leaders and communities and will incorporate mentorships between established and emerging leaders. During the initial phase, the Coady Institute will document examples of successful Aboriginal community development stories across Canada. These stories will provide the basis for the new program's curriculum, which will begin classes in the spring of 2011. Participants will attend a three-week, campus-based leadership preparation program followed by a three-month community placement.

The following was included in a press release issued by the Coady Institute regarding this initiative:

"Women's leadership is a priority focus of the Coady Institute," said Mary Coyle, director of the Coady International Institute. "We see this as an exciting opportunity to develop the next generation of Canadian Indigenous women leaders, build networks of support and inspiration, and highlight the work Aboriginal communities are already doing to become self-reliant."

Susan Swan, acting president of the Imperial Oil Foundation, said, "The Coady Institute's approach fits well with Imperial's goal to invest in education and build strong communities. We hope this program will have a profound and enduring effect on Aboriginal community development in Canada."

"This program holds enormous promise to help develop local Indigenous women's capabilities to contribute to broader economic growth," added Lorie Jackson, director of ExxonMobil's Women's Economic Opportunity Initiative. "Coady's innovative program design builds on a strong foundation of proven curriculum and case studies, and leverages the power of mentoring between established and emerging leaders to support economic and social development in Indigenous communities throughout Canada."

The Coady International Institute at St. Francis Xavier University is a unique, world class leader in community-based, citizen-driven development education. For over 50 years the Coady Institute has ignited leadership in people who are making a genuine and sustainable difference in the world. Through innovative and effective adult education approaches, the Institute provides community leaders with the knowledge and practical tools needed to bring about the change they want for themselves. Today, over 5,000 Coady graduates and partners are working with millions of people in 130 countries to build a fair, prosperous and secure world, one community at a time.



5.0 Capacity Development

Training and capacity development continued to be a focus area during 2010. These initiatives are divided into four core areas:

- Training and Education
- Technology Transfer
- Supplier Development
- Research and Development

Please note: Items in this Section may also be reported by ExxonMobil and affiliates in other reports.

Training and Education

Training and education expenditures for 2010 are included in the table below. These expenditures were aimed at developing or maintaining relevant skill development in Nova Scotia related to the oil and gas industry and include expenditures by EMCP and our contractors.

Table 9 – Training and Education Expenditures

(Including Co-op/Work Placement Programs, Community Training and Education Investments)	
Description of Training	2010 Total
Internal Training	\$84,419
Major Contractor Training	\$1,049,762
Co-op Programs	\$100,360
2010 Totals	\$1,234,541

The cumulative project expenditures on Training and Education, including 2010 data, now exceed \$47 million. The cumulative data is presented in the table below.

Table 10 – Training and Education Expenditures - Historical

(Including Co-op/Work Placement Programs, Community Training and Education Investments)		
Year	Investment	Cumulative
1998	\$7,027,316	\$7,027,316
1999	\$5,635,294	\$12,662,610
2000	\$3,296,130	\$15,958,740
2001	\$5,440,177	\$21,398,917
2002	\$4,071,942	\$25,470,859
2003	\$3,881,650	\$29,352,509
2004	\$3,260,635	\$32,613,144
2005	\$3,047,550	\$35,660,694
2006	\$3,836,040	\$39,496,734
2007	\$1,405,177	\$40,901,911
2008	\$1,515,871	\$42,417,782
2009	\$3,393,881	\$45,811,663
2010	\$1,234,541	\$47,046,204

In addition to direct training and education activities undertaken by ExxonMobil and our major contractors, ExxonMobil and the Sable owners supported a number of other initiatives that assist and/or recognize the existing education and training infrastructure in Nova Scotia.

Techsploration

The goal of Techsploration is to increase the number of women working in science, trades, technical and technology related occupations by assisting young women from diverse backgrounds to explore a wide range of career options in these fields.

Techsploration has been supported by ExxonMobil, the Sable Projects owners and some of the Sable project contractor / suppliers in the form of monetary support as well as mentors since 1998. The program has grown significantly from its original group of eight participating schools, to twenty-five schools throughout the province.

In participating schools, small groups of girls are assigned careers to research and role models to assist in their efforts. These Techsplorers have an opportunity to visit work sites and eventually to present their findings to the rest of the student body, boys and girls alike, in service of a broader goal to educate and break stereotypes.

The 2010 Techsplorers Event was a highlight of the Techsploration Program and was held at the Nova Scotia Community College - Strait Area Campus, in Port Hawkesbury on April 15 & 16. The Techsplorers Event brings together all the participants of Techsploration, including role models, girls on school teams, Techsplorer alumnae, teachers, sponsors and invited guests to share in the excitement of the program.

The schools at the 2010 Techsplorers event included Dr. JH Gillis Regional High, East Antigonish Academy, Guysborough Academy, SAERC (Strait Area Education Recreation Centre), Bridgewater Jr. Sr. High, Canso Academy, Duncan McMillan Rural High, Herring Cove Jr. High, Whitney Pier Memorial Jr. High, Springhill High,, and Waycobah First Nation Secondary School.

Waycobah First Nation Secondary School techsplorers spent the morning at the Sable offices in Halifax learning about ExxonMobil, university education requirements and environmental management aspects of onshore and offshore natural gas production facilities. The afternoon was split up with a visit to the Nova Scotia Natural History Museum to learn more about Sable Island and a trip to Survival Systems Ltd. to experience some of the basic survival training required by all offshore workers. The Environmental Advisor from ExxonMobil led the day-long event and attended the wrap up event in Port Hawkesbury.



2010 Techsplorers



Waycobah First Nation Secondary School at Survival Systems

Technology Transfer and Local Supplier Capacity

Transfer of technology to the local supply community has evolved over the past number of years as the Sable project has evolved through development and production. Historically, local engineering, consulting and construction related firms have been the principle beneficiaries of this transfer as these local firms have enhanced their in-house expertise and knowledge.

As the project matures through the production phase and as local firms gather more and more expertise, opportunities related to technology transfer are expected to diminish. However, the local firms continue to benefit from the knowledge collected and are actively seeking opportunities to apply these skills at the local, regional and national level. The estimated value of the technology transfer now exceeds \$31 million.

There have been recent examples of technology and knowledge transfer related to the establishment of a safety culture that extends beyond the Sable project work to other aspects of the vendors work. Many of the Sable project vendors that have applied the "nobody gets hurt" philosophy to their work throughout the region. The Sable safety culture and lessons learned from contractor safety workshops has helped the vendors reduce accident rates, improve their overall business performance and improve their competitiveness as they seek to obtain work in the oil and gas sector and other business sectors.

Another example of technology transfer is the recent work on equipment inspection methodologies. Corrosion Under Insulation (CUI) may effect carbon steel insulated equipment at random locations wherever the conditions such as moisture presence, coating breakdown and temperature range are favourable.

Traditional methods for detecting CUI are labour intensive and normally requires the removal of large amounts of insulation (which is then discarded) to enable inspection after which new insulation is installed. In many cases the inspection determines that the area was free from CUI. This traditional method becomes expensive and not very efficient.

During 2010 EM&I Stantec, the Sable Project inspection contractor, worked to find a more efficient and cost effective method for future inspection programs. Two new techniques - Digital Radiography (Digi-Rad) and Backscatter Computed Tomography (BCT) have been identified and are being evaluated in the field.

Digital Radiography uses conventional radiographic techniques, however, less penetrating power is required therefore reducing the exposure time. Insulation removal is not required for this method.

Backscatter Computed Tomography (BCT) utilises neutron backscatter techniques to evaluate the front wall of the pipe or vessel. It is capable of accurately sizing the depth of CUI. Insulation removal is not required.

One of the local EM&I Stantec technicians completed training for Digi-Rad application in the United Kingdom EM&I Stantec have brought an experienced UK technician to work along side the local technicians to help transfer the technology. EM&I Stantec have also sent technicians to support their Australian operations and intend to do the same in our Far East offices to train their technicians in some of their patented repair and maintenance equipment and techniques.

6.0 Research and Development Initiatives

In 2010, the Sable Project owners either individually or collectively continued to support research and development (R&D) initiatives in Nova Scotia.

An R&D Plan has been approved by the CNSOPB as per Condition 4 of the Benefits Plan Decision Report. Under this plan, ExxonMobil and the Sable owners have committed to R&D expenditures in Nova Scotia of at least \$300,000 per year and an aggregate of \$3,000,000 over the five-year period of 2008 - 2012 inclusive.

In addition to the initiatives considered to be R&D under the terms of the five-year plan, the Sable owners and the contracting community have historically supported broader R&D activities in Nova Scotia. During 2010 these R&D activities amounted to \$627,600, bringing the cumulative research and development expenditures by the owners and contractors to in excess of \$27.3 million since 1998.

Please see the table below for historic research and development initiatives reported.

Table 11 – Research and Development Initiatives
Historical

Year	Investment	Cumulative
1995	\$121,500	\$121,500
1996	\$146,000	\$267,500
1997	\$3,888,373	\$4,155,873
1998	\$5,758,207	\$9,914,080
1999	\$2,813,428	\$12,727,508
2000	\$4,690,139	\$17,417,647
2001	\$2,564,786	\$19,982,433
2002	\$2,068,169	\$22,050,602
2003	\$666,385	\$22,716,987
2004	\$277,000	\$22,993,987
2005	\$628,127	\$23,622,114
2006	\$458,113	\$24,080,227
2007	\$782,333	\$24,862,560
2008	\$925,881	\$25,788,441

2009	\$931,600	\$26,720,041
2010	\$627,600	\$27,347,641

Petroleum Research Atlantic Canada (PRAC)

During 2010 the EMCP and Shell Canada supported research and development initiatives through Petroleum Research Atlantic Canada (PRAC). PRAC is a not-for-profit, member-based organization formed by industry, government and academia. Governed by a nine-member Board of Directors, PRAC's members include upstream producers and explorers, universities and colleges involved in petroleum research, and federal and provincial government departments and agencies.

PRAC issues Calls for Proposals in focused areas as directed by the Research Advisory Committee, and provides research funding to successful applicants. PRAC also provides Transfer-to-Usability (TTU) grants to help bridge the gap between applied research and commercialization, and facilitate multi-partner Joint Industry Projects (JIPs) to address specific member needs.

Since 1999, PRAC has awarded over \$7 million in direct funding to projects with a total projects leveraged value exceeding \$30 million. Additionally, PRAC undertakes a broad range of communications activities to assist with research identification, planning and dissemination of research project results.

PRAC's objectives are:

- To raise awareness of petroleum-related R&D activities in Atlantic Canada
- To build capacity and scale in oil and gas R&D, thereby adding significant value to Atlantic Canada
- To promote the activities and contributions of its membership
- To act as a catalyst in establishing research priorities, leveraging opportunities and providing ongoing support to current research programs
- To provide a neutral forum for discussion that helps identify research opportunities for Atlantic Canada

In 2009 PRAC issued their Call 10 for research proposals focused on Offshore Environmental Technologies. One of the projects submitted in response to this Call and subsequently funded by PRAC was entitled "In-line Continuous Produced Water Analyzers - Testing & Evaluation". The initial work on this project was started during 2010 and EMCP provided technical support to the project team. The support included background information on the types of analyzers available, the basis of the technology employed, contact information for vendors, and insight into operational and logistical challenges that affect the successful operation of analyzers in remote offshore locations. As the project proceeds EMCP plans to continue with the technical support and is examining the potential to provide sufficient volumes of produced water to support planned lab bench tests of some analyzers.

Two other examples of projects funded by PRAC in 2010 include:

- **Advanced Ceramic-Metal Composites for Demanding Corrosion-Wear Environments**

The primary objective of the proposed research program will be to develop a new family of titanium carbonitride (Ti(C,N)) -based Ceramic Metal composites (Cermets) to assess their mechanical, wear and corrosion behaviour for broader applications in the oil and gas sector.

Ceramic metal composites (Cermets) currently have applications in the chemical, aerospace, automotive and oil and gas sectors given their unique combination of high wear resistance, high hardness, and good strength characteristics, as well as excellent aqueous corrosion resistance. The project will investigate the development and characterization of a new generation of advanced wear and corrosion resistant Cermet composites to improve upon current performance standards. Advancements in Cermets performance holds promise in petroleum sector applications such as coatings for erosion/corrosion protection, cutting bits, pump seals, etc. Further, these materials could possibly be viewed as high performance wear resistant friction surfaces for walkways and stairs on structures. The three year research program will further our understanding of the performance benefits of Cermets and their broader application potential in the petroleum sector.

The outcome of the proposed PRAC-funded work is the preliminary development and evaluation of bulk materials, with a feasibility assessment of the suitability of these materials as coatings. Follow-on work may include a full coating development program, including development of feedstock powders, optimisation of coating processes, evaluation of coating/substrate interactions, and evaluation of coating properties. In previous positions prior to joining Dalhousie, Dr. Plucknett successfully developed Cermet coatings for the pulp and paper, automotive, and defense industries (aerospace and maritime); including leading a program to investigate the next generation of flight deck coatings for UK aircraft carriers – one that the US is now investigating in some depth as well.

– Non- Destructive Vibration based Damage Detection Technique for Monitoring and Inspecting Subsea Pipelines

The primary objective of the project is to enhance the development of a robust and effective non-destructive vibration based (sensor free for onshore applications and piezoelectric assisted for offshore applications) damage detection technique to monitor and inspect onshore and offshore infrastructures; with a particular emphasis on pipe joints subject to corrosion, fatigue and other sources of potential failure.

The research team plans to use relatively inexpensive sensors (such as piezoelectric ceramic sensors or versatile sensing tools such as laser Doppler vibrometers (LDVs)) to collect the vibration signature of the system, along with a simple and proven signal processing method. For offshore applications, the vibration data would be collected with a single inexpensive piezoelectric sensor mounted onto a joint.

The proposed work builds on a recently completed Atlantic Innovation Fund (AIF) project that has developed the methodology and proven its robustness under computational and theoretical assessments, principally for onshore use. For this project, to test validation for (subsea) offshore applications, one of the critical next steps is to investigate and test the technology on pipes underwater, both in the lab and field.

The novelty of the proposed technique is its energy based 'Damage Index' by which the level of damage is determined. The technique will be low cost, require little skill to operate, and will detect damage on structural joints, with special emphasis on welded pipe joints.

A patent application has already been filed on the initial technology methodology. Following the validation testing and advancements made through the proposed project, an additional patent filing will be made to protect its intellectual property and ready the technique for commercialization / licensing opportunities to industry.

Pengrowth Energy Trust - Nova Scotia Energy Programs

The Pengrowth Nova Scotia Energy Scholarship Programs provides financial support through the Energy Scholarship, Innovation Grant Program and the Professorship in Petroleum Financial

Management. These programs provide resources to ensure the success of future oil and gas industry leaders.

Established in March 2005, the \$3 million program is a partnership between Pengrowth Corporation, one of the Sable Project owners and the Province of Nova Scotia, through contributions of \$2 million and \$1 million respectively. Since its inception, the scholarship has provided more than \$500,000 to more than 90 students in the form of university and trade scholarships, innovation grants and funding of the Professorship in Petroleum Financial Management at Saint Mary's University.

– **Pengrowth - Nova Scotia Professorship in Petroleum Financial Management**

Two professors from the Sobey School of Business at Saint Mary's University have been named Pengrowth Nova Scotia Professors in Petroleum Financial Management. They have received \$600,000 to carry out their work from 2008 to 2011 as researchers on a variety of petroleum related projects. The Province of Nova Scotia and Pengrowth Energy have provided the funding for the professorship roles.

– **Pengrowth - Nova Scotia Petroleum Innovation Grant Program**

Up to four Pengrowth-Nova Scotia Petroleum Innovation Grants are rewarded each year. The research grants, valued at \$15,000 over two years, are awarded to Nova Scotia students pursuing energy-related studies at the masters degree level.

– **Pengrowth - Nova Scotia Energy Scholarship Program**

The program awards scholarships to Nova Scotia students pursuing undergraduate degrees or college-level trades and technology programs at Nova Scotia Community College. The scholarships are awarded to students pursuing careers in the energy sector.

At least 10 scholarships, valued at \$10,000 each (\$2,500 renewable over four years), are awarded annually to students pursuing energy related studies at a university. One additional university scholarship is designated each year for a member of a First Nation or visible minority. The program also offers at least four non-renewable \$2,500 scholarships for first-year students pursuing energy related trades and technology programs at the Nova Scotia Community College.

In 2010, 19 students were chosen to receive Pengrowth-Nova Scotia Energy Scholarships. A Pengrowth-Nova Scotia Energy Scholarship web page has been created to provide scholars and Innovation Grant recipients a secure forum for community networking and volunteer opportunities. It will connect students with employers, other scholarship winners, events within the community and non-profit organizations. It will also give students the opportunity to share success stories and words of wisdom.

Imperial Oil Foundation

St. Francis Xavier University (St. F. X.)

A \$200,000 investment over a four-year period from the Imperial Oil Foundation allows St. Francis Xavier University (St. F.X.) to enhance and expand the science outreach program on campus and in schools throughout northeastern Nova Scotia. Funding for the program started in 2008 and continued in 2010.

The program includes the use of science education kits in Nova Scotia elementary schools, as well as in-school presentations of science fundamentals by St. F. X. faculty and senior students. On-campus outreach consists of continuing and expanding St. F. X.'s existing X-Chem Outreach program of summer science camps for children, and the offering of upgrading and training for science teachers.

Dalhousie University

The Imperial Oil Foundation has invested \$400,000 over four years with Dalhousie University to support the expansion of the Math Circles initiative. The purpose of the Math Circles program is to foster interest in mathematics among high school students and expose them to mathematics beyond the high school curriculum. Math Circles began as an initiative of graduate students in the Department of Mathematics and Statistics. The idea is open Dalhousie's doors to HRM high school math students several times a year, at no cost to them, and have professors and graduate students lead them through interactive activities that demonstrate the real-world application of advanced math concepts, from game theory to cryptology.

Characterization and Dispersion of Produced Water

During the summer of 2009 the Centre for Offshore Oil, Gas and Energy Research (COOGER) in the Department of Fisheries and Oceans (DFO), in partnership with ExxonMobil, conducted a field program of collaborative research program to characterize the composition and dispersion of produced water from the Venture and Thebaud offshore production facilities. The purpose of this program was to characterize produced water samples recovered from offshore facilities and to validate a numerical plume dispersion model developed for risk assessment. COOGER continued aspects of the analysis and modeling components during 2010.

The scientific deliverables from this study could contribute to improved environmental monitoring protocols and an enhanced capability to evaluate produced water discharges at sea in Atlantic Canada with predictive numerical models.

Development of Helicopter and Rig Abandonment Suits

During 2010 EMCP and the Sable owners supported on going research and development initiatives aimed at continuous improvement of helicopter passenger and rig abandonment suits for use in the offshore area. Work was also carried out to assess potential helicopter egress issues that could arise as a result of the innovations in suit design and in support of suit standard review.

In addition to EMCP and the Sable owners, Helly-Hansen Canada Limited and Survival Systems Training Limited supported the research in collaboration with Dalhousie University.

7.0 Community Education and Participation

ExxonMobil and its employees have a history of community involvement. Wherever we operate, we try to strengthen local communities by donating time, talent or money to many organizations that provide much-needed services or that contribute to the cultural fabric of our communities. Some of the highlights from our 2010 activities are noted below.

Employees in the community

– President's Safety Award

The President's Safety Award recognizes and celebrates those employees who exercise safety leadership in the workplace. The award recognizes up to two individuals or work groups, employees or contractors per month who have exceeded expectations in the areas of safety, health, environment and security and consists of a gift of \$1,000 to a qualifying local not-for-profit educational or health care institution chosen by the award winners.

The following were among the recipients of the award in 2010:

- Fanning Education Centre
- Guysborough Options for Adaptive Living (G.O.A.L.S)
- Heart and Stroke Foundation
- St. Andrew's 4-H Club
- The Children's Wish Foundation



Nick Fanning (center), presenting award to Fanning Education Centre

– Volunteer Involvement Program (VIP)

ExxonMobil also encourages employees to contribute to their communities through the Volunteer Involvement Program (VIP). Through this program, employees may be able to avail of funding for an eligible organization with which they have volunteered at least 20 hours.

Volunteer service, activities and projects should be consistent with the company's pledge to be a good corporate citizen and support important societal goals including education, health and human services, and the environment.

Ducks Unlimited Canada

ExxonMobil Canada is excited about its support of two projects with Ducks Unlimited Canada.

Ducks Unlimited Canada works with government, industry, private landowners and other conservation organizations to ensure wetland habitats remain a part of Nova Scotia's landscape ensuring a healthy future for waterfowl, wildlife and a fresh clean water supply for people.

The first project is a youth education project. ExxonMobil's donation will enable Ducks Unlimited to pursue its commitment in updating and maintaining the interactive exhibits at the Greenwing Legacy Interpretive Centre located in Shubenacadie, Nova Scotia. The GLIC offers hands-on wetland education programs to various grade levels as well as adult and group programs with over 35,000 visitors each year. The funding will complete the installation of a new Wetland Conservation Display by providing a computer operating system called SmartBoard. SmartBoard is the latest technology for touch screen learning devices and is now being used in schools across the country.

Our second project is the Rockland Brook wetland conservation project. This 65 acre property is located in the agriculturally rich Annapolis Valley. Over the past centuries, the Annapolis Valley has lost nearly 90% of its wetlands losing the many benefits that wetlands provide to society. Rockland Brook is important in providing ecological services in biodiversity, water quality and in sequestering greenhouse gasses. The funding provided by ExxonMobil Canada will enable the project to move forward with the necessary permitting, engineering and construction requirements.

United Way

ExxonMobil and its employees continued its strong record as a leader in community giving, achieving outstanding results during a time when the economy is causing extra challenges for those in need in our community.

Campaign highlights included a solid increase in giving by offshore employees, as well as continued strong participation by employees at Founders Square employees and the onshore plants.

IWK Child Safety Link

ExxonMobil continues its funding to the IWK Children's Hospital Child Safety Link (CSL) program to develop a children's Fall Prevention Strategy. The purpose of the program is to reduce the incidence and severity of injuries to children and youth.

The development of the strategy included a comprehensive review of current strategies used around the world, consultations with stakeholders, and reviews of best practices.

ExxonMobil is now supporting the development, implementation and evaluation of an awareness campaign for families living in low income housing.

ExxonMobil is proud to continue its partnership with the IWK into 2011.

Nova Scotia Youth Experience in Science

ExxonMobil is dedicated to promoting science programs that reach out to groups of young people typically underrepresented in science, engineering and technology (SET).

Nova Scotia Youth Experiences in Science continues to be supported by ExxonMobil Canada. In 2010, the program made great strides in promoting science to Nova Scotia's young aboriginals. The organization has worked to establish a science fair region that includes all provincial

aboriginal communities from grades 6 to 9. The aim is to help students and educators identify those characteristics that will help make their projects competitive at the national level.

With ExxonMobil's support, the next step is to provide a resource kit for schools in Nova Scotia that will provide science exploration materials for the classroom teachers. The intent is to give grades four, five and six students some hands-on experiences with science. The kit includes topics of interest for each grade and also includes materials and posters enforcing the links between science and various trades and technical occupations. The organization hopes to encourage a continued interest in science by making it both fun and practical to the students.

Junior Achievement - Staying in School Pays

ExxonMobil supports Junior Achievement's the 'Economics of Staying in School' (ESIS) program. ESIS encourages junior high school and high school students to consider their future goals and how staying in school can help them reach those goals.

Bursaries

Top students graduating from the seven high schools in Guysborough, Antigonish and Richmond counties are awarded bursaries each year from the Sable owners to help them with postsecondary education. A total of 24 bursaries were awarded under this program in 2010.

Feed Nova Scotia

Food banks throughout Nova Scotia continue to receive the support of ExxonMobil and its employees. The company provides support to the coordinating organizations that work to alleviate hunger by the efficient distribution of food-to-food banks.

ExxonMobil continues to support FEED NOVA SCOTIA, the food collection and distribution center for more than 150 food banks and meal programs which serve at least 38,000 Nova Scotians each month. FEED NOVA SCOTIA is also dedicated to finding long-term solutions to poverty and chronic hunger that will reduce the need for food banks in Nova Scotia.

With safety being a primary goal in ExxonMobil's workplace, we are proud to support their delivery of workshop sessions on the Safe Food Handling set of Standards to all FEED NOVA SCOTIA Member Agencies and Food Banks this year.

Discovery Centre

Nova Scotia's Discovery Centre is on a mission – to show children and youth that science is fun! The centre does this by using hands-on exhibits, live demonstrations, public programs, and educational workshops. By presenting science and technology in an entertaining environment, Discovery Centre hopes to stimulate interest in science and technology for all Nova Scotians.

Laing House

Laing House is organization that assists youth with mental illness to learn to live independently in their community. Youth are given opportunities to increase their knowledge of nutrition, budget shopping and preparing a meal.

The funding provided by ExxonMobil will provide Laing House the resources to offer a series of workshops that will focus on the life tools for living independently in their community.

Adsum House

Adsum House offers shelter and supports women and children and female youth who are homeless or at the risk of homelessness and living in poverty. Program activities focus on skills

related to independent living such as apartment hunting and interview skills for these women. As well, the Adsum House delivers high quality social activities, exercise opportunities and projects to alleviate the stressors of everyday life while being homeless.

Phoenix Youth Programs

At risk and homeless youth in the Halifax area continue to receive support through Phoenix Youth and the programs it offers. ExxonMobil is pleased to provide support to Phoenix Youth the carry out this important work.

Neptune Theatre

ExxonMobil continues to support Neptune Theatre and in 2010 was the presenting sponsor of Peter Pan. The company also sponsored a pre-concert reception for community stakeholders and theatre representatives.

Kiwanis

The Nova Scotia Kiwanis Music Festival encourages and supports music performance and education for thousands of young musicians in Nova Scotia.

Granville Green Outdoor Concert

ExxonMobil was pleased to support a series of free, Sunday afternoon concerts held throughout the summer in Port Hawkesbury, NS. These waterfront concerts continue to be a great stage for local musicians and continue to attract both tourists and local fans.

Festival Antigonish

Since the Sable project began, ExxonMobil has been sponsoring Festival Antigonish, which attracts more than 10,000 people each summer. The festival is a must-do event in the area and provides a venue for local performers to showcase their talents and work experience for local support crews.

Mulgrave Road Theatre

The stories of the people of Guysborough and the surrounding area get spread to audiences through the talents of the Mulgrave Road Theatre Group. ExxonMobil is happy to support this important cultural tradition.

Protecting special places

ExxonMobil's ongoing support to the Nature Conservancy of Canada (NCC) projects throughout Atlantic Canada is helping the NCC in its work to protect areas of biological diversity for the benefit of future generations. In 2010, ExxonMobil provided support to NCC to help it protect *Johnstons Pond* situated at the tip of Port L'Hebert peninsula, between the Sable River and the Port L'Hebert Migratory Bird Sanctuary, on Nova Scotia's South Shore.

During the fall migration this area supports up to 2000 shorebirds. The pond's salt marshes, barachois ponds and mudflats are the nesting habitat for migratory birds such as Canada Geese and the Sandpiper. The barrier beach provides viable breeding habitat for the endangered Piping Plover as well as the Spotted Sandpiper and a small Common Tern colony.

ExxonMobil continued to support the *Nova Scotia Nature Trust* for the St. Mary's River Conservation Project in Guysborough County. Through acquisition and conservation easements, the Nova Scotia Nature Trust identifies and protects places of unique environmental value in Nova Scotia.

ExxonMobil is pleased to join with the Nature Trust and the Nature Conservancy of Canada to protect the ecological integrity of Nova Scotia for the enjoyment of future generations.



Saint Mary's River, Guysborough County

Some projects, commenced in 2009 or sooner, continued to be supported by ExxonMobil during 2010. These examples are discussed below:

Protection of Bayers Island in Musquodoboit Harbour

Another area of focus for NCC was Bayers Island, located approximately 30 km east of Halifax in Musquodoboit Harbour. The 79-acre island is the third of the area's three islands to be protected through the efforts of NCC. Musquodoboit Harbour is a stopping point for migratory birds including Canada Geese, Green Winged Teal and American Black Ducks, and the island's forest area is home to osprey, bald eagles and Great Blue Heron.

St. Mary's River Conservation Legacy Campaign

The St. Mary's River Conservation Legacy Campaign is supported in partnership with the Nova Scotia Nature Trust. In 2009 ExxonMobil supported the protection of another area along the St. Mary's River near Sherbrooke, helping to preserve an area that supports a bald eagle feeding site and over 1,000 meters of shoreline on the main branch of the St. Mary's River. The support by ExxonMobil builds on previous successes, including the protection in 2006 of 36 hectares of land, and the 2008 protection of a 90-hectare stretch along the St. Mary's River known as the Hemlock Falls Conservation Lands.

APPENDICES

Appendix 1 – Sable Project Person Hours 2010 32

Appendix 2 - 2010 Research and Development Investments..... 33

Appendix 1

Sable Project Person Hours 2010

CONTRACTOR	NS	OC	FOR
ABB	2,469	135	0
Accent	5,963	0	0
AMEC	273,388	2,730	0
CHC	60,567	21,059	0
Cooper Cameron	531.00	0.00	0.00
Dominion Diving	4,224	0	0
EM&I	25,991	2,679	1,740
ExxonMobil Canada	213,732	0	0
Helly Hansen	6,345	0	0
Lloyd's Register	3,171	90	614
Newalta	4,111	0	0
Offshore Logistics	28,590	0	0
OTS	1,916	0	0
Secunda	129,297	44,244	0
SGS	2,981	0	0

Appendix 2

2010 Research and Development Investments

Appendix 2

2010 Research and Development Investments

Recipient	Program Description	Investor
Petroleum Research Atlantic Canada (PRAC)	Petroleum Research Atlantic Canada (PRAC)	ExxonMobil Canada
Petroleum Research Atlantic Canada (PRAC)	Petroleum Research Atlantic Canada (PRAC)	Shell Canada
St. Mary's University	The Pengrowth-Nova Scotia Professorship in Petroleum Financial Management	Pengrowth
Nova Scotia University Students	The Pengrowth-Nova Scotia Innovation Grant	Pengrowth
Nova Scotia Students	The Pengrowth - Nova Scotia Scholarships	Pengrowth
Dalhousie University	Imperial Oil Foundation	Imperial Oil Ltd.
St. Francis Xavier University	Imperial Oil Science Outreach Program	Imperial Oil Ltd.
Survival Systems Ltd.	Helicopter Survival Suit	SOEP Owners