



## Canada-Newfoundland and Labrador Benefits

### Annual Report 2016

Husky Energy Ref. No.: WR-ADM-RP-0044



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## 1.0 Introduction – 2016 Highlights

Husky completed its 11th full year of operations on the White Rose field, safely producing approximately 8.6 million barrels of oil. To the end of 2016, the White Rose field and satellites have produced over 269 million barrels of oil. Husky recognizes the impact of the White Rose and satellite projects on the provincial economy and on local communities, and works proactively to ensure that Newfoundland and Labrador residents and members of the local supply community are full participants in the projects.

In 2016, the North Amethyst field completed its seventh year of production, producing approximately 2.6 million barrels of oil and West White Rose completed its fifth full year of production, producing approximately 1.7 million barrels of oil. Also in 2016 South White Rose Extension (SWRX) completed its first year of oil production, producing approximately 2.0 million barrels of oil.

Husky believes that the Atlantic Region has exploration potential, and that the Company's position there will provide growth opportunities for light crude oil and natural gas development in the medium to long-term. Husky presently holds working interests ranging from 5.8 percent to 73.125 percent in 23 significant discovery areas in the Jeanne d'Arc Basin, Flemish Pass Basin, offshore Labrador, and Baffin Island. In June 2016, Husky and its partner announced two oil discoveries at the Bay de Verde and Baccalieu prospects in the Flemish Pass Basin, which add to the resource base for a potential development at the Bay du Nord discovery. The wells were drilled as part of an 18 month long appraisal drilling program in which Husky participated in three appraisal and four exploration wells. Husky holds a 35 percent non-operated working interest in each of the Bay du Nord, Bay de Verde, Baccalieu, Harpoon and Mizzen discoveries. Husky and its partner continue to assess the commercial potential of these discoveries.

In November 2016, the Canada-Newfoundland and Labrador Offshore Petroleum Board announced that Husky was the successful bidder on two parcels of land in its 2016 land sale. The lands cover an area of 211,574 hectares. As of December 31, 2016, Husky was a partner in eight exploration licences offshore Newfoundland, of which it was the operator of five. Working interests in these licences ranges from 35-100 percent.

Through 2016 Husky continued to evaluate the potential development concepts (wellhead platform vs. subsea drill centre) for West White Rose.

In 2016 the *Henry Goodrich* drilled and completed the production wells North Amethyst E-18 12Y and White Rose J-05 4. In November 2016 the North Amethyst well G-25 10 was spud and will be completed in 2017.

In 2016, Husky had 95 co-op student placements in various disciplines throughout the company (49 males and 46 females).

Quarterly updates, procurement and business opportunities are posted on the Husky website. Husky continues to interact with local stakeholders in the White Rose and

satellite projects, including maintenance of a close working relationship with the Newfoundland Ocean Industries Association (Noia). Husky regularly posts procurement opportunities with Noia through the Noia/OTANS Daily Bulletin. Again this year, Husky participated in the annual Noia conference providing two speakers to the supplier community.

## **2.0 Summary of 2016 Activities**

2016 marked the 11th full year of production from the White Rose field. A total of 8.6 million barrels of oil was produced. 2016 also marked the seventh year of production from the North Amethyst field with a total of 2.6 million barrels of oil produced and the fifth full year of production from West White Rose with 1.7 million barrels of oil produced. 2016 was also the first full year of oil production from SWRX with 2.0 million barrels of oil produced.

In 2016, the *Heather Knutsen*, *Jasmine Knutsen*, and *Navion Hispania* transported Husky's White Rose crude. A total of 21 White Rose cargoes were completed in 2016 of which all (100% or 15 million bbls) was delivered to the NTL terminal at Whiffen Head.

In 2016 the *Henry Goodrich* drilled and completed the production wells North Amethyst E-18 12Y and White Rose J-05 4. In November 2016 the North Amethyst well G-25 10 was spud and will be completed in 2017.

In 2016, Husky invested over \$7.6 million in Research and Development and Education and Training on a number of initiatives, including \$350,000 as part of a 3-year commitment to the Canadian Cancer Society for funding to support the cancer prevention education program, \$10,000 in support of the Nature Conservancy of Canada's internship program and \$25,000 in continued support of the CNIB's Eye Safety Program.

As of December 31, 2016, a total of 1274 people were reported employed on Husky's White Rose Operations of which 570 were located offshore. This includes people employed with Husky and its contractors and includes North Amethyst, West White Rose and South White Rose Extension (SWRX). Of this total, 1154 or 91 percent were residents of Newfoundland and Labrador when hired, while another 90 or 7 percent were residents of other regions of Canada at the time of hire. The number of females employed on White Rose operations was 209 or approximately 16 percent of the total workforce.

As of December 31, 2016, 136 people were reported employed on Husky's White Rose Extension Project, representing approximately 26,000 person hours. The number of females employed on the project was 35 or approximately 26 percent of the total workforce.

Total Newfoundland and Canadian content for expenditures on the White Rose project for the period January 1 to December 31, 2016 stands at 92.85 percent (69.59 percent NL; 23.26 percent Other Canadian).

### 3.0 Employment Summary

#### 3.1 White Rose Project

As of December 31, 2016, a total of 1274 people were reported employed on Husky's White Rose Operations of which 570 were located offshore. This includes people employed with Husky and its contractors and includes North Amethyst, West White Rose and South White Rose Extension (SWRX).

Of the total personnel, 1154 or 91 percent were residents of Newfoundland and Labrador when hired, while another 90 or 7 percent were residents of other regions of Canada at the time of hire. The number of females employed on White Rose operations was 209 or approximately 16 percent of the total workforce (Table 3.1).

**Table 3-1 White Rose Employment Summary by Location, as of December 31, 2016**



#### Atlantic Region Contractor Stats

##### Head Count By Location

White Rose - Q4 2016

Location	NL Male	NLFemale	NL Subtotal	Other Canadian Male	Other Canadian Female	Other Canadian Subtotal	Foreign Male	Foreign Female	Foreign Subtotal	Male Subtotal	Female Subtotal	Total
Foreign	0	0	0	0	0	0	11	1	12	11	1	12
Newfoundland - Offshore	495	17	512	48	1	49	9	0	9	552	18	570
Newfoundland - Onshore	453	181	634	32	5	37	9	0	9	494	186	680
Other Canadian	5	3	8	3	1	4	0	0	0	8	4	12
<b>Total</b>	<b>953</b>	<b>201</b>	<b>1,154</b>	<b>83</b>	<b>7</b>	<b>90</b>	<b>29</b>	<b>1</b>	<b>30</b>	<b>1,065</b>	<b>209</b>	<b>1,274</b>

**Table 3-2 Employment Summary - Husky & Major Contractors as of Dec 31, 2016**

**Atlantic Region Contractor Stats**

 Head Count By Contractor  
 White Rose - Q4 2016

Contractor	NL Male	NL Female	NL Subtotal	Other Canadian Male	Other Canadian Female	Other Canadian Subtotal	Foreign Male	Foreign Female	Foreign Subtotal	Male Subtotal	Female Subtotal	Total
A Harvey	14	5	19	0	0	0	0	0	0	14	5	19
Aker Solutions	48	22	70	2	0	2	2	0	2	52	22	74
ASCO Canada Limited	5	1	6	0	0	0	0	0	0	5	1	6
Atlantic Offshore Medical Services	9	3	12	0	0	0	0	0	0	9	3	12
Atlantic Towing	63	4	67	5	0	5	0	0	0	68	4	72
Atlantic XL	4	2	6	0	0	0	0	0	0	4	2	6
Baker Hughes	2	1	3	1	0	1	0	0	0	3	1	4
Cormorant Ltd.	1	0	1	0	0	0	0	0	0	1	0	1
Cougar	38	7	45	8	0	8	0	0	0	46	7	53
Crosbie Salamis	36	4	40	3	0	3	0	0	0	39	4	43
DBC Marine Services	6	8	14	0	0	0	0	0	0	6	8	14
DOF Subsea	36	9	45	1	1	2	4	0	4	41	10	51
East Coast Catering	15	4	19	0	0	0	0	0	0	15	4	19
East Coast Tubulars	21	2	23	1	0	1	4	0	4	26	2	28
Enhanced Drilling	3	0	3	0	0	0	0	0	0	3	0	3
Expro Group Canada	8	1	9	0	0	0	0	0	0	8	1	9
FI Oilfield Services Canada ULC	11	0	11	1	0	1	0	0	0	12	0	12
Fugro Jacques GeoSurveys Inc	16	3	19	0	0	0	0	0	0	16	3	19
Oceaneering International Ltd.	0	0	0	0	0	0	7	0	7	7	0	7
Oceans Ltd	4	1	5	0	0	0	0	0	0	4	1	5
OneSubsea	27	3	30	0	0	0	0	0	0	27	3	30
Provincial Airlines	2	2	4	0	0	0	0	0	0	2	2	4
Schlumberger Services	28	6	34	7	0	7	3	0	3	38	6	44
Score	2	2	4	0	0	0	1	0	1	3	2	5
SGS Canada Inc.	1	0	1	0	1	1	0	0	0	1	1	2
Siemens	9	0	9	0	0	0	0	0	0	9	0	9
SNC Lavalin	1	0	1	0	0	0	0	0	0	1	0	1
Stantec	7	7	14	2	1	3	0	1	1	9	9	18
Technip	29	7	36	0	0	0	0	0	0	29	7	36
Teekay	52	6	58	4	0	4	1	0	1	57	6	63
Terrapure Environmental	7	2	9	0	0	0	0	0	0	7	2	9
Trans Ocean	109	5	114	14	0	14	1	0	1	124	5	129
Weatherford	14	3	17	2	0	2	0	0	0	16	3	19
Workstrings Canada	16	2	18	0	0	0	0	0	0	16	2	18
<b>Total</b>	<b>953</b>	<b>201</b>	<b>1,154</b>	<b>83</b>	<b>7</b>	<b>90</b>	<b>29</b>	<b>1</b>	<b>30</b>	<b>1,065</b>	<b>209</b>	<b>1,274</b>

**Table 3-3 Employment Summary of Husky and Major Contractors – By Discipline and Gender as of December 31, 2016**



### Atlantic Region Contractor Stats

#### Head Count By Occupation

White Rose - Q4 2016

Occupation	NL Male	NL Female	NL Subtotal	Other Canadian Male	Other Canadian Female	Other Canadian Subtotal	Foreign Male	Foreign Female	Foreign Subtotal	Male Subtotal	Female Subtotal	Total
Administration & Clerical	13	58	71	0	2	2	1	0	1	14	60	74
Engineers	102	30	132	12	3	15	6	0	6	120	33	153
Management	67	19	86	8	0	8	5	0	5	80	19	99
Marine Crew	204	6	210	12	0	12	0	0	0	216	6	222
Other Field Services	121	6	127	9	0	9	1	0	1	131	6	137
Professionals	114	53	167	17	1	18	1	1	2	132	55	187
Skilled Trades	123	4	127	17	0	17	4	0	4	144	4	148
Technicians & Technologists	209	25	234	8	1	9	11	0	11	228	26	254
<b>Total</b>	<b>953</b>	<b>201</b>	<b>1,154</b>	<b>83</b>	<b>7</b>	<b>90</b>	<b>29</b>	<b>1</b>	<b>30</b>	<b>1,065</b>	<b>209</b>	<b>1,274</b>

**Note:** In Q4 2016, Husky employed 30 co-op students (16 female) on the White Rose project. The students are not included in the head count above because they started and ended their term outside of the reporting system period.

### 3.2 White Rose Extension Project

As of December 31, 2016, 136 people were reported employed on Husky's White Rose Extension Project. During the fourth quarter of 2016 approximately 26,000 hours were expended on the project and the total for 2016 was approximately 118,000 person hours.

The majority of person hours expended on the project during the last quarter of 2016 were by Arup Canada Inc. for continued CGS engineering design work. Husky hours are related to project management and engineering design support. Hours reported by Edward Collins, Garda World and Pennecon represent graving dock maintenance activities. The hours reported by SNC/Dragados represent CGS constructability reviews with Arup.

Eighty-three percent of the person hours related to detailed engineering of the CGS took place in Newfoundland and Labrador in the fourth quarter of 2016 (see Arup in Table 3.4) and, overall, 89 percent of person hours expended on the project occurred in Newfoundland and Labrador.

**Table 3.4 Person Hours by Contractor – White Rose Extension Project Employment**



#### Atlantic Region Contractor Stats Hours By Contractor WREP - Q4 2016

Contractor	Onshore	Offshore	Subtotal	Other Canadian	Foreign	Total
Arup Canada Inc.	13,360	0	13,360	19	2,747	16,126
Edward Collins	420	0	420	0	0	420
Garda World	2,052	0	2,052	0	0	2,052
Pennecon	3,220	0	3,220	0	0	3,220
SNC Lavalin/ Dragados	1,440	0	1,440	0	0	1,440
Wood Group Mustang	2,615	0	2,615	0	0	2,615
<b>Total</b>	<b>23,107</b>	<b>0</b>	<b>23,107</b>	<b>19</b>	<b>2,747</b>	<b>25,873</b>

Residents of NL comprised of 72 percent of the White Rose Extension Project work force, a 3 percent increase from December 2015; and residents of Canada comprised four percent of the work force. Women comprised approximately 26 percent of the workforce (Table 3.5).

The majority of positions in Q4 2016 were associated with engineering supported by administration, management, and technicians/technologists (Table 3.6).

**Table 3.5 Head Count by Contractor – White Rose Extension Project**

**Atlantic Region Contractor Stats**

 Head Count By Contractor  
 WREP - Q4 2016

Contractor	NL Male	NL Female	NL Subtotal	Other Canadian Male	Other Canadian Female	Other Canadian Subtotal	Foreign Male	Foreign Female	Foreign Subtotal	Male Subtotal	Female Subtotal	Total
Arup Canada Inc.	10	8	18	5	1	6	31	1	32	46	10	56
Edward Collins	5	0	5	0	0	0	0	0	0	5	0	5
Garda World	1	5	6	0	0	0	0	0	0	1	5	6
Pennecon	34	16	50	0	0	0	0	0	0	34	16	50
SNC Lavalin/ Dragados	4	1	5	0	0	0	0	0	0	4	1	5
Wood Group Mustang	11	3	14	0	0	0	0	0	0	11	3	14
<b>Total</b>	<b>65</b>	<b>33</b>	<b>98</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>31</b>	<b>1</b>	<b>32</b>	<b>101</b>	<b>35</b>	<b>136</b>

The majority of positions in Q4 2016 were associated with engineering supported by administration, management, and technicians/technologists (Table 3.6).

**Table 3.6 Summary by Occupation – White Rose Extension Project**

**Atlantic Region Contractor Stats**

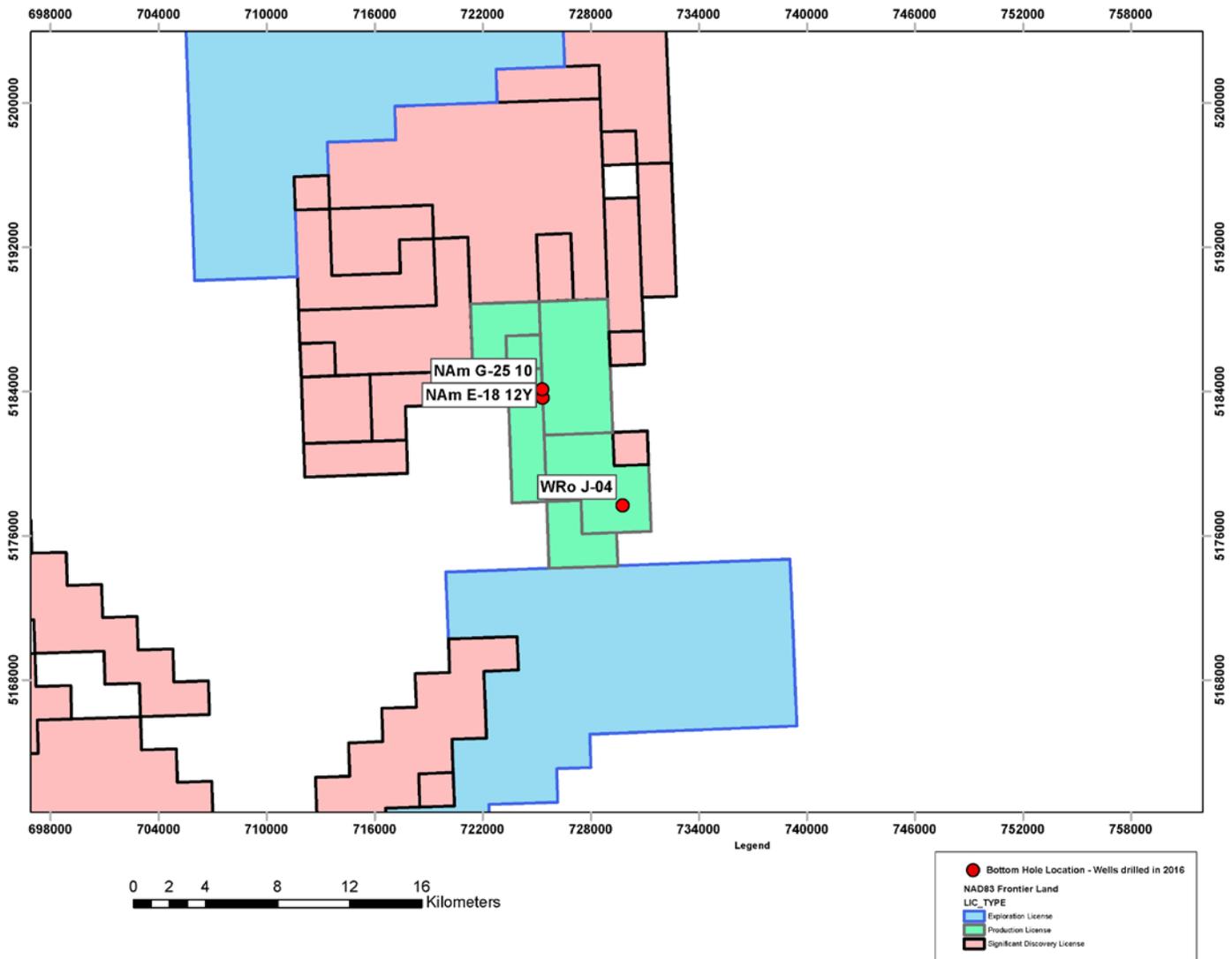
 Head Count By Occupation  
 WREP - Q4 2016

Occupation	NL Male	NL Female	NL Subtotal	Other Canadian Male	Other Canadian Female	Other Canadian Subtotal	Foreign Male	Foreign Female	Foreign Subtotal	Male Subtotal	Female Subtotal	Total
Administration & Clerical	0	19	19	0	0	0	0	0	0	0	19	19
Engineers	13	4	17	3	1	4	24	1	25	40	6	46
Management	11	2	13	2	0	2	6	0	6	19	2	21
Other Field Services	4	4	8	0	0	0	0	0	0	4	4	8
Professionals	10	0	10	0	0	0	0	0	0	10	0	10
Skilled Trades	21	4	25	0	0	0	0	0	0	21	4	25
Technicians & Technologists	6	0	6	0	0	0	1	0	1	7	0	7
<b>Total</b>	<b>65</b>	<b>33</b>	<b>98</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>31</b>	<b>1</b>	<b>32</b>	<b>101</b>	<b>35</b>	<b>136</b>

Note: In Q4 2016, Husky employed 3 co-op students on the WREP (1 female).

### 4.0 Development and Delineation Drilling Program

In 2016 the *Henry Goodrich* drilled and completed the production wells North Amethyst E-18 12Y and White Rose J-05 4. In November 2016 the North Amethyst will G-25 10 was spud and will be completed in 2017. Figure 4.1 identifies the wells drilled and/or completed in 2016.



**Figure 4-1 Map of Husky Wells Drilled in 2016**

## 5.0 Procurement

During 2016 a total of 9 new contracts valued at over \$250,000 were awarded. Table 5.1 provides a summary of these contracts.

**Table 5-1 Procurement Summary for 2016**

Husky East Coast Operations Procurement Summary		2016					
Description	Vendor Name	Vendor Location	Range	NL	CDN	FOR	Total
<b>NEW CONTRACTS</b>							
Landing String Equipment and Services	EXPRO Group Canada Ltd.	St. John's	I	17%	0%	83%	100%
ROV Services	DOF Subsea Canada Corp.	St. John's	J	67%		33%	100%
Mud Logging Equipment and Services	Schlumberger Canada Ltd.	St. John's	E	58%	26%	16%	100%
MODU Henry Goodrich	Transocean Canada Drilling Services	St. John's	O	93%	2%	5%	100%
Offshore Technical Support Services	IKM Testing	St. John's	B	100%	0%	0%	100%
Offshore Technical Support Services	Score (Canada) Ltd.	Paradise	D	13%	64%	23%	100%
Supply Vessel Services - Atlantic Osprey	Atlantic Towing	St. John's	I	91%	9%	0%	100%
Supply Vessel Services - Atlantic Hawk	Atlantic Towing	St. John's	K	91%	9%	0%	100%
Well Testing Equipment and Services	EXPRO Group Canada Ltd.	St. John's	E	17%	0%	83%	100%
<b>Cost Range Code Legend</b>							
A = 250,001 - 500,000 \$	E = 2,000,001 - 3,000,000 \$	I = 10,000,001 - 15,000,000 \$	M = 50,000,001 - 75,000,000 \$				
B = 500,001 - 1,000,000 \$	F = 3,000,001 - 5,000,000 \$	J = 15,000,001 - 20,000,000 \$	N = 75,000,001 - 100,000,000 \$				
C = 1,000,001 - 1,500,000 \$	G = 5,000,001 - 7,500,000 \$	K = 20,000,001 - 30,000,000 \$	O = Over 100,000,001 \$				
D = 1,500,001 - 2,000,000 \$	H = 7,500,001 - 10,000,000 \$	L = 30,000,001 - 50,000,000 \$					

## 6.0 Research and Development

Husky Energy's investments in Newfoundland and Labrador executed R&D was over \$4.0 million in 2016. R&D expenditures include engagement with a wide spectrum of local companies and academic institutions.

### 6.1 Ongoing R&D Projects

A number of Husky directed or sponsored R&D initiatives noted in the 2015 Annual Report continued into 2016, including:

#### Memorial University

- Corrosion Under Insulation – Dr. Faisal Khan with NL R&D Corporation.

#### Petroleum Research (PRNL)

- Dynamic positioning operations in sea ice.
- Effects of Seismic Activity on Shrimp Behavior –Phase II pilot survey.
- Next Generation Emergency Escape, Evacuation and Rescue (EER) System in Ice Covered Waters.
- Marine Dredge Disposal – Measuring Recovery to Natural Conditions.
- Effectiveness of Virtual Environments to Improve Onboard Drills & Exercises.
- Seeding activity associated with integrity management:
  - Remotely operated monitoring tool.
  - Liquid repellent surface.
  - Enhanced integrity through live 3D reconstruction and simulation project.

#### C-CORE

- Ice impact on wellheads: Re-analysis of future prospect using alternative wellhead.
- Enhanced satellite radar based iceberg detection and sea ice monitoring.

#### Radiant360

- Development of mobile computing technology to develop integrated operations applications for the piping system, process safety metrics:
  - Development of piping and pressure vessel integrity management and risk model.

#### Husky Led R&D

- Continued collaborative research with National Research Council to advance development of a pressured ice predictive model for the Grand Banks.
- Collaborative research with National Research Council to advance development of operational techniques and training to support evacuation and operations in sea ice conditions.

## 6.2 New R&D Projects

Husky's R&D program continued to grow with initiation of a number of new R&D projects during 2016. Notable new projects include:

### **Petroleum Research (PRNL)**

- Offshore personnel transfer – Phase II.
- Development of research themes in relation to:
  - Gas and CO<sup>2</sup> emissions.
  - Integrated operations and local capability assessment

### **NRC - OCRE**

- Continued updates to emergency evacuation model and full scale calibration.

### **Memorial University**

- MITTACS student sponsor for process safety.
- NSERC/Husky creation of the industry chair for safety at sea recognizing present capacity and to promote the development of simulation technologies to improve operational safety leading to a more robust inherent safe design of offshore facilities.

### **C-CORE**

- Development of an iceberg profiling road map using AUV technology.

### **Statoil Led R&D**

Collaboration with Statoil to study physical environmental conditions in the frontier NL offshore operating environment is continuing within the thematic of metocean and ice remote sensing for strategic and tactical support for future operations.

### **Husky R&D (led or support)**

Started collaborative research with Technip associated with the development of innovative technologies for stranded oil and gas resources such as a lean WHP, the Mark II, that would be designed as a non-operated concrete gravity platform.

## 6.3 Future Initiatives in R&D

Husky's investment in collaborative R&D in Newfoundland and Labrador continues to contribute to evolving local R&D capacity and capability.

Husky supports initiatives which motivate innovation in safety practices, efficiency, and reliability of offshore exploration and production operations, while continuing to advance the technologic feasibility of future offshore developments. A combination of direct investments in R&D, addressing strategic challenges unique to its business needs and opportunities, participation on collaborative R&D, and targeting more generic industry and regional operation challenges, helps maintain Husky's diverse R&D portfolio.

Husky remains committed to its role as a strategic industry partner to enable Newfoundland and Labrador innovators to successfully leverage additional funding from agencies such as the NL R&D Corporation and ACOA Atlantic Innovation Fund, toward advanced technology demonstration and commercialization of projects. Husky's contribution incorporates a blend of direct financial investment and participation through mentoring, which includes access to subject matter experts and operational resources.

## 7.0 Education and Training

Education and training remains a key area for Husky Energy, and continues to provide an opportunity to contribute to the development of the local offshore industry. Through the period of January 1st to December 31st, 2016, direct non-regulatory training expenditure by Husky and its contractors related to the White Rose and North Amethyst projects totaled over \$3.4 million.

Husky will continue to invest in education and training to assist personnel in developing key skills and knowledge for professional and personal development. Husky's regard for the health, safety and wellbeing of the people who support Husky's operations remains paramount, and will be reflected in training associated with implementation of elements of Husky's Operational Integrity Management System, including a behavioral based safety management system.

Below is a description of the major initiatives in education and training undertaken in relation to the White Rose project in 2016.

### 7.1 Husky Energy

Husky continued its strong commitment to the Memorial University of Newfoundland and College of the North Atlantic co-operative education programs in 2016. Husky continued to be an important employer of co-operative education students working in various disciplines, hiring 95 students in 2016. Total expenditure on co-operative education for 2016 by Husky was over \$1.9 million. Husky views this program as an important tool for building local capabilities in the offshore oil and gas sector and will continue to support this program in the future.

Husky Energy renewed its commitment to influencing education and career choices of young adults in Newfoundland and Labrador through a \$20,000 contribution to Techsploration in 2016, the 13th year that Husky has provided funding. The Techsploration program is delivered by the Women in Resource Development Corporation (WRDC) in St. John's. The program introduces career opportunities in the trades and technologies to female Grade 9 students in an effort to interest them in the sciences before selecting courses for their secondary program. In addition to funding, Husky supports the efforts of several female employees who volunteer their time to be mentors for this program. Husky also continued to work closely with Women in Science and Engineering (WISE) in 2016 through provision of \$26,000 for summer student positions. As part of this program, female Husky employees also hosted a Husky Day on August 17 for the SSEP students which provided an opportunity for participants to meet with other females in non-traditional jobs as well as taking a tour of Baker Hughes, Virtual Marine Technology, OneSubsea and Cougar Helicopters. 2016 was also the first of two years of funding to the Canadian Centre for Women in Science, Engineering, Trades and Technology (WinSETT) program.

In 2016 Husky also provided \$10,000 in scholarships to Memorial University, College of the North Atlantic and the Coalition of Persons with Disabilities, \$3,000 to Memorial University's Faculty of Business Administration Associates Program and \$2,000 to the Marine Institute's Mate ROV Competition.

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## 7.2 Husky Personnel Training

During 2016, Husky personnel received locally-based training from various educational facilities including a rig inspection workshop at a cost of over \$15,000, Person in Charge Assessment Training at a cost of \$9,000, Excellence in Presenting at a cost of \$12,000 and Situational Frontline Leadership training at a cost of \$16,000.

## 7.3 Other Training Initiatives

- Crosbie Salamis spent over \$17,000 on work term students from the College of the North Atlantic and \$9,000 to support an employee in attaining a Masters Certificate in Project Management.
- Oceans Ltd spent over \$16,000 on work term students in the field of international marketing from Memorial University.
- Teekay spent over \$66,000 on its training program for Marine Institute cadets on board the shuttle tankers servicing the *SeaRose FPSO*.
- Atlantic Towing spent over \$180,000 on work term students from the Marine Institute and Nova Scotia Community College.
- Cougar Helicopters spent over \$24,000 on work term students from College of the North Atlantic, Eastern College and Memorial University.
- Arup Canada spent over \$120,000 on work terms students from Memorial University.
- Technip Canada spent over \$34,000 on Advanced Leadership training with Memorial University.

## 8.0 Technology Transfer and Supplier Development

Husky considers investments to develop Newfoundland and Labrador's technological, industrial and economic capacity to be strategic to the sustainable growth of Husky's Atlantic Region. Developing the technologies that can support improvements in safety, performance, and productivity for the Grand Banks environment is becoming even more relevant in the present downturn in the industry.

Husky acknowledges that the emergence of new digital technologies, their adoption and the intelligent exploitation of data can make our industry more competitive and safer.

### Safety at Sea Chair

In 2016, Dr. Brian Veitch, professor at Memorial University, was appointed as the NSERC/Husky Energy Industrial Research Chair in Safety at Sea. Over a five-year period, the Natural Sciences and Engineering Research Council of Canada (NSERC) and Husky will each contribute \$550,000, the Research & Development Corporation of Newfoundland and Labrador (RDC) will contribute \$500,000 and Memorial University will provide \$1 million in collaboration with St. John's-based Virtual Marine Technology (VMT), which will provide in-kind support.

This program supports Husky's vision that simulators and virtual training environments can better prepare workers and influence the design of future projects to improve safety. Further, it supports the technological advancement of VMT, promotes its international recognition and advances the Atlantic region as an area of innovation in relation to safety at sea technologies.

### PRNL Joint Industry Ice Management R&D Program

Husky continues to be a key collaborator in PRNL's Ice Management Joint Industry Program. Projects within this program are advancing technologies and positioning Newfoundland and Labrador companies such as Rutter and C-Core as world leaders in ice intelligence and management technology. These initiatives serve to advance Newfoundland and Labrador's international reputation as a "gateway to the Arctic".

Additional tools which are gaining maturity and have received Husky support include:

- Development of iceberg profiling technology to advance offshore design, support safe towing and mature ice drift models through the characterization of iceberg profiles. New research in relation to unmanned autonomous vehicles was begun with C CORE in 2016.
- Validation of NRC pressurized ice model for the Grand Banks.
- Continuation of Dynamic Positioning in Sea Ice 5-year JIP with our operating partners.

### Operator performance support

The Husky push to introduce risk based integrity management is evolving beyond simple monitoring to deploying analytics and real time assessment to support operations. In 2016, pressure system and Bow Ties have been advanced further with Radiant360. The goal is to

provide to field operators and supervisors the right information at the right time to make the right decision and allow the ability to dry run alternative courses of action.

### **Engagement with Research Institutes**

Husky continued to participate as an advisor on a number of steering committees to provide industry perspective and guidance in a number of areas including:

- Research Advisory Committee for Husky Energy Chair in Oil and Gas Research.
- Husky continued membership in the Canadian Standards Association group engaged in standards review and the harmonization of ISO standards to Canadian requirements.
- Husky's Senior Vice-President is Chair of PRNL.

## 9.0 Community Investment

General economic conditions continued to challenge Husky's community investment activities in 2016. In a challenging year, the company focused its efforts on preserving relationships with key community partners and supporting initiatives that will build stronger communities.

In 2016, Husky's major gifts included:

- A total commitment of \$150,000 to Memorial University's Collaborative Applied Research in Economics.
- \$100,000 to Rainbow Riders to support the expansion of their therapeutic riding programs.
- A total commitment of \$100,000 to the Heart and Stroke Foundation to support their AEDs in Schools program.
- \$10,000 to the Nature Conservancy of Canada to support their internship program.
- \$10,000 to Earth Rangers for delivery of school-based conservation program.
- \$7,500 to support the Eating Disorder Foundation of NL's family therapy program.
- \$3,000 to Junior Achievement.

In addition to these major gifts, Husky also supported local community organizations through non- R&D/E&T eligible contributions including \$7,500 to the Jimmy Pratt Memorial Outreach Centre, \$7,500 to the Newfoundland Symphony Orchestra and \$5,000 to Business and Arts Inc.

## 10.0 Diversity

Husky continued to work closely with its sub-contractors to advance the various initiatives identified within the Diversity Plan. More than 100 people (employees, contractors and representatives from community partners) attended Husky's Diversity Forum in January 2017. This year's forum included a Husky Energy update, a keynote speaker (Derek Bennett, Parliamentary Secretary to Sherry Gambin-Walsh, Minister of Children, Seniors and Social Development), guest speaker Scott Tessier, Chair and CEO of the Canada-NL Offshore Petroleum Board and roundtable discussions focused on identifying opportunities for collaboration. A report on diversity-related activities in 2016 will be submitted under separate cover.

11.0 Photographs



**Husky staff provide mentorship in the Junior Achievement Program– January, 2016**



**Husky staff volunteer at the Jimmy Pratt Breakfast Program - February 2016**



**Husky Staff Participate in the Petroleum Industry Human Resource Committee's Educator's Forum in Gander – March 2016**



**Husky staff participate in the Offshore Workers Memorial Fund Hockey Tournament -March 2016**



**The Techsploration Program tours Husky facilities – April 2016**



**Husky Energy Supports the Eastern Science and Technology Fair – April 2016**



**Easter Seals presents Husky with a Plaque of Appreciation– June 2016**



**One of the largest and most advanced subsea construction vessels in the world, the *North Sea Giant*, arrives in Bay Bulls to support the 2016 *SeaRose FPSO* Annual Maintenance Program – June 2016**



**SeaRose FPSO completes its annual maintenance turnaround – July 2016**



**Husky organizes a day of activities for WISE participants – August 2016**



**Husky donates \$100,000 to Rainbow Riders *Raise it Up* campaign**

**– September 2016**



**Husky representatives attend MUN Career and Graduate School Fair**

**– September 2016**



**Husky receives the 2016 CNIB Community Partner Award – October 2016**



**Husky co-op students visit SAR facility – November 2016**



**Husky makes contribution to the Eating Disorder Foundation  
– November 2016**



**Husky's Women's Leadership Network holds a student mentoring event  
– December 2016**