EXHIBIT/P-00011

Fisheries and Marine Institute of Memorial University of Newfoundland

Offshore Safety and Survival Centre
23rd November 2009

Robert J. Rutherford, P. Eng. MIMarEST
Director

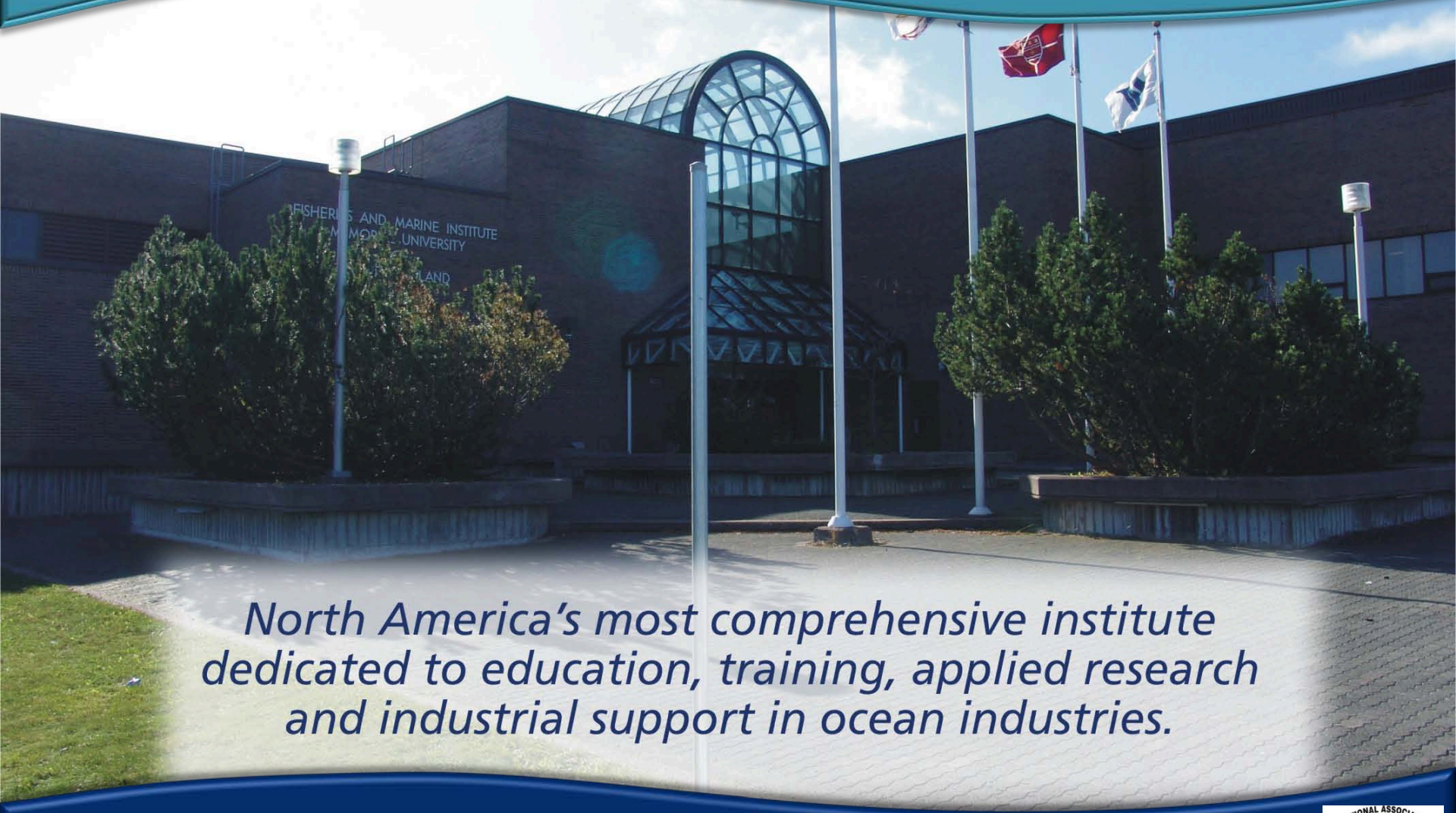
EXHIBIT/P-00011

Presentation

- Background information on the Offshore Safety and Survival Centre including information on:
  - Academic processes
  - the nature and volume of Training deliveries
  - Facilities, Equipment, Faculty and Staff
  - Quality Assurance/Safety Management Systems
- An overview of East Coast Canada Offshore Training requirements
- A brief summary of training requirements in other regulatory jurisdictions
- Objective and content of Basic Survival Training
- Specific Details on Helicopter Escape training
- Specific details of Helicopter Underwater Escape Breathing Apparatus (HUEBA)Training
- Information on how we approach knowledge gaps and to seek to improve offshore safety training
- Current Plans to enhance Marine Institute and OSSC capability to provide Safety Survival and Emergency Response training to the growing Canadian Offshore Petroleum Industry

Marine Institute
OF MEMORIAL UNIVERSITY OF NEWFOUNDLAND

EXHIBIT/P-00011



North America's most comprehensive institute dedicated to education, training, applied research and industrial support in ocean industries.

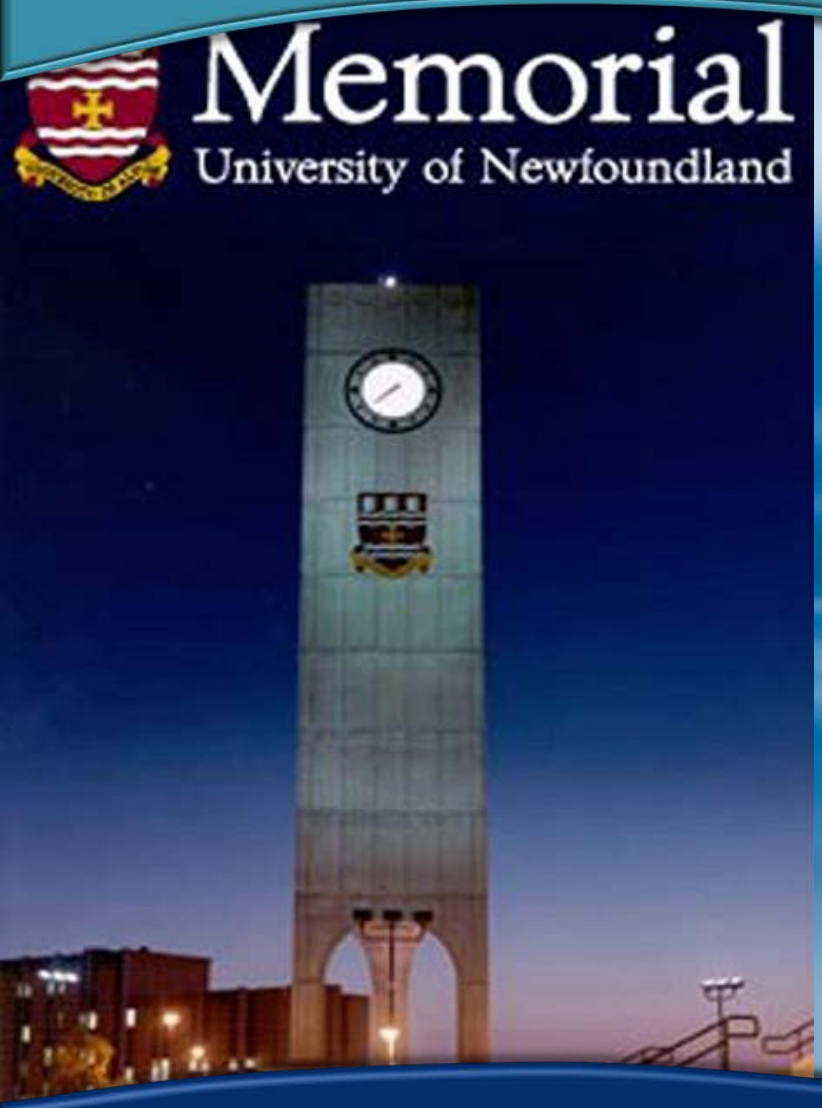
Be ready for the challenge

MARINE INSTITUTE

MEMORIAL UNIVERSITY

INTERNATIONAL ASSOCIATION FOR SAFETY AND SURVIVAL TRAINING IASST

EXHIBIT/P-00011



Within Memorial University,

the Marine Institute

is

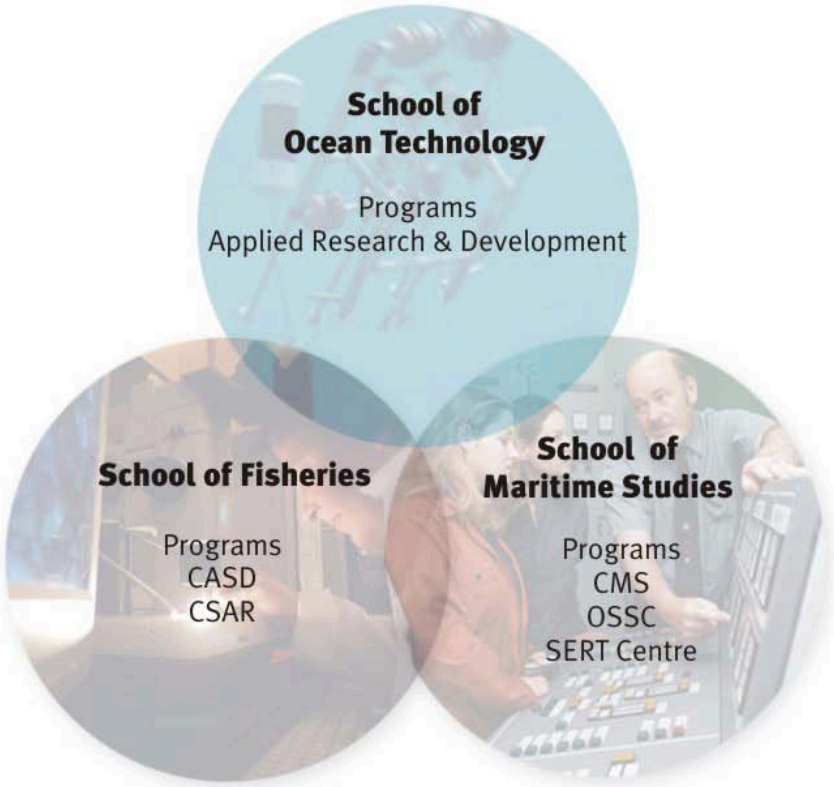
The Portal to the Ocean

for

industry, educators, government and researchers

EXHIBIT/P-00011

Academic and Student Affairs



Office of Research & Development

MI International

CCFI

One Ocean

NRC-IRAP

CFNES St. John's

Corporate Services and External Affairs

EXHIBIT/P-00011

Offshore Safety and Survival Centre

Be ready for the challenge

MARINE INSTITUTE MEMORIAL UNIVERSITY IASST

OSSC History

- 1986 - Facility built in Foxtrap to deliver Safety and Emergency Response Training to marine transportation industry
- 1992 - Expanded Offshore Development Fund
  - Enhanced Facilities for Offshore Petroleum Industry Training
- 2003 - Further Expansion
  - Marine Base Southside St. John's
  - Satellite Safety and Emergency Response (SERT) Training Centre in Stephenville

OSSC Courses

- Eighty standard short courses in the area of safety, survival and emergency response.
- Twenty five percent of these courses are focused on the needs and requirements of the offshore petroleum industry
- The OSSC is also able to develop and deliver custom courses to meet the needs of specific clients.
- All courses at OSSC Foxtrap are short courses of between ½ day and 10 days duration.
- The majority of courses at OSSC involve practical exercises
- Courses and other activity at OSSC delivered on cost recovery basis

EXHIBIT/P-00011

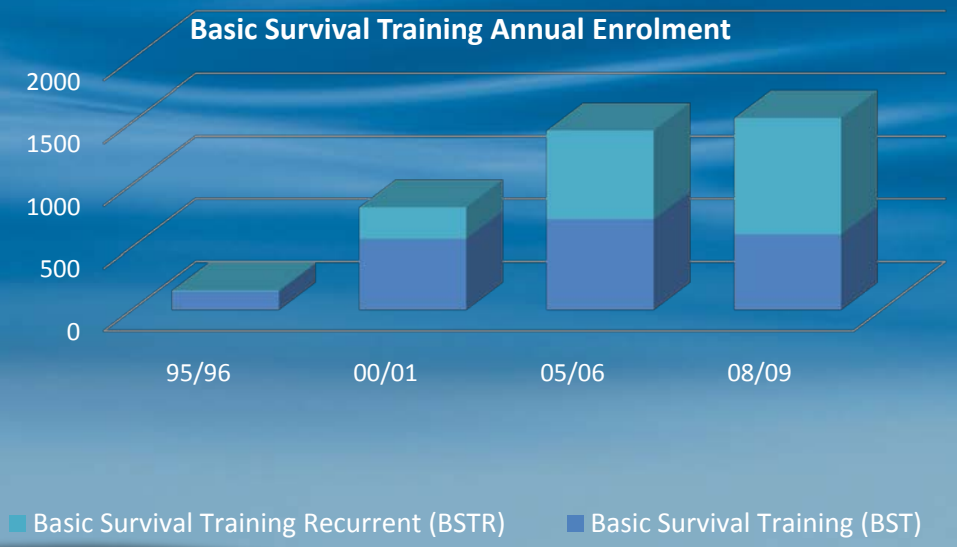
OSSC Growth

	95/96	00/01	05/06	08/09
Foxtrap/Southside Industrial Response Training	1,693	3,442	4,781	5,106
Foxtrap/Southside Firefighting Technical Certificate Course	12	24		
Subtotal Foxtrap/Southside	**1,705**	**3,466**	**4,781**	**5,106**
SERTC Industrial Response Training			92	81
SERTC Firefighting Technical Certificate Course			18	41
Subtotal SERTC			**110**	**122**
Rural NL Industrial Response Training	103	143	721	588
Other Locations Industrial Response Training		24	45	115
Subtotal Rural/Other	**103**	**167**	**766**	**703**
Total	**1,808**	**3,633**	**5,657**	**5,931**

Enrolment in the year 2009 – 10 is expected to exceed 7000.

EXHIBIT/P-00011

	95/96	00/01	05/06	08/09
Basic Survival Training (BST)	148	567	722	602
Basic Survival Training Recurrent (BSTR)	9	252	713	933
Total	**157**	**819**	**1435**	**1535**



Academic Processes

- Academic Council
- Non Degree Programs Committee
- Program Chair
- Program and course development and review
- Accreditation
  - Transport Canada (TC)
  - International Maritime Organization (IMO)
  - Canadian Association of Petroleum Producers (CAPP)
  - International Fire Service Accreditation Congress (IFSAC)

OSSC Employees

- Full time and on call at the OSSC (including SERT) is eighty six.
  - four managers,
  - seventy faculty (instructors and technical support personnel (full time and on call)
  - three faculty undertaking applied research
  - eight administrative personnel
  - one catering employee.
- Instructors at OSSC are selected through a competitive hiring process which takes account of qualifications, certifications, industrial/ emergency response experience and teaching experience.
- New instructors are provided with an orientation and training program before they are assigned to course deliveries.

Facilities and Equipment

- Large survival tank complete with helicopter underwater escape trainer (HUET) and various marine and offshore evacuation devices
- Environmentally contained fire training ground outfitted with marine, offshore petroleum and helicopter fire simulators
- Marine base outfitted with a variety of lifeboat and fast rescue craft launching devices
- Variety of lifeboats and fast rescue craft
- Seagoing marine training vessel
- Large inventory of specialized training equipment

OSSC Orientation Video Part 1

Quality and Safety Management

- ISO 9001 Registered Educational Institution
- OSSC Safety Management System Integrated within MI quality System
  - Safety Management
  - Risk Management
  - Foxtrap Orientation Video

OSSC Orientation Video Parts 2 and 3

East Coast Canada Offshore Training

1. Drilling Installations – Personnel Qualifications and Training
2. Production installations – Personnel Qualifications and Training
3. Mandatory Safety Training for all Petroleum Installations
4. Mobile Offshore Drilling Units – Marine Certification
5. Stand by and Supply/support Vessel Personnel Qualifications and Training
6. Emergency Preparedness and Response for all Petroleum Installations
7. Exemption and Equivalency Procedures
8. Recognition of Certificates

EXHIBIT/P-00011

Personal Safety Training (3.1)

- Offshore Survival Introduction (OSI)
- Basic Survival Training (BST)
- Basic Survival Training Recurrent (BST-R)
- Hydrogen Sulphide (H2S)
- Workplace Hazardous Materials Information System (WHMIS)
- Transportation of Dangerous Goods (TDG)
- Basic First Aid
- Advanced First Aid
- Cardiopulmonary Resuscitation (CPR) – Level C

Emergency Team Training (3.3)

- Offshore Fire Team (OFT)
- Offshore Fire Team Recurrent (OFT-R)
- Helicopter Landing Officer (HLO)
- Rescue Craft Team
- Survival Craft Coxswain
  - Note Section 3.2 refers to technical training such as crane operator – we do not deliver this training.

Canadian East Coast Offshore Petroleum Training and Qualifications Committee

- Composition
  - one representative from each of the two boards,
  - two representatives of the Canadian Association of Oilwell Drilling Contractors (CAODC)
  - three representatives of the Canadian Association of Petroleum Producers (CAPP).
- Representatives of the Marine Institute OSSC and Survival Systems Ltd. Nova Scotia attend the meetings by invitation.

Canadian East Coast Offshore Petroleum
Training and Qualifications Committee

- Standard Practice for the Training and Qualifications of personnel
  - Updates each year
  - Changes managed through a Change Request Form (CRF)
  - Interim updates addressed by means of letter from CAPP

Safety and Survival Training

- Basic Safety Training (BST)
  - 5 day , valid 3 yrs
- Basic Survival Recurrent Training (BST-R)
  - 2 days, valid 3 years
- Offshore Survival Introduction
  - 1 day, For visitors max 7 day offshore in any one year

  Valid 3years

BST (5 day, 3 yr validity)

- Objective : To provide personnel with a basic understanding of the hazards associated with working in an offshore environment, the knowledge and skills necessary to react effectively to offshore emergencies and the ability to care for themselves and others in a survival situation

EXHIBIT/P-00011

BST Course Content

- The course is comprised of:
  - Hazards and Emergencies associated with working offshore
  - Emergency Preparedness and Response
  - Prevention Detection and Control of Fire
  - Self Contained Breathing Apparatus (SCBA)
  - Personal Flotation Devices
  - Installation Abandonment
  - Inflatable Life rafts
  - Totally Enclosed Motor Propelled Survival Craft (TEMPSC)
  - Enemies of Survival
  - Search and Rescue
  - Practical Sea Exercises
  - Helicopter Safety and Emergency Procedures
  - Helicopter Underwater Escape Trainer (HUET) Exercises
  - Personnel Transfer Devices
  - Demonstration of emergency personnel descent devices
  - Demonstration of use of smoke hoods
  - **Compressed Air Helicopter Underwater Emergency Breathing Apparatus (HUEBA) training (1 hour lecture followed by *shallow water* pool exercises (as of May 5th 2009)**

BST-R (2 day 3 yr validity)

- Objective: to provide for continued proficiency in the use of safety, survival and rescue equipment and techniques and to update individuals with respect to advancements in equipment technology and procedures since their previous training.

BST-R Course Content

- The course is comprised of the following
  - Discussion of Offshore Hazards
  - Personal Lifesaving Equipment
  - Installation Abandonment Survival and Rescue Equipment and Techniques
  - Practical Sea Exercises
  - Safety and Emergency procedures associated with helicopter transport
  - Helicopter Underwater Escape Trainer (HUET) exercises
  - **Compressed Air Helicopter Underwater Emergency Breathing Apparatus (HUEBA) training (1 hour lecture followed by *shallow water* pool exercises (May 5th 2009)**

OSI (1 Day, 3 yr validity)

- Objective: to provide visitors to an offshore installation with an awareness of the hazards associated with the marine environment, an understanding of their responsibilities during an offshore emergency and the ability to care for themselves and others in a survival situation.

OSI Course Content

- The course is comprised of:
  - Offshore hazards, emergency response and installation abandonment
  - Evacuation Systems, lifesaving appliances and personal flotation devices
  - Practical pool exercises
  - Survival theory Survival pattern and distress signals
  - Rescue and Rescue Equipment
  - Helicopter Safety and Emergency Procedures
  - Helicopter Underwater Escape Trainer (HUET) exercises
  - **Compressed Air Helicopter Underwater Emergency Breathing Apparatus (HUEBA) training (1 hour lecture followed by *shallow water* pool exercises) May 5th 2009**

Training Comparisons

- **International standards**
  - no one international standard for offshore petroleum training.
  - Each nation involved in offshore petroleum exploration or production sets its own standards
  - some nations will adopt or accept standards set by others.
- Two jurisdictions with mature regulatory jurisdictions and widely involved in offshore petroleum operations in cold water environments are the United Kingdom and Norway.

EXHIBIT/P-00011

United Kingdom Standards

- 1982 - Offshore Petroleum Training Board (OPTB)
- 1991 - Offshore Petroleum Industry Training Organization (OPITO)
  - an independent non-profit organization with a mandate to market training courses to jurisdictions outside the UK.
  - OPITO courses and standards are now the most widely adopted training standards worldwide.
- 2007 - OPITO Oil and Gas Academy launched
  - industry's focal point for skills, learning and workforce development.

EXHIBIT/P-00011

United Kingdom Standards

- The Academy is a self-sustaining, employer and trade union led organization committed to developing and sustaining a safe, skilled and effective workforce now and in the future. To achieve this it has a mandate to work in collaboration with: industry employers, learning & training providers, education & academia and partnership organizations.

- Equivalent OPITO courses to Canadian standard BST and BST-R
  - Basic Offshore Safety Induction and Emergency Training (BOSIET) and
  - Further Offshore Emergency Training (FOET)

BOSIET

- Initial offshore safety and emergency response training and assessment requirements for personnel new to the offshore oil and gas industry.
- Optimal duration of 21 hours and five minutes
- Certificate validity of four years.

EXHIBIT/P-00011

BOSIET

- Safety Induction
  - Industry overview and installation overview
  - Offshore Hazards
  - Managing Offshore Safety
  - Controlling Offshore Hazards
  - Regulating Offshore Safety
  - Living and working offshore
- Helicopter Safety and Escape
  - Helicopter Travel
  - Helicopter Emergencies
- Sea Survival
  - Evacuation (theory)
  - Evacuation and Escape (Practical)
  - Emergency First Aid
- Firefighting and Self Rescue
  - Firefighting offshore
  - Self Rescue

FOET

- Designed to meet the further offshore safety and emergency response training and assessment requirements for personnel working in the offshore oil and gas industry.
- Designed for persons who have previously attended BOSIET or FOET.
- Optimal duration of 8 hours
- Certificate validity of four years.

FOET

- The course is comprised of the following:
  - Helicopter Escape and Rescue
  - Firefighting and Self Rescue
  - Emergency First Aid

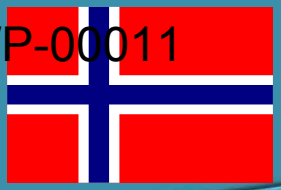
MIST

- New course for all offshore personnel entitled Minimum Industry Safety training (MIST).
- Designed to introduce the fundamental safety elements of the offshore oil and gas industry to new starts giving an appreciation of the potential hazards and controls that might be encountered by personnel offshore.
- Expected duration is 10 hours
- Delivered in computer based format by approved training provider or by the employer.
- Validity 4 years

MIST

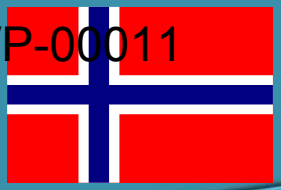
- The course is comprised of the following:
  - Introduction to Hazardous Offshore Environment
  - Working Safely including Safety Observations Systems
  - Understanding the Risk Assessment Process
  - Tasks that require Permit to Work
  - Personal Responsibility in Maintaining Asset Integrity
  - Using Manual Techniques Every Day
  - Controlling the Use of Hazardous Substances Offshore
  - Knowledge and Practice of Working at Height
  - Being Aware of Mechanical Lifting Activities

EXHIBIT/P-00011



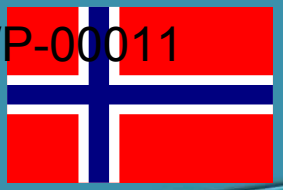
Norwegian Standards

- Safety Training standards in Norway are set through guidelines issued by the association for oil and supplier companies engaged in the field of exploration and production of oil and gas on the Norwegian Continental Shelf (OLF).
- Equivalent OLF courses to Canadian standard
  - Basic Safety and Emergency Course
  - Basic Safety and Emergency Training Refresher Course



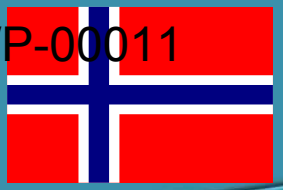
Basic Safety and Emergency Course

- Designed to motivate the individual student to actively promote a better and safer working environment
- Emphasis is placed on preventative measures that can forestall injuries or damage to the environment and to the equipment
- The course is designed for all offshore personnel
- e- training basic safety course is a pre-requisite.
- Five days duration
- Refreshed after 4 years



Basic Safety and Emergency Course

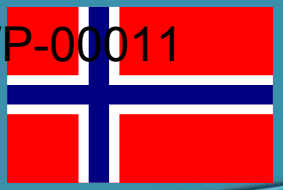
- The course is comprised of the following:
  - HSE Culture/preventative
  - First Aid
  - Joint Evacuation
  - Fire Prevention
  - Sea Rescue
  - Helicopter Evacuation



Basic Safety and Emergency Training

Refresher Course

- Designed for offshore personnel to upgrade their knowledge
- Course is applicable to persons who have previously completed Basic Safety and Emergency course or refresher course
- Duration is 2 days
- Validity 4 years



Basic Safety and Emergency Training
Refresher Course

- The course is comprised of the following:
  - Fire Prevention with First Aid
  - Sea Rescue with First Aid
  - Helicopter Evacuation

EXHIBIT/P-00011

Training Comparison

	CAPP Canada	OPITO UK	OLF Norway
Basic training duration	5 days	21 hours	5 days
Refresher training	2 days	8 hrs	2 days
Validity	3 yr	4 yr	4 yr
Open Sea exercise required	Yes	Not permitted – min water temp 15 degrees	Yes
Emergency Breathing	Pressurised Air	Rebreather	Rebreather
Comments	Strong focus on practical elements of emergency response	Very structured and prescriptive course and equipment requirements Highly sensitive to training risk – less rigorous exercises than Canadian or Norwegian jurisdictions are permitted	Similar to Canadian requirements – stronger focus on prevention activities and first aid in survival courses*

Helicopter Escape Training

- The outcome of a helicopter accident will depend on its nature and causes, the weather and sea conditions at the time, the survival equipment worn and the behavior of the individuals involved. An uncontrolled crash into the water is likely to result in serious injury to the crew and passengers whilst a controlled ditching is much more likely to have a favourable outcome.

- Evidence from accident reports demonstrate that in about 60% of all water impacts the helicopter inverted or sank immediately or after a short delay (CAA paper 2003/13)

- The purpose of the helicopter escape training is to provide trainees with an appreciation of the disorientation that can result from a sinking and/or inversion in the water plus to provide skills and knowledge that will assist them in responding to such a situation.

Helicopter Safety and Emergency Procedures

- **Flight Preparations**
  - Discuss the personal preparations to be conducted prior to arrival at a heliport.
  - Describe heliport check-in and helicopter pre-boarding procedures.
    - Examine the characteristics of the helicopter passenger transportation suit systems to be worn by passengers during over-water helicopter flights.
  - Discuss pre-flight inspection procedures for HUEBA.
  - Demonstrate the correct pre and post checks for the flight suit.
  - Demonstrate pre-flight checks on HUEBA.
  - Perform the correct donning and doffing procedures for the flight suit.

Helicopter Safety and Emergency Procedures

- **Flight Preparations**
  - Demonstrate donning a transit type survival suit with HUEBA equipment.
  - Helicopter Safety Identify the danger zones for passengers approaching a helicopter.
  - Explain the precautions to be taken when approaching a helicopter's danger zones.
  - Discuss the recommended personal conduct during a helicopter flight.
  - List the safety equipment carried aboard helicopters.
  - Use the safety card to identify and locate emergency exits.
  - Discuss the purpose and proper use of helicopter safety equipment.

Helicopter Safety and Emergency Procedures

- **In-flight Emergencies**
  - Categorize helicopter in-flight emergencies.
  - Analyze helicopter in-flight emergencies.
  - Name the three phases of helicopter in-flight emergencies.
  - Identify escape routes from the helicopter.

Helicopter Safety and Emergency Procedures

Compressed Air Helicopter Underwater Emergency Breathing System (HUEBA)

- Discuss the need for HUEBA.
- Identify time required to egress a capsized helicopter.
- Examine factors affecting individual breath-hold time.
- Discuss egress time versus breath-hold time.
- Examine Boyles Law and the relationship between pressure and volume.
- Discuss the direct effects of pressure on the human body.
- Describe the mechanism of lung over-pressurization.

- Identify the cause, treatment and prevention of; arterial gas embolism, mediastinal emphysema, subcutaneous emphysema, pneumothorax
- Describe the purpose of HUEBA.
- Identify the two major types of HUEBA.
- Identify the main components of HUEBA.
- Describe the function of the main components of HUEBA.

Helicopter Safety and Emergency Procedures

- Identify the limitations of HUEBA.
- Describe the operating principles of HUEBA.
- Describe procedure for deploying HUEBA.
- Describe HUEBA clearing procedures.
- Identify importance of breathing normally and never holding your breath.
- Identify HUEBA malfunctions including; free flow and flooded.
- Describe actions to take in the event of a malfunction.
    - Practice carrying out breathing actions using HUEBA equipment at atmospheric pressure in dry conditions.
    - Demonstrate deployment and operation of HUEBA equipment in a shallow water environment (less than 1 meter).
- Demonstrate breathing actions in a shallow water environment (less than 1 meter) including; breathe underwater using HUEBA, deploy and clear HUEBA while underwater, breathe while inverted underwater using HUEBA, deploy and clear HUEBA while inverted underwater.

Helicopter Safety and Emergency Procedures

- **Helicopter Underwater Escape Training (HUET)**
  - Participate in an introductory safety briefing.
  - Respond to alarm phase of a simulated emergency.
  - Open emergency exits at an appropriate time
  - Use emergency exits at an appropriate time.
  - Participate, as a passenger, in simulated in-flight emergencies.
  - Exit the HUET on the surface of the water.
  - Exit the HUET when partially submerged.
  - Exit the HUET when capsized.
  - Launch a helicopter life raft.
  - Use the helicopter life raft in a simulated survival situation.

SUMMARY OF PRACTICAL LEARNING OBJECTIVES:

- Helicopter Safety and Emergency Procedures
- Demonstrate the correct pre and post checks for the flight suit.
- Demonstrate pre-flight checks on HUEBA.
- Perform the correct donning and doffing procedures for the flight suit
- Demonstrate donning a transit type survival suit with HUEBA equipment.
- Use the safety card to identify and locate emergency exits.
- Practice carrying out breathing actions using HUEBA equipment at atmospheric pressure in dry conditions.
- Demonstrate deployment and operation of HUEBA equipment in a shallow water environment (less than 1 meter).
- Demonstrate breathing actions in a shallow water environment (less than 1 meter) including;
  - breathe underwater using HUEBA, deploy and clear HUEBA while underwater, breathe while inverted underwater using HUEBA, deploy and clear HUEBA while inverted underwater.

SUMMARY OF PRACTICAL LEARNING OBJECTIVES:

- Participate in an introductory safety briefing.
- Respond to alarm phase of a simulated emergency.
- Open emergency exits at an appropriate time.
- Use emergency exits at an appropriate time.
- Participate, as a passenger, in simulated in-flight emergencies.
- Exit the HUET on the surface of the water.
- Exit the HUET when partially submerged.
- Exit the HUET when capsized.
- Launch a helicopter life raft.
- Use the helicopter life raft in a simulated survival situation.

EXHIBIT/P-00011

Facilities and Equipment for Helicopter Underwater Escape Training

- HUET
  - McLean and Gibson model built in Aberdeen in the mid 1980's based on a design by the Robert Gordon Institute of Technology and the HMS Vernon Portsmouth, Royal Naval School of Mechanical and Offshore Engineering.
  - A number of these training simulators were installed in training institutions worldwide. The OSSC simulator was installed in the late 1980's.
  - Since installation the simulator has been retrofitted with:
    - Push out windows : 3 windows sizes 480*380, 480*400 and 650*470
    - Quick release systems to seat belt to permit emergency release
- Note: A 2006 report prepared for OPITO by SRK Coleshaw, Aberdeen recommended following with respect to windows:
    - Maximum size 686mm * 609 mm and minimum size 480mm*430mm.

EXHIBIT/P-00011

Helicopter Passenger Transportation Suits

- All helicopter underwater escape training takes place using the helicopter passenger transportation suit selected for use by the East Coast Offshore Petroleum Industry (June 12th 2007).
- The suits used for training are identical to those which would be worn by helicopter passengers with the following provisos:
  - They are marked as training suits
  - They are not outfitted with personal locator beacons or lights
  - They are subject to multiple use in chlorinated water (suits are leased from and serviced by manufacturer's service agent after each use nevertheless it is possible that there is some change to the properties of seals etc.)
- Suits are sized for best fit – not individually sized
  - This is necessary as we cannot maintain sufficient inventory to address every circumstance.

EXHIBIT/P-00011

Helicopter Underwater Escape Breathing Apparatus

- CAPP established a task force to consider the implementation of emergency breathing systems for helicopter transportation.
- In December 2008 the task force recommended the following :
  - Implement, as soon as proper procedures are in place, a compressed air unit as the chosen emergency breathing apparatus for offshore petroleum industry helicopter travel
  - Implement this consistently across all petroleum industry operations in both the Nova Scotia and Newfoundland & Labrador offshore jurisdictions
  - Incorporate the compressed air unit as a component of the required safety training to include dry familiarization and in-pool training at surface
-

EXHIBIT/P-00011

Implementation of HUEBA Training Involved

- **Training**
  - Instructors trained in use of the device
  - Instructors trained and certified as scuba divers
  - Technical Support personnel trained in servicing and hygiene issues
- **Course Design**
  - Training Courses
  - Risk management procedures
- **Facilities and Equipment Modifications and Acquisition**
  - Design and construction of a shallow end in pool (OSSC pool 4m deep)
  - Design and construction of HUEBA servicing room
  - Design and construction of an Emergency Breathing Systems Inversion Training (EBSIT) Chair
  - Eighty EBS units procured

EXHIBIT/P-00011

HUEBA Training

EXHIBIT/P-00011

HUEBA

- A demonstration of the training course and training method was provided by OSSC to industry representatives on March 6th 2009.
- The new training course received CAPP approval May 5th 2009 and was fully implemented at OSSC May 11th 2009.
- OSSC instructor Greg Harvey will provide the hearing with a demonstration and overview of the system.

HUEBA Presentation
Greg Harvey Instructor

Industry Associations

- The OSSC maintains associations with a number of industry and other associations with the objective of maintaining current with industry practices.
- Three have potential relevance to offshore petroleum safety and to this inquiry:
  - Participates as an invitee in the Canadian Association of Petroleum Producers Training and Qualifications Committee.
  - Participates in Transport Canada Canadian Marine Advisory Council (CMAC) meetings
  - Was a founder member of the International Association for Safety and Survival Training (IASST) association that now represents over 140 training providers worldwide.
- The mission of the association is:
  - *To facilitate the exchange of information on matters relating to safety in the maritime environment and to promote continuous improvement in safety and survival training internationally."*
  - The director OSSC has been an officer and secretary of this association since 2004.

EXHIBIT/P-00011

Opportunities for Improvement

- Capacity and Facility Development
- Necessary to respond to growth in training demand
- Concept document was developed in 2008 for discussion with funding sources
- Timing of this inquiry will permit training equipment /facility related opportunities for improvement to be incorporated

EXHIBIT/P-00011

Opportunities for Improvement

Marine Institute's strategic plan, Vision 2020, envisages the creation of a world oceans institute.

EXHIBIT/P-00011

Opportunities for Improvement

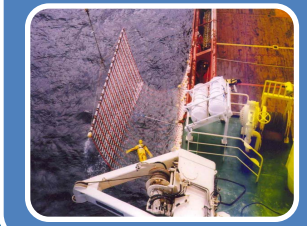
- Proposal has been initiated to develop a School of Ocean Safety.
- Creation of new School will allow access to additional resource for the development of higher level academic programs related to Ocean Safety and Risk management
- Timing of this inquiry will permit training equipment /facility related opportunities for improvement to be incorporated

EXHIBIT/P-00011

School of Ocean Safety

Training

- Enhanced Capacity
- Leading Edge



Research Centre

- Survival in Harsh Environments
- Equipment and Procedures

Advanced Education (post graduate)

- Safety management
- Command and Control

Facility

Safety Related Research and Development

- OSSC established an applied research unit in 2003
  - Focus on expanding the knowledge base related to emergency response, evacuation, survival and rescue particularly as related to cold water and hostile environments, as well as development of underpinning knowledge and techniques related to training deliveries.
  - Applied research alone or in collaboration with others on over twenty international, national and local projects, funded through government and/or industry sources.
  - All R&D activities must be funded through external sources.

Safety Related Research and Development

- Current offshore petroleum work aimed at standby vessel and standby vessel fast rescue boat crew performance is ongoing. As part of this work OSSC is trialing new safety equipment. This work is supported by Suncor and Husky Energy
- The OSSC is currently working with a local technology company (VMT) to support the development of simulators for Lifeboats and Fast Rescue Craft training. OSSC work is supported by Transport Canada.

Safety Related Research and Development

- Proposals aimed at improvements to Offshore Petroleum Industry Safety submitted for funding:
  - SmartER – this collaborative proposal, aimed at developing software for the smart design of rescue and support capability
  - CARRC – this collaborative proposal aimed at the development of a highly capable autonomous rescue and recovery craft for Canadian waters
- Full details on past and ongoing safety related research activity can be provided on request

I am very happy to have the opportunity to present to this inquiry.

I hope my presentation has provided you with sufficient information to understand the contribution the Marine Institute's Offshore Safety and Survival Centre makes and can make to safety in the Offshore Petroleum Industry as well as to the safety of workers in other industries.

Our instructors and staff have dedicated their lives to safety and to the goal that everyone who goes to work returns safely. Incidents such as the tragic loss of 17 lives on March 12th 2009 affect us all deeply and we look forward to implementing any recommendations that may come out of this inquiry that would enhance our capability to serve the workforce of the Offshore Petroleum industry and of the Province.

In going forward we are guided by the Marine Institute motto:

- Ad Excellentiam Nitere - Strive for Excellence

- and our own:
  - Think Safe. Act Safe. Be Safe.

Thank you