

CANADA-NEWFOUNDLAND AND LABRADOR

# OFFSHORE HELICOPTER SAFETY INQUIRY

**Volume 3  
Submissions and  
Meeting Summaries**



**The Honourable Robert Wells  
Commissioner**

# **Offshore Helicopter Safety Inquiry Canada-Newfoundland and Labrador**

## **Volume 3 Submissions and Meeting Summaries Phase I**

**The Honourable Robert Wells  
Commissioner**

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# Volume 3

## Submissions and Meeting Summaries

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**Offshore Helicopter Safety Inquiry**  
**The Honourable Robert Wells, Q.C., Commissioner**

**Submissions to the Offshore Helicopter Safety Inquiry**  
**by Helly Hansen Canada Limited**

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## *Summary*

The following is a summary of the submissions of Helly Hansen Canada Limited with respect to the forthcoming recommendations of the Commissioner of the Offshore Helicopter Safety Inquiry:

- 1) Remove the requirement for dual approval with respect to the helicopter transportation suits. The suits should only be required to meet the Transport Canada aviation suit standards and not be required to also meet the Transport Canada marine abandonment suit standards.
- 2) Confirm that offshore workers have a level of personal accountability for their own safety in helicopter transportation.
- 3) Revise the helicopter transportation suit standards in order to outline the required clothing to be worn under the helicopter transportation suits.
- 4) Require that future testing of the helicopter transportation suits recreate as realistically as possible the conditions where the suits will be used in order to obtain an accurate assessment of their performance in real world scenarios.
- 5) Require that the regulatory standards move to a goal-based regime as opposed to the current specification-based regime.

### ***Background***

The Offshore Helicopter Safety Inquiry was established by the Canada – Newfoundland and Labrador Offshore Petroleum Board (the “C-NLOPB”) pursuant to section 165 of the *Canada – Newfoundland Atlantic Accord Implementation Act* and section 161 of the *Canada – Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* with the following mandate:

“The Commissioner’s mandate will be to inquire into, report on and make recommendations in respect of matters relating to the safety of offshore workers in the context of Operators’ accountability for escape, evacuation and rescue procedures while traveling by helicopter over water to installations in the Newfoundland and Labrador Offshore Area, in compliance with occupational health and safety principles and best industry practices.”

Helly Hansen Canada Limited sought and received limited standing at the Offshore Helicopter Safety Inquiry (the “Inquiry”) on the grounds that Helly Hansen Canada Limited was the supplier of helicopter transportation suits to the operators of the offshore oil installations in the Nova Scotia and Newfoundland and Labrador offshore areas (the “Operators”) pursuant to a contract awarded to Helly Hansen Canada Limited on April 23, 2007 (the “Contract”).

### ***Terms of the Contract***

The terms of the Contract include the following:

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- 1) The helicopter transportation suits were required to have dual approval that meets the Transport Canada aviation suit standard CAN/CGSB 65.17-1999, as well as the Transport Canada marine abandonment suit standard CAN/CGSB 65.16-2005.
- 2) Helly Hansen Canada Limited was required to supply a sizing chart describing the smallest to the largest sizes that the suits would fit. The smallest size was required to fit a 90 lb person and the largest size was required to fit a 425 lb person. The average size was described as being between 140 lbs and 250 lbs.
- 3) Helly Hansen Canada Limited was required to supply two (2) personal locator beacons for each seat on the helicopter.
- 4) Helly Hansen Canada Limited was required to supply a helicopter underwater emergency breathing apparatus ("HUEBA"), which was designated as the Aqua Lung Sea LV-2 compressed air system or other equivalent device as approved by the Operators. The Contract required forty (40) HUEBA units to be supplied per helicopter for passengers traveling offshore, as well as two (2) HUEBA units to be supplied for each pilot.
- 5) The Contract also required Helly Hansen Canada Limited to maintain and service the helicopter transportation suits.

Helly Hansen Canada Limited produced all of the suits by the required commencement date, including the personal locator beacons and the HUEBAs as required by the terms of the Contract. However, Helly Hansen Canada Limited was instructed by the Operators not to put the HUEBAs into service at the commencement of the Contract.

Upon the commencement of the Contract, Helly Hansen Canada Limited carried out the following procedures with respect to service and maintenance of the helicopter transportation suits:

**Service and Maintenance Suit- Every Return Flight**

- Removal of Thermal liner for inspection and cleaning
- Visual inspection of suit system including:  
  
Exhaust Valve, Face Seal and flap, Front zipper, Whistle, Nose clip, PLB attachments, Boot Liners, lining fabric, Lining zipper, bar code, Inflation Mechanism/CO2, Oral Inflation tube, Buddy Line, Safety Light, Reflective tape, Cuffs, Gloves, Exterior/Interior Fabric, Spray Shield.
- Reinstallation of Thermal Liner
- Suit returned to service

**Service and Maintenance Suit- after every 8<sup>th</sup> cycle or 6 months**

- Removal of suit from service
- Thermal liner of suit removed for cleaning and inspection
- Visual inspection of suit system including:  
  
Exhaust Valve, Face Seal and flap, Front zipper, Whistle, Nose clip, PLB attachments, Boot Liners, lining fabric, Lining zipper, bar code, Inflation Mechanism/CO2, Oral Inflation tube, Buddy Line, Safety Light, Reflective tape, Cuffs, Gloves, Exterior/Interior Fabric, Spray Shield.
- “Stole” test completed- inflation and pressure test on Integrated Inflatable Lifejacket
- Leak Testing of Suit- Suit is inflated and sprayed with solution to indicate any punctures or leaks in the suit.
- Reinstallation of Thermal Liner
- Final inspection including:  
  
Cuffs, Gloves, Exhaust Valve, Nose Clip , Bar Codes, Manual Inflation Components, Spray Shield, Liner Installed, Front zipper, Buddy Line, whistle, Light, reflective tape, Boots, Shell fabric condition, interior fabric inspection.

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- Suit returned to service

"Maintenance procedures as per Helly Hansen Canada Limited Maintenance Manuals certified by Transport Canada as part of the Type AP-22 Certificate"

### *Issues Arising with respect to the Helicopter Transportation Suits*

During the first two (2) years of the Contract, Helly Hansen Canada Limited was made aware of a limited number of complaints with respect to the suits, mainly centering around comfort issues. In particular, the Nova Scotia intervention crew, which takes multiple helicopter trips per day, raised comfort issues arising from its repeated use of the suits.

In order to obtain feedback with respect to the suits, Helly Hansen Canada Limited prepared a survey that was distributed to outbound passengers traveling to the offshore area of Newfoundland and Labrador over a 4 week period commencing on June 3, 2008. The surveys were completed by 225 passengers and the survey results did not reveal any strong dissatisfaction with the suits. However, 30% of the respondents indicated that they had some difficulty completing the face seal for take-off and landing. Helly Hansen Canada Limited reviewed the survey results with the Operators who subsequently required passengers to confirm that they could fully don the suit prior to flight.

On October 28, 2008, the Canada-Nova Scotia Offshore Petroleum Board, along with the Nova Scotia operators, requested a proposal from Helly Hansen Canada Limited to address the comfort issues experienced by the Nova Scotia intervention crew. Helly Hansen Canada Limited reviewed the issues, considered the appropriate design changes and prepared a proposal for the HTS-1 suit project on December 5, 2008.

The HTS-1 suit is a modification of the E-452 suit system. Helly Hansen Canada Limited was able to make such modifications after it sought and received approval from the Operators and Transport Canada to produce a suit that would meet the aviation suit standards only, rather than also having to meet the marine abandonment suit standards. The elimination of the requirement to develop the suit to meet two (2) different standards removed the constraints of having to meet a maximum buoyancy requirement for the aviation standards, as well as a minimum buoyancy requirement for the marine abandonment standards. The elimination of the dual standard requirement also removed the necessity to meet the stipulated donning times set out in the marine abandonment standards that are simply not applicable to helicopter transportation suits. As a result of the removal of these constraints, Helly Hansen Canada Limited was able to introduce modifications to the suits that improve the effectiveness of the suits and address the comfort issues raised by the users of the suits. Since the thermal requirements of the aviation standards are the same as those in the marine abandonment standards, the HTS-1 provides the same level of thermal protection as the previous E-452.

The HTS-1 was approved by Transport Canada for usage in the offshore areas of Nova Scotia and Newfoundland and Labrador in November 2009. As can be seen from the survey of the offshore workforce prepared by Aerosafe Risk Management, the majority of the comments with respect to the HTS-1 suits have been positive and confirm that the suits are better fitting and more comfortable.

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**Helly Hansen Canada Limited submits that the report of this Commission should recommend that helicopter transportation suits only be required to meet the Transport Canada aviation suit standards and not be required to also meet the Transport Canada marine abandonment suit standards.**

At the same time that Helly Hansen Canada Limited commenced the HTS-1 suit project, it also commenced a glove project, on its own initiative, in order to improve the ease of donning of the gloves. The new gloves were incorporated into the HTS-1 suit.

Helly Hansen Canada Limited had also received some comments regarding the E-452 suit leaking during training exercises. Helly Hansen Canada Limited evaluated the amount of leakage in the training environment on May 30, 2008 and determined that the suit performance was within specifications. The following points should be noted with respect to this issue:

1. The suits are not developed to be completely leak free and, in fact, the CGSB standards allow for a certain amount of water ingress in the suits as part of the thermal testing of the suits.
2. During training exercises, the suits are used in a manner that is beyond the design specifications of the suits.
3. During the hearings held by the Commission, evidence was introduced that the same fleet of suits are used repeatedly by the Marine Institute for the Helicopter Underwater Escape Training ("HUET"). Bob Rutherford, of the Marine Institute, testified as follows with respect to this issue:

- i. The suits used in training are only used for training purposes;
- ii. The suits are subject to heavy use in chlorinated water which can break down the seals of the suits;
- iii. The suits are given a significant amount of abuse during training - they are subjected to repeated dunks in the pool and the students are required to spend significant periods of time submerged in the suits;
- iv. The trainers do not conduct individual suit fittings at the training center. They are not concerned with achieving a perfect fit, as they do not conduct training in a cold water environment; and
- v. The fact that the suits may leak during training does not mean that the suits will leak as much during a real scenario. The suits may always leak to a certain extent, but the testing indicates that the leakage is within the limits of the CGSB standards.

In June, 2009, the Operators and the Canadian Association of Petroleum Producers (“CAPP”) undertook an assessment of the performance of the E-452 suit during helicopter egress. CAPP arranged testing by Cord Group Limited, who was authorized by Transport Canada and Underwriter Laboratories to conduct approval testing, and who have been involved in the development and approval of various types of immersion protection since 1983. The report from the Cord Group Limited dated August 6, 2009 (the “Cord Report”) was tendered into evidence by CAPP during the hearings of the Commission. The Cord Report notes that the objectives of the testing was to develop a realistic scenario, in terms of activity and conditions that would provide a good challenge to the water integrity of the suit system. During the testing, eight (8)

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subjects were exposed to a helicopter ditching scenario in a Modular Egress Training Simulator (“METS”) at the Survival Training Simulation Theatre in Dartmouth, Nova Scotia. The ditching scenario involved a METS ditching in stormy conditions followed by a 20 meter swim, life raft boarding, and a 30 minute immersion. The environmental conditions used for the tests were as follows:

- Wind – 30-70 kms per hour;
- Waves – .5 -.75 meter, random and confused;
- Rain – continuous and heavy;
- Sound – ocean sounds;
- Light – delayed dim.

The Cord Report notes that the CGSB standards set out a water ingress test as the first part of the thermal protection requirements. The water ingress test in the CGSB standard requires a jump from a height of not less than 3 meters and a 60 minute swim. This provides the raw data to be used in the formula provided in the CGSB standard for calculating the amount of water to be introduced into the suit system prior to the thermal mannequin or human testing. The Cord Report notes that the average mean water ingress value for the eight (8) subjects tested by the above-noted realistic scenarios was 445 grams. The Cord Report notes that these results were below the leakage amount calculated by the CGSB water ingress method during the approval of the E-452 suit. The Cord Report concluded as follows:

“Knowing that these values are lower than the value that was used for the thermal protection test, it can be safely concluded that the thermal value

would increase with less water leakage, and therefore still exceed the required 0.75 immersed Clo.”

The Cord Report notes that the data presented in the results has been produced from tests that were designed to present a complete challenge to the waterproof integrity of the suit system, and to do this by utilizing more realistic scenarios, actions and conditions. The Cord Report notes that this testing could serve well as a foundation and guide in setting future requirements.

### *Return to Flight*

As part of the return to flight process following the crash of Cougar Helicopter Flight 491, the Operators amended the Contract in order to require Helly Hansen Canada Limited to conduct individual suit fittings on all personnel traveling offshore before being cleared to fly. The individual suit fittings were conducted at the Cougar Heliport, at offsite fitting sessions and at the Helly Hansen Canada Limited suit maintenance facilities in St. John’s. The fitting process, which was developed by Helly Hansen Canada Limited as part of the return to flight service, consists of the following categories:

1. Donning of the suit;
2. Verification of the ability to zip up the suit;
3. Size verification;
4. Checking of face and wrist seals; and
5. Mobility checks.

In his testimony before the Commission, Mr. Mark Collins, of Helly Hansen Canada Limited, testified that out of approximately 3,000 people traveling offshore, 180 were put on the no fly list

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as a result of the individual suit fittings. In other words, the suit fit 90% of the workforce without difficulty. At the time of Mr. Collin's testimony, 180 people remained on the no fly list, with 8 people scheduled to be fitted in a modified suit, 40 people scheduled to have fittings in the new HTS-1 suit, and 115 people cleared to fly in the new HTS-1 suit. Of the remaining 25 people on the no fly list, 13 people were scheduled to be fitted with a modified HTS-1 suit and 12 people required true custom made suits. Mr. Collins testified that it takes several months to obtain approval from Transport Canada with respect to each custom-made suit.

## *Expert Witnesses*

The Commission heard testimony from the following expert witnesses with respect to issues related to the suits:

1. Susan Coleshaw

Dr. Coleshaw emphasized the importance of good thermal performance of suits in order to protect the wearer from cold shock and hyperthermia. She stated that good thermal performance will depend upon the suit being correctly scaled. She noted how the buoyancy of the suits can be affected by the fit of the suits. She recommended that if buoyancy is to be reduced to a minimum, it is important that the suits are well fitted, thus limiting the air that can be trapped. She recommended that measures be taken to ensure that passengers are wearing the correct suit size. Further in that regard, Dr. Coleshaw testified that she was not aware of the individual suit fittings being conducted by Helly Hansen Canada Limited, and she stated that such individual suit fittings are not normally done in the industry. She stated that suit manufacturers normally provide a range of suits and it is up to the individual to choose their own suit size. She also stated that if an

individual had an ill-fitting suit, there was some responsibility on the individual to ask for a different sized suit. Dr. Coleshaw stated as follows with respect to issues of personal accountability:

- i. Members of the workforce must take responsibility for ensuring that they are issued with a well fitting suit;
- ii. There are times that passengers are not fully doing up the zippers because the end of the zipper feels uncomfortable in the face. However, some level of discomfort may be necessary to ensure a good seal when used in an emergency; and
- iii. Comfort will be dependent upon the level of clothing worn under the suit. There is a balance between thermal comfort in the helicopter and protection from cold in the event of immersion. The passenger must accept some level of discomfort.

As acknowledged by Dr. Coleshaw, the Operators have addressed the fit issue by contracting with Helly Hansen Canada Limited to conduct individual suit fittings for all workers traveling offshore before they are cleared to fly.

**Helly Hansen Canada Limited supports Dr. Coleshaw's comments with respect to the issue of personal accountability and submits that the Commissioner should confirm that offshore workers have a level of personal accountability for their own safety in helicopter transportation.**

2. Jonathan Power (National Research Council of Canada – Institute for Ocean Technology)

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Jonathan Power discusses the knowledge gap that exists between the calm conditions used to test a human's thermal response in immersion suits and a real world scenario where a person could experience high wind and waves. Mr. Power states that it is important for future studies to recreate as realistically as possible the conditions where protective equipment will be used, and to measure the human responses during those tests. As noted above, the E-452 helicopter transportation suits have already been tested in realistic conditions and performed quite well.

Mr. Power suggests that a goal-based regulatory regime may be a better approach than a specification-based regulatory regime, particularly in circumstances that require innovation. He states that a specification-based approach results in manufacturers addressing only the minimum "pass/fail" requirements without delving into the details of the performance required of the equipment. Helly Hansen Canada Limited states that it has not simply addressed the minimum "pass/fail" requirements in relation to the helicopter transportation suits, but rather it has been proactive in taking steps to improve the effectiveness and the comfort of the helicopter transportation suits whenever possible.

**Helly Hansen Canada Limited submits that the Commissioner should adopt the NRC's recommendation that future testing of the helicopter transportation suits recreate as realistically as possible the conditions where the suits will be used in order to obtain an accurate assessment of their performance in real world scenarios.**

**Helly Hansen Canada Limited also submits that the Commissioner should adopt the NRC's recommendation that the industry move to a goal-based regulatory regime as opposed to the current specification-based regime. Helly Hansen Canada Limited**

**agrees that moving from standards that prescribe the test conditions to performance-based standards would provide manufacturers with more flexibility in producing protective equipment that meets the needs of the industry.**

3. Michael Taber

Michael Taber referred to the helicopter transportation suit standards and noted that there is no standard for the required clothing to be worn under the suit. He suggests that a guideline of thermal comfort zone with respect to protection in both hot and cold conditions should be developed. Mr. Taber discussed the issue of personal accountability with regard to helicopter transportation. He states that personal accountability requires that individuals take the time and initiative to explore available information in order to develop a clear guideline by which to judge the behavior of their own actions as well as those of others. He stated that although wearing extra thermal protection may increase thermal loading and the chance of heat strain, with proper hydration these effects are outweighed by the benefits that would be gained in the case of accidental cold water immersion. He also stated that although the sensation of being hot and uncomfortable due to increased skin temperature may be perceived as a hazard in the event of a helicopter ditching, no such hazards have been reported. In the conclusion of his report, Mr. Taber states that the transportation suits meet and exceed CGSB requirements.

Finally, Mr. Taber poses the question of what tests should be performed to ensure that the suits are properly fitted. Helly Hansen Canada Limited submits that the current individual suit fittings conducted by it for all passengers traveling offshore exceed the industry norm and are sufficient in the circumstances.

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Helly Hansen Canada Limited supports Mr. Taber's comments with respect to the need for clarity as to the clothing to be worn under the suits. Helly Hansen Canada Limited therefore submits that the Commissioner should recommend that the helicopter transportation suit standards be revised in order to outline the required clothing to be worn under the suits.

## *Performance of the Helicopter Transportation Suits*

While Helly Hansen Canada Limited has been proactive in seeking feedback from the users of the suits and in working to continually improve the effectiveness and the comfort of the suits, it is important to bear in mind that both the HTS-1 suit, and the previous E-452 suit, meet and exceed the CGSB standards. The performance of the suit was illustrated during the testimony of Robert Decker. Mr. Decker testified as follows with respect to the suits:

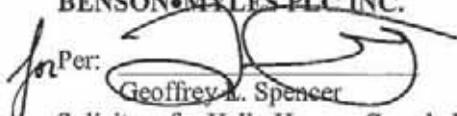
- i. When the pilot of Cougar Helicopter Flight 491 instructed the passengers to don their suits, everyone got their suits on quickly. Mr. Decker did not have any difficulty donning his suit.
- ii. Following the ditching into the ocean, the only lights that Mr. Decker could see were the strobe lights on the suits.
- iii. Once Mr. Decker released his seatbelt, the buoyancy of the suit helped carry him to the surface.
- iv. Upon reaching the surface of the ocean, Mr. Decker easily inflated the life preserver that is integrated in the suit, which kept him lying on his back in the water.

Although Mr. Decker testified that water entered his suit, it is unclear at this time as to whether Mr. Decker was wearing the correct size of suit. As noted by Dr. Coleshaw, suit manufacturers normally provide a range of suits and it is up to the individual to choose their own suit size. Since the crash of Cougar 491, Helly Hansen Canada Limited now conducts individual suit fittings in order to ensure that passengers have chosen the correct size suit. These individual suit fittings exceed the industry norm. It is also noteworthy that recent testing of the suits in realistic conditions has indicated that the amount of water entering the suits is below the leakage amount calculated by the CGSB water ingress method during the CGSB approval of the suits.

Helly Hansen Canada Limited is currently actively involved in the CGSB committee that is reviewing the helicopter transport suit standards. Helly Hansen Canada Limited is committed to continuing to work to improve the effectiveness and comfort of the helicopter transport suits in the future.

All of which is submitted on behalf of Helly Hansen Canada Limited.

**DATED** at St. John's, Newfoundland and Labrador, this **30** day of July, 2010.

**BENSON•MYLES PLC INC.**  
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# **Offshore Helicopter Safety Inquiry**

Canada-Newfoundland and Labrador

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St. John's, NL A1B 3M7

July 30, 2010

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## Offshore Helicopter Safety Inquiry

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### Marine Institute – Offshore Safety and Survival Centre

The Marine Institute through its Offshore Safety and Survival Centre (MI-OSSC) appreciates the opportunity to present this written submission to the Offshore Helicopter Safety inquiry

It is noted that the specific mandate of the inquiry is to inquire into, report on, and make recommendations in respect of:

- (a) safety plan requirements,
- (b) search and rescue obligations of helicopter operators,
- (c) the role of the C-NLOPB and other regulators.

Within the scope of this mandate, Inquiry Counsel, in consultation with parties with standing and other stakeholders, have identified a number of issues for consideration. This submission responds in detail to issue for consideration number 12 (offshore helicopter safety training) and also offer some suggestions for consideration with respect to issue for consideration number 21 (safety conferences).

With respect to our detailed response to issue 12, this will be addressed in the following format:

- Current Practice at the Marine Institute
- Response to Consultants' Reports
- Opportunities for Improvement (short term)
- Knowledge gaps /Opportunities for Research (medium/longer term)

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## **Issue 12- What are the appropriate standards of offshore helicopter safety training to ensure that the risk to passengers is as low as is reasonably practicable, both during training and helicopter transport?**

### ***Marine Institute Current Practice***

The training requirements for offshore petroleum related helicopter travel in Eastern Canada are to successfully complete a Basic Safety Training (BST) , Basic Safety Recurrent (BST-R) or Offshore Safety Introduction (OSI) course. With this training completed travel is permitted within the certificate validity period.

Each of these courses is designed 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. The difference between them is that the BST is the preparatory course for new entrants to the industry, the BST-R is aimed at refreshing the skills and knowledge of those already in the industry and the OSI is aimed at short term visitors to offshore installations. Whilst these courses have differing content and duration, they all contain essentially the same module with respect to the training for Helicopter Safety and Emergency Procedures and Helicopter Underwater Escape Trainer (HUET) exercises.

The purpose of the helicopter escape training is to provide trainees with knowledge regarding the appropriate response to an emergency situation, an appreciation of the disorientation that can result from a sinking and/or inversion in the water as well as to provide skills and knowledge that will assist them in responding to such a situation. In a ditching scenario in which the helicopter lands on the water and remains upright it is very important that persons in the helicopter work as a team to avoid destabilizing the helicopter. Team training is included as part of the training course for response to this situation.

Helicopter Underwater Escape Training involves placing individuals in a situation over which they have limited or no control, in an environment in which they are unable to breathe and can easily become disorientated. The

training is highly stressful to a significant number of individuals and also must be carefully controlled to ensure that individuals do not suffer harm during the exercise.

For this reason, the approach taken by the MI-OSSC to this training is:

1. To ensure that training is conducted in a progressive manner i.e. the degree of difficulty of the exercises is incrementally increased and students do not move on to a more difficult evolution until they are comfortable with the preceding evolution;
2. To limit both class sizes and instructor student ratios during the practical exercises, class size is capped at twelve. The maximum class size of twelve plus the one/one ratio of instructor to student, allows time and attention to be given to weaker or more highly stressed students;
3. To ensure that the training is carried out in a reasonably representative environment, details of the ditching and egress process are replicated e.g. helicopter body rotates at representative rate, seat belts must be manually released, windows representative of the size of typical offshore helicopters require to be removed, helicopter passenger transportation suits are worn and pool temperature is kept low. Notwithstanding, the prime focus of the training is to ensure that the student is comfortable in responding to a situation of disorientation and to understand and practice the individual tasks required to successfully manage an escape;
4. To ensure that students are aware of the various situations that could confront them in a helicopter emergency, the following are discussed and reviewed in the classroom: exiting from an aisle seat while inverted; dealing with an auxiliary fuel tank; clearing an exit while inverted; dealing with stroking seats; identification of the major differences between the MI-OSSC HUET and helicopters flying offshore Canada;
5. To ensure that the student is protected against harm, selected risk management procedures include: maintaining an air gap when HUET is underwater, emergency release devices fitted on seat belts which can be released by safety divers, low instructor-student ratio, safety divers in the water, emergency responders on deck, ensuring that exercises undertaken can be accomplished within breath hold times

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and limiting the potential of injury which might arise from interactions between students;

6. To keep up to date with international standards of training through regular interactions and communications with other training providers. The Marine Institute was a founder member of the International Association for Safety and Survival Training (IASST). The IASST mission 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 association has a membership of over one hundred training providers worldwide. Members meet and communicate regularly and as well engage in the mutual exchange of instructors with the objective of sharing experience and best practices with respect to safety, survival and emergency response training. Approximately 60% of the membership is engaged in the delivery of helicopter underwater escape training;
7. To deliver all training within an ISO 9001 quality environment, regular internal and external audits confirm that training is delivered consistently to the required standard.

### ***Response to Consultants' Reports***

Two of the consultants engaged by the inquiry commissioner provided opinions on helicopter underwater escape training, Dr. Susan Coleshaw and Mr. Michael Taber.

Based in the United Kingdom, Dr. Coleshaw has undertaken an extensive amount of research related to helicopter underwater escape training on behalf of the Offshore Petroleum Industry Training Organization (OPITO), the Civil Aviation authority (CAA) and the Health and Safety Executive (HSE).

It is MI-OSSC's opinion that her report accurately represents the current state of knowledge and best practice with respect to training for civilian populations and presents in our view a very balanced assessment of the current state of the art of helicopter underwater escape training as well as what is reasonably practicable for a civilian population. She provides arguments for and against higher fidelity training and identifies the need to cover all essential procedures in training.

Key comments she makes in her report which MI-OSSC has strived to incorporate into our current training delivery model are:

- Disorientation is known to be one of the most difficult factors that individuals must learn to cope with in an inverted helicopter
- Coping with a training situation allows the individual to develop coping mechanisms and thus manage a real life-threatening event more effectively.
- When considering the fidelity of escape procedures, it is important that each step in the escape process is covered by the practical training
- Trainees need to be familiar with their personal protective equipment (PPE) and know what if any actions have to be taken to make their PPE ready for use in the event of an emergency
- When considering changes to HUET training, it is necessary to balance the need for training fidelity against the stress that may be induced in individuals as well as other safety issues when making training more and more realistic
- To cover the different scenarios that could be experienced, a number of different training scenarios are needed: evacuation from floating helicopter leaving the cabin in a controlled manner, underwater escape from a submerged helicopter and underwater escape from a capsized/inverted helicopter
- Part task learning whereby trainee's skills are built up in an incremental fashion (reference to report by Mills and Muir 1999.)

Dr. Coleshaw notes the fact that removal of windows has only recently been introduced as a competency requirement in the UK sector referencing recent work undertaken by Kozey et al 2006 which indicates the benefit of this training despite higher stress levels. It should be noted that when removing windows underwater, trainees in that sector have the opportunity to use emergency escape breathing devices. Because of the different system selected for Canada, the emergency breathing device cannot be deployed safely during the helicopter escape exercises so trainees here do not have access to supplementary air.

Dr. Coleshaw also notes that UK training procedures now stipulate a maximum of four delegates in the HUET to reduce the risk of injuries (and to allow competence to be assessed). This means that no 'cross-cabin' escape is undertaken. These two issues are discussed further under "recommendations for way ahead".

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Currently based in Ontario, Mr. Taber is a research scientist with offshore safety training experience through employment at Survival Systems Training Ltd (SSTL) in Dartmouth Nova Scotia. Mr. Taber references many of the same research and studies in his report as those referenced by Dr. Coleshaw, but comes to different conclusions with respect to appropriate standards which in our opinion are less balanced with respect to risk/benefit for HUET training for civilian populations. In other respects, Mr. Taber's report offers very useful information.

The reason behind the difference in perspective may well arise from the fact that Mr. Taber, according to his resume, spent eight years in the military and a further nine years working as an instructor and research coordinator for Survival Systems Training Ltd. a key training provider to the Canadian military.

While Mr. Taber acknowledges that it may be argued that military personal need to be trained to a higher standard due to the fact they are placed in a more hostile environment on a more regular basis, he is of the opinion that training of basic HUET skill sets should not be reduced merely because the likelihood of using the skills is less. We have no problem with this statement except that it also needs to be considered that there are differences between military and civilian populations and as well, civilian training has to be carried out within a Provincial statutory framework which legislates a requirement to identify and mitigate against risk of injury.

In his comparison (Table 3 page 28) he identifies MI-OSSC HUET skill set requirements as, total exercises 5, total underwater escapes 3 with 2 inversions. Whilst the number of exercises is correct this statement does not, in our opinion, offer a complete picture as the number of exercises represent only training evolutions; it is not representative of the skill sets/confidence which have been built to achieve those evolutions. This analysis does not reflect the fact that MI-OSSC provides step-by-step part-task learning whereby students can progressively build their skills and weak students are able to develop coping strategies. By the time students start their HUET training, they have already completed a pool session thus developing their in-water skills. Our incremental approach to the HUET exercise allows students to build on the skills they have already mastered and develop new skills. Every attempt is made to not unduly task-load students in the HUET.

It appears that no credit is given for the straight down exercise. It is recognized that a straight down sinking is highly unlikely in a real helicopter incident, however, in our opinion (and as noted in Dr. Coleshaw's report ) this exercise is an important step in building students confidence and skill level before the inversion. Instructors are able to evaluate and provide feedback to the point the student's face enters the water. Students are able to experience the effect of buoyancy and thus realize the importance of land marking and always having a handhold on something solid as they move to and out the exit. Students have an opportunity to practice; clearing the exit, breath hold, releasing seatbelt, pulling themselves to and out through the window before being expected to do the same while inverted. More importantly, the instructor has an opportunity to provide feedback and, if necessary, have the student repeat the exercise to correct any issue which might complicate the inversion exercise for the student.

### ***Opportunities for Improvement (short term)***

#### **Competency Standards**

The inclusion of additional detail in the Canadian Association of Petroleum Producers (CAPP) training standards and in particular details which outline what competency standards are expected to be achieved and how they will be measured would greatly assist in ensuring a common approach and standard to helicopter training in the Eastern Canada offshore. It is our understanding that CAPP is at this time in discussion with Det Norske Veritas (DNV) with the objective of engaging this organization to work with the training providers and industry to assist in the development/updating of appropriate competency standards for the BST, BST-R and OSI courses. This organization has significant experience and credibility in this capacity and MI- OSSC looks forward to the opportunity to work with them.

#### **Training Evolutions**

The approach MI-OSSC takes to window ejection in training is to instruct that, in the event of a helicopter ditching, the passenger should remove the window as soon as possible after impact while the helicopter is on the surface. The reason

# Offshore Helicopter Safety Inquiry

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for this approach is that if the window can be ejected above water then there is a much greater chance of success as the ejection of the window is not impeded by external water pressure, the movement of the arm is not impeded by possible rushing water and as well the passenger is less likely to be disorientated. Despite this, it is recognized that a helicopter can overturn quickly and windows on one side of the helicopter could potentially be submerged before the passenger has had opportunity to remove the window. The inclusion, therefore, of an evolution in which the window is jettisoned underwater is desirable. This exercise has not been included at MI-OSSC to date because the configuration of the installed HUET does not allow us to effectively manage the risk of this exercise. Plans are in place to acquire and install a new HUET and as soon as this has been done this exercise evolution will be considered for inclusion. Based on Mr. Michael Taber's 2005 study on this issue, referenced in his report to the inquiry which indicated that 34.7% of recurrent trainees undertaking this exercise required some form of assistance, we would, however, caution, that should this particular exercise be mandatory (i.e. required to be completed without assistance for certification to be issued) this could lead to the possibility that a segment of the offshore workforce would no longer be permitted to fly offshore. More research would be helpful.

## **Aisle Position Training**

MI-OSSC previously required students to complete a training evolution in which they sat in an aisle seat with another student in the window seat. This practice was discontinued for risk management reasons as there were a number of incidents in which students suffered injury as a result of collisions during the egress. The heavy boot which is fitted to the Helly Hansen suit would likely increase the potential of injury. Nevertheless, when a new, larger HUET is in place we will re-examine the potential for aisle position training.

## **Cross Aisle Training**

MI-OSSC previously required students complete a training evolution in which they were required to exit across the aisle. This evolution was again discontinued for risk management reasons. The time to execute the exercise was in excess of the breath hold capacity of a significant number of students. As Dr. Coleshaw indicated in her report, this exercise may be reintroduced in the UK with students using emergency breathing devices. It should be noted that the pressurized air

breathing devices adopted by Canada cannot safely be used in the HUET, therefore, will not be available to support this exercise. Nevertheless, MI-OSSC will explore the possibility of adding the exercise in consultation with clients and regulators.

### **Physical Fidelity**

The Maclean and Gibson HUET, currently installed at the MI-OSSC, provides for excellent representation of the disorientation following a helicopter incident and a reasonable representation of a typical helicopter exit. There is, however, an opportunity to enhance training with a HUET that more closely represents specific features of helicopters operating offshore Newfoundland. Plans are currently in place to acquire such a unit.

### **Environmental Fidelity**

In considering the enhancement of environmental fidelity, it is essential to consider the increased stress on trainees as well as the increased potential for injury. Enhancing environmental fidelity would include, exercises in cold water, darkness, waves and wind. The possibility of such enhancements will be discussed with clients and regulators.

### ***Knowledge gaps /Opportunities for Research (medium/longer term)***

#### **Dive Mask**

As part of the passenger safety system which includes the Helicopter Passenger Transportation Suit System and the Helicopter Underwater Emergency Breathing Apparatus (HUEBA), the dive mask provides a number of potential benefits in assisting survivors escape from a submerged helicopter. Some of these benefits are: aid in vision; protection from cold shock; protection from aviation fuel ; increased breath hold time; reduced disorientation; providing a means of blocking off nose which is essential during HUEBA use; reduced stress levels, important during training as it allows students to get more out of the practical, rather than “just getting through it.”

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While the dive mask has been part of the helicopter passenger safety system for some time, documentation to either support its continued use or to dismiss it is limited (CAA report 2003). For this reason MI-OSSC conducted a pilot study (2007) on the use of masks by students in HUET exercises. MI-OSSC is currently working on development of a full test plan that will include the following:

1. time it takes to correctly don the mask, comparing those with training to those without
2. breath hold time in cold water for students with a mask compared to those without.
3. the impact that having a mask on has on the reduction of cold shock
4. stress levels in HUET students wearing a mask compared to those with no mask
5. the ability of HUET students to successfully escape a submerged helicopter with a mask compared to those without
6. the time it takes for students to escape a submerged HUET with a mask compared to those without
7. the effectiveness of the mask in reducing disorientation
8. the development of a standard or specification for a dive mask to be used with the flight suit
9. identification of the types and styles of mask presently available on the market
10. conduct of in-water trials of available masks to identify most suitable for East Coast Canada
11. in the event that no available suitable mask can be found, design and manufacture a mask

## Collection of Performance Data

The quantity of high quality data on individual performance and stress levels during a range of exercise evolutions is quite limited. There is a need for such data to be collected to provide a quantifiable basis which can be used to support decision making processes in particular in relation to feasibility of increasing environmental fidelity.

Given that there are varying approaches to helicopter underwater escape training, it would perhaps be of value to conduct a study which compares learning

retention, stress levels in training and relevant factors associated with these differing approaches.

### **Simulation**

Muscle memory has been identified as a potentially important factor in escape under an emergency situation. Developing muscle memory requires many repetitions of a task over an extended time period. This is not possible to develop in the limited number of training exercises conducted at three yearly intervals during BST training. It may be worth considering whether there would be value in a high fidelity land based simulator which could allow practice of the necessary actions to remove windows or exits in a safe environment.

### **Cold Water Exposure**

The ability to deal with cold shock and disorientation is critical to survival in the event of a helicopter ditching. More work needs to be done in this area to determine if there is a quantifiable benefit that can accrue from risk managed cold water training.

## **Issue 21. Should there be safety conferences for all parties involved in offshore helicopter transport, and if so, how often should they be held?**

### ***Marine Institute Offer of Support***

Conferences provide an effective way of sharing best practices and information and an annual or bi-annual conference on aspects of helicopter transport would, in our opinion, offer great value.

As with any conference it is important to open it up to a wide range of experts and stakeholders at the national and/or international level. There may be benefit in aligning with international organizations having a mandate or mission related to a specific aspect of helicopter safety.

Two possible international organizations in this category are the International Association for Safety and Survival Training (IASST) ([www.iasst.com](http://www.iasst.com)) and the

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International Maritime Rescue Federation (IMRF). ([www.international-maritime-rescue.org](http://www.international-maritime-rescue.org))

With respect to the former, a conference, initially conceived in 2008, on the topic of *Extreme Survival – getting home when the odds are stacked against you*, will be hosted by the Marine Institute in St. John's, October 2012. With respect to the latter, the Marine Institute has had preliminary discussions with the organization regarding the possible convening of a conference in St. John's on a topic related to rescue in cold and hostile waters.

The Marine Institute has considerable experience in the organization/facilitation of conferences and would be willing to assist as required.

## **JOINT OPERATOR SUBMISSION**

**Submitted to**

## **OFFSHORE HELICOPTER SAFETY INQUIRY**

**By**

**Hibernia Management and Development Company Ltd., Husky Oil  
Operations Limited and Suncor Energy Inc.**

**July 30, 2010**



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**LIST OF ABBREVIATIONS**

<b>Aerosafe</b>	Aerosafe Risk Management
<b>Accord Acts</b>	Federal and Provincial Atlantic Accord Implementation Acts for Newfoundland and Labrador
<b>AD</b>	Airworthiness Directive
<b>ASB</b>	Alert Service Bulletin
<b>CAPP</b>	Canadian Association of Petroleum Producers
<b>CAPP Training Standard</b>	CAPP Standard Practice for the Training and Qualifications of Personnel
<b>CAR</b>	<i>Canadian Aviation Regulations</i>
<b>CGSB</b>	Canadian General Standards Board
<b>C-NLOPB</b>	Canada-Newfoundland and Labrador Offshore Petroleum Board
<b>C-NSOPB</b>	Canada-Nova Scotia Offshore Petroleum Board
<b>CORD</b>	CORD Group Limited
<b>Cougar</b>	Cougar Helicopters Inc.
<b>DND</b>	Department of National Defence
<b>EASA</b>	European Aviation Safety Agency
<b>FAA</b>	Federal Aviation Authority
<b>FAR</b>	United States <i>Federal Aviation Regulations</i>
<b>First Response SAR</b>	First response search and rescue
<b>FLIR</b>	Forward-looking infrared
<b>FORRI</b>	Frontier and Offshore Regulatory Renewal Initiative
<b>FRC</b>	Fast Rescue Craft
<b>Government SAR</b>	Department of National Defence search and rescue resources

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<b>HLO</b>	Helicopter Landing Officer
<b>HMDC</b>	Hibernia Management and Development Company Ltd.
<b>HOTF</b>	Helicopter Operations Task Force
<b>HUEBA</b>	Helicopter underwater emergency breathing apparatus
<b>HUET</b>	Helicopter underwater egress training
<b>HUMS</b>	Health and Usage Monitoring Systems
<b>Husky</b>	Husky Oil Operations Limited
<b>The Inquiry</b>	Offshore Helicopter Safety Inquiry
<b>MOC</b>	Management of Change
<b>MOU</b>	Memorandum of Understanding
<b>NRC</b>	National Research Council
<b>Offshore Area</b>	Newfoundland and Labrador offshore area
<b>OHS</b>	Occupational health and safety
<b>OIM</b>	Offshore Installation Manager
<b>OSSC</b>	Offshore Safety and Survival Centre (Marine Institute)
<b>The Operators</b>	HMDC, Suncor and Husky
<b>PPE</b>	Personal Protective Equipment
<b>PLB</b>	Personal locator beacon
<b>SAR</b>	Search and rescue
<b>Sikorsky</b>	Sikorsky Aircraft Corporation
<b>Suncor</b>	Suncor Energy Inc.
<b>Survival Systems</b>	Survival Systems Training Ltd.
<b>TSB</b>	Transportation Safety Board

## **FOREWORD**

The tragic events of March 12, 2009 have forever changed all those who were involved. We are committed to learning from these events to ensure the safety of workers travelling offshore. This loss reinforces the need to be ever vigilant in our pursuit of continuous safety improvement.

We have comprehensive management systems which describe how safety is integrated into all aspects of our operations. We strive for a mature or “generative” safety culture and live by the statement that health and safety is “how we do business around here.”<sup>1</sup> We are proud of the efforts of our workforce that make that statement true.

### **Our Response to March 12<sup>th</sup>**

“The true test of the culture however is in the aftermath of a major incident or accident.”<sup>2</sup>

We responded to the loss of Flight 491 by voluntarily suspending helicopter travel and establishing a Helicopter Operations Task Force to “[l]ead efforts by members of the offshore petroleum industry to safely resume personnel transportation by helicopter to the Grand Banks.”<sup>3</sup>

No restrictions were placed on the work of the Task Force, including its lines of inquiry, resources or expertise needed, timetable or conclusions. Indeed, it was expected that “[a]ll aspects related to flight safety should be evaluated.”<sup>4</sup>

The Task Force looked at all aspects of helicopter operations; consulted with technical, safety, and aviation experts; and solicited questions from the workforce. In addition to recommending readiness to return to flight operations, the Task Force made 18 recommendations. Some of those recommendations touch directly on issues identified by the Commissioner.

### **Our Commitment to Safety**

We are committed to safe helicopter transportation. This commitment is demonstrated through the implementation and continuous improvement of our safety management systems, within the context of a robust regulatory regime.

We will describe initiatives we have taken to improve communication and engagement with our workforce. We will also provide recommendations for further initiatives to improve communication between regulators, industry associations, occupational health and safety committees and the workforce.

We have already begun implementing safety improvements to sizing and fitting of survival suits, first response search and rescue, offshore safety training programs and facilities, and a revised helicopter transportation suit system standard. We will describe these improvements in detail. We will also describe the helicopter operational safeguards put in place to ensure safe helicopter transportation.

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## **The Work of the Inquiry**

“Achieving and sustaining a positive HSE [health, safety and environment] culture is not a discreet event, but a journey.”<sup>5</sup>

An important part of our journey has been our participation in the work of the Offshore Helicopter Safety Inquiry. We are committed to ensuring the safety of our workforce. It is our number one priority. Accordingly, we support the work of the Commissioner and appreciate the opportunity to participate in the process.

We express our sincere and profound thanks to the families of the deceased, Robert Decker, our workforce, the Commissioner, Inquiry staff and everyone who participated in the Inquiry.

We hope that our response to this tragedy and the improvements that will result from the work of the Inquiry will honour those lost and those whose lives have been profoundly affected.

## **INTRODUCTION**

### **Background**

Pursuant to the Federal and Provincial Atlantic Accord Acts<sup>6</sup> (the Accord Acts), the Canada-Newfoundland and Labrador Offshore Petroleum Board (the C-NLOPB) established a Commission of Inquiry (the Inquiry) on matters respecting worker safety associated with helicopter transportation in the Newfoundland and Labrador offshore area (Offshore Area), which for the purposes of this Submission refers to the Jeanne D'Arc Basin. The Honourable Robert Wells was appointed the Commissioner of the Inquiry whose purpose is to determine and recommend improvements to ensure the risks of helicopter transportation to offshore workers in the Offshore Area are as low as reasonably practicable.

The Inquiry was established following the tragic events of March 12, 2009 offshore Newfoundland and Labrador when 17 people lost their lives on Cougar Helicopters Inc. (Cougar) Flight 491. The one survivor was seriously injured. At the time, Flight 491 was en route to installations in the White Rose and Hibernia oil fields. The Transportation Safety Board (TSB) is currently conducting an investigation into the cause of the accident.

Helicopter services are essential to the operation of the oil and gas industry in the Offshore Area, which is currently comprised of three world class producing oil fields: Hibernia, Terra Nova and White Rose. These projects are operated by the Hibernia Management and Development Company Ltd. (HMDC), Suncor Energy Inc. (Suncor) and Husky Oil Operations Limited (Husky) respectively (Operator or the Operators). Each Operator has contracted with Cougar for the provision of helicopter services through a pooling arrangement, which facilitates helicopter sharing and shared emergency response capability.

The Operators are committed to operating a safe offshore workplace. This is embedded into every aspect of their operations. The Operators acknowledge that there are risks involved with helicopter travel to and from the Offshore Area and are committed to managing those risks to ensure they are as low as reasonably practicable. Accordingly, this Joint Operator Submission is being made to assist the Inquiry in its consideration of the issues identified in Phase 1(a), and its determination of recommendations to ensure the safe and reliable transportation of workers to and from the Offshore Area.

### **Issues**

#### **Issues for Consideration**

Following Phase 1(a) of the Inquiry, the Commissioner identified the following "Issues for Consideration":

1. Should there be a degree of separation within the C-NLOPB between offshore helicopter regulation and other offshore industry regulation?

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2. Are the risk management systems of oil operators and helicopter operator sufficient and adequate to ensure the risks of helicopter transport are as low as reasonably practicable in the Newfoundland and Labrador offshore?
3. What is the role of organizational safety culture in offshore helicopter transport?
4. What are the most appropriate practices, standards and forms of interaction between the C-NLOPB and the following:
  - (a) industry (including suppliers and providers);
  - (b) industry associations;
  - (c) regulators of associated services;
  - (d) other domestic and foreign oil and gas regulators; and
  - (e) worker representatives;

and are these interactions sufficient to ensure requirements that are understood, timely, achievable and enforceable?

5. Does the C-NLOPB use best practices in relation to its regulatory role in helicopter transport safety?
6. What is the appropriate standard of first response search and rescue that the C-NLOPB should require of all operators in the Newfoundland and Labrador offshore?
7. Are there circumstances, other than declared emergencies, when a rescue helicopter should be dispatched to assist a transport helicopter?
8. Should there be a more formal protocol regarding the roles of the Department of National Defence and the helicopter operator regarding first response?
9. Are operational limitations on helicopter transport, in addition to those dictated by Transport Canada, required to ensure the standard of first response search and rescue is able to be maintained at all times? (*Note: For example, operational sea states, night flight and low visibility.*)
10. Should the C-NLOPB impose additional operational requirements on operators to ensure that the risk from helicopter travel in the Newfoundland and Labrador offshore is as low as is reasonably practicable? (*Note: For example, safety systems, auxiliary fuel tanks, location of and restrictions on seating, safety screening, etc.*)
11. Can helicopter transport safety be affected by the capacity of the helicopter transport fleet and, if so, what role should the C-NLOPB play in the determination of fleet capacity?
12. What are the appropriate standards of offshore helicopter safety training to ensure that the risk to passengers is as low as is reasonably practicable, both during training and helicopter transport?

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13. What personal protective equipment and clothing is necessary for helicopter passengers and pilots; what are the standards, and should the C-NLOPB require guidelines to ensure such equipment and clothing is properly fitted?
14. Are changes needed to maximize worker and pilot participation in the development, implementation and monitoring of helicopter safety initiatives and activities?
15. Should offshore workers have a level of personal accountability for their own safety in helicopter transport? *(Note: For example, clothing to be worn under the suit, fitness training and reporting.)*
16. Does the C-NLOPB exercise sufficient oversight of the oil operators, aviation contractors and subcontractors to ensure that the risk to workers from helicopter transport is as low as reasonably practicable?
17. Should the C-NLOPB and oil operators' safety aviation audits include reviews of past responses to declared emergencies and emergency preparedness exercises?
18. What information from the helicopter operator about flight operations should the C-NLOPB require the oil operators to provide to offshore workers? *(Note: For example, alert service bulletins, airworthiness directions, incident reports, information regarding departures from normal flight times, routines and the reasons.)*
19. Does the C-NLOPB have sufficient resources and expertise, including access to independent aviation expertise, to evaluate whether a proposal or plan for helicopter transport from industry ensures that the risks of helicopter transport are as low as reasonably practicable?
20. Should the C-NLOPB more directly involve itself in studies and research in Newfoundland and Labrador, and in other jurisdictions, to improve safety where offshore oil industry uses helicopter transport? *(Note: For example, North Sea studies on preventing inversion of ditched helicopters and enhancement of passengers' ability to escape.)*
21. Should there be safety conferences for all parties involved in offshore helicopter transport, and if so, how often should they be held?
22. How often should the C-NLOPB review its regulations, guidelines and standards with respect to offshore helicopter transport?

**Issues to be Discussed by the Operators**

The Operators are making submissions on Issues 1-3, 4 (a), (b) and (e), 6-7, 9-15, 17-18 and 21 only. For clarity, the Operators will not be commenting on Issues 4 (c) and (d), 5, 8, 16, 19-20 and 22.

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## INQUIRY ISSUE #1

*Should there be a degree of separation within the C-NLOPB between offshore helicopter regulation and other offshore industry regulation?*

### Summary

It is difficult to see how a separation within the C-NLOPB between offshore helicopter regulation and other regulation would have any meaningful effect on the C-NLOPB's regulation of helicopter safety. Each regulator should oversee that which is within its jurisdiction. Therefore, aviation regulation should remain the responsibility of Transport Canada, and matters related to offshore regulation should be managed by the C-NLOPB. Communication between the parties can, however, be enhanced.

### Recommendation

The Operators recommend that consideration be given to a Memorandum of Understanding (MOU) between the C-NLOPB and Transport Canada similar to those used by corresponding entities in Australia, the United Kingdom (UK) and the United States (US). Such an agreement should provide clarity of roles and responsibilities, which could improve communication between respective regulators.

### Analysis

#### **The Regulatory Environment**

In Phase 1(a) of the Inquiry, the Operators testified that the Offshore Area is one of the most highly regulated regions anywhere in the world<sup>7</sup>, and helicopter transportation is no exception. The Operators desire clarity in this regulatory environment which is determined by both Transport Canada and the C-NLOPB, whose jurisdictions over helicopter operations are summarized in the attached **Appendix A**.

The challenge for both regulators is avoiding duplication and differentiating between aviation safety regulation (Transport Canada) and occupational health and safety (OHS) regulation for the Offshore Area (the C-NLOPB). It is further complicated by the fact that Cougar is outside the direct jurisdiction of the C-NLOPB and under the authority of Transport Canada, while the Operators are primarily under the jurisdiction of the C-NLOPB.

#### **Coordination of Regulatory Roles**

The coordination of regulatory roles with respect to helicopter operations between the C-NLOPB and Transport Canada should improve with the execution of a MOU, an approach pursued in other jurisdictions. In particular, Aerospace Risk Management (Aerosafe) reported

that the UK Civil Aviation Authority and Health and Safety Executive have executed a MOU specific to the coordination of the regulation of helicopter offshore travel.<sup>8</sup> The Australian Civil Aviation Safety Authority and the National Offshore Petroleum Safety Authority have also used a MOU process to ensure a consistent and comprehensive regime for the protection of health and safety of those working at offshore facilities.<sup>9</sup>

### **Regulatory Reform**

The Inquiry is already aware of two regulatory changes that are pending. These are the Frontier and Offshore Regulatory Renewal Initiative (FORRI) and the OHS amendments to the Accord Acts, both of which should be considered by the Commissioner prior to making any recommendations.

#### FORRI Initiative

The National Energy Board, the C-NLOPB and the Canada-Nova Scotia Offshore Petroleum Board (the C-NSOPB) are currently working with the federal and relevant provincial governments on the FORRI Initiative. This initiative is intended to transform the current primarily prescriptive regulations to those that are goal-oriented in nature. In so doing, it will encourage the Operators to apply the best standards whether they are of national, regional, international or industry origin.

#### OHS Amendments to the Accord Acts

The Governments of Canada, Newfoundland and Labrador, and Nova Scotia have proposed amendments relating to OHS to the Accord Acts applicable to Newfoundland and Labrador and Nova Scotia<sup>10</sup>.

The amendments expressly propose to govern passengers in transit. In particular, they would apply to workers as well as “other passengers immediately before and while they are being transported from the last point of embarkation on shore and a workplace in the offshore area or on the return voyage, as well as between workplaces” in the Offshore Area.<sup>11</sup> The application of these amendments may create overlapping authority between the C-NLOPB and Transport Canada, thereby rendering the need for regulatory clarity more compelling.

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## INQUIRY ISSUE #2

*Are the risk management systems of oil operators and helicopter operator sufficient and adequate to ensure the risks of helicopter transport are as low as reasonably practicable in the Newfoundland and Labrador offshore?*

### Summary

The Operators have comprehensive, dynamic and effective integrated safety management systems for the management of risk, including that associated with helicopter transport. Effective risk management requires the persistent application and enhancement of safety management system processes to reduce risk to as low as reasonably practicable. The Operators' systems are applied to all of their operations worldwide and represent best industry practice. They are structured to identify, assess, and control risks, and manage change. The Operators' consistent and effective application of these systems ensures that the risk of helicopter transport is as low as reasonably practicable.

### Analysis

#### **Integrated Safety Management**

As explained by Aerosafe in Phase 1(a) of the Inquiry, an effective safety management system must be systematic, comprehensive and integrated into all aspects of an operation.<sup>12</sup> Safety management is embedded within the Operators' management systems. The integrated approach is also required by the C-NLOPB pursuant to the *Newfoundland Offshore Petroleum Drilling and Production Regulations*, which require, as a part of the work authorization process, that the Operators develop an effective management system that integrates operations and technical systems with the management of financial and human resources.<sup>13</sup>

The management system must include:

- the policies on which the system is based;
- the processes for setting goals for the improvement of safety;
- the processes for identifying hazards and for evaluating and managing associated risks;
- the processes for ensuring that personnel are trained and competent to perform their duties;
- the processes for ensuring and maintaining the integrity of all facilities, structures, installations, support craft and equipment necessary to ensure safety;

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- the processes for internal reporting and analysis of hazards, minor injuries, incidents and near-misses and for taking corrective actions to prevent their recurrence;
- the documents describing all management system processes and the processes for making personnel aware of their roles and responsibilities with respect to them;
- the processes for ensuring that all documents associated with the system are current, valid and have been approved by the appropriate level of authority;
- the processes for conducting periodic reviews or audits of the system and for taking corrective actions if reviews or audits identify areas of non-conformance with the system and opportunities for improvement;
- the arrangements for coordinating the management and operations of the proposed work or activity among the owner of the installation, the contractors, the operator and others; and
- the name and position of the person accountable for the establishment and maintenance of the system and of the person responsible for implementing it.

Each Operator's management system complies with these requirements.

#### Safety Management Systems

As stated, safety management is fully integrated into the overall operations of each Operator within their management systems. As such, each system includes all of the components necessary to build an effective safety management system. Risk management processes are embedded within each element of the management system. While the Operators' systems are not identical, or called by the same name, they have the following common key elements:

- Management Leadership, Commitment and Accountability
- Risk Assessment and Management
- Facility Design and Construction
- Documentation and Regulatory Compliance
- Personnel, Training and Competency
- Operations and Maintenance
- Management of Change
- Third Party Services (Contractor)
- Incident Investigation and Analysis
- Emergency Preparedness
- Management System Assessment and Improvement

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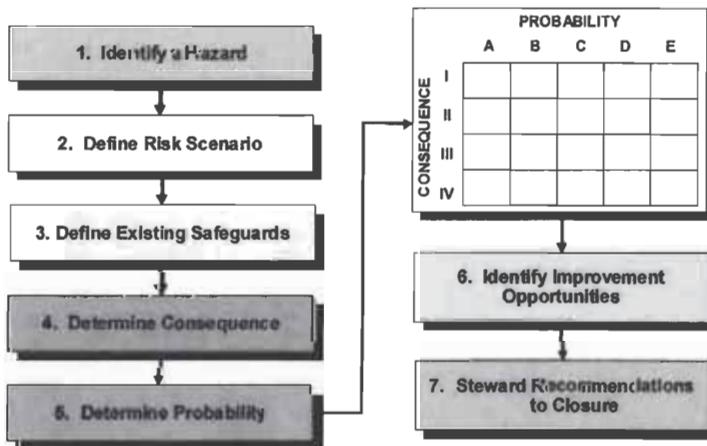
Practically, each element flows from policies, procedures and practices into work instructions, checklists, forms and drawings. While each plays a role in effective safety and risk management, it is the integration of all elements that ensures risks are reduced to as low as reasonably practicable. The application of each element to helicopter operations is described below.

## *Management Leadership, Commitment and Accountability*

Each Operator's management team establishes policy, provides perspective, sets expectations, and supplies resources for successful operations, including those relating to helicopter transport. This management leadership and commitment is fully transparent and demands accountability at all levels, which is essential in the assurance of operations integrity.

## *Risk Assessment and Management*

Comprehensive risk assessments can reduce health, safety and environmental risks and mitigate the consequences of incidents by providing essential information for decision-making. The goal is to facilitate the identification, evaluation, and control of hazards such that they are managed in a structured and disciplined manner, thereby preventing or mitigating the undesirable consequences of potential incidents. The following diagram illustrates this approach:



Each Operator utilizes a matrix as part of its risk management process.<sup>14</sup> The risk matrix is used to systematically evaluate a potential risk scenario considering the health and safety of workers, the public and the environment. The value lies not in establishing a specific risk level, but in continuously evaluating, mitigating and communicating relative risks, and identifying risk reduction measures. For example, helicopter transportation risks are reviewed at all phases of any project from conceptual design to current operations. In particular, the concept safety analysis is completed during the design phase, the original safety plan is developed and updated as necessary, pre-startup readiness reviews are conducted, and aviation risk assessments are also periodically conducted as dictated by each Operator's management system.

### *Facility Design and Construction*

The use of standards and procedures for facility design, construction and start-up activities can effectively improve their safety and security and minimize risks to the health and safety of individuals and the environment. This includes design practices and standards, quality assurance and project execution. In terms of helicopter transportation, helidecks are designed in accordance with all applicable regulatory standards.<sup>15</sup>

### *Documentation and Regulatory Compliance*

Accurate information respecting the configuration and capabilities of processes and facilities, the nature of products and materials handled, the potential operation hazards, and regulatory requirements is essential in the assessment and management of risk. Each Operator has systems in place for record retention as well as mechanisms to ensure that appropriate parties have the most up-to-date information. For example, updates to the emergency response plan are distributed systematically to the relevant parties. The management systems also ensure compliance with all regulatory requirements such as concept safety analyses and safety plans, each of which directly address helicopter transport.

### *Personnel, Training and Competency*

To ensure safe operations and properly manage risk, the Operators establish appropriate selection, placement, assessment and training protocols for offshore workers. For instance, all offshore workers are required to undergo offshore safety training, including helicopter underwater egress training (HUET) and helicopter underwater emergency breathing apparatus (HUEBA) training. Further, helicopter landing officers (HLO) receive training to coordinate offshore helicopter operations.

### *Operations and Maintenance*

The operation of facilities within established parameters and regulatory requirements is crucial. Such operation necessitates effective procedures, structured inspection and maintenance programs, reliable operation of equipment, and qualified personnel who consistently execute these procedures and practices. For example, each Operator has a Helicopter Operations Manual<sup>16</sup> which contains detailed procedures respecting helicopter operations, including passenger transport. As well, the helidecks on each installation are inspected annually.

### *Management of Change*

The Operators must constantly be sensitive to necessary changes in operations, procedures, standards, facilities and personnel. These changes must be evaluated and managed to ensure that any risks arising from such changes remain at an acceptable level. As will be described in Issue #13, the transition to the HTS-1 helicopter passenger transportation suit in 2010 was managed using a management of change (MOC) process.

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## *Third Party Services (Contractor)*

Third parties working on the Operators' behalf impact operations and, as such, it is essential that they perform in a manner that is consistent and compatible with the Operators' policies and procedures, and that their operations are in alignment with the Operators' safety management systems. Therefore, appropriate procedures for third party evaluation, selection, and monitoring, and contractor interface management are required. For example, the selection of Cougar as the helicopter service provider was based on a competitive bid selection process. The process involved rigorous analysis of each formal bid package in order to identify the preferred contractor. This analysis included a safety and environmental assessment and technical and economic analysis. Cougar was the successful contractor and their performance is continuously monitored and assessed against the Operators' management system requirements and any identified deficiencies are corrected.

## *Incident Investigation and Analysis*

Effective incident investigation, reporting and follow-up are necessary to ensure safe operations. It provides the opportunity to learn from incidents and take corrective action to prevent recurrence. Immediately after the loss of Flight 491, the Operators voluntarily suspended all helicopter operations and developed a rigorous process to be completed prior to any resumption of helicopter operations. The objective of this process was to ensure that all aviation risks were assessed prior to a decision being made to resume flight operations. The process called for the establishment of a Helicopter Operations Task Force (HOTF), which reviewed passenger and aviation safety issues and conducted extensive consultation with the workforce - responding to over 350 questions submitted by workers. In its report, the HOTF recommended immediate actions prior to a return to service as well as go-forward actions for consideration. The Operators implemented continuous communication mechanisms to ensure updates and continuous learning from the tragic event.

## *Emergency Preparedness*

Emergency planning and preparedness are essential to ensure that in the event of an incident all necessary actions are taken for the protection of workers, the public and the environment. As such, each Operator has emergency response plans for all of its operations that outline procedures and the roles and responsibilities at all levels of the organization. In particular, the plan covers areas relating to planning, training and exercises. The emergency preparedness of helideck operations, for instance, is included. The plan also outlines the roles in an emergency event of the support vessel, the standby helicopter based in St. John's, and the Department of National Defence (DND) search and rescue resources. The Operators also provide for training of the helideck crew, under the command of the HLO, in firefighting and rescue techniques and participation in regular simulation exercises of a helicopter emergency scenario.

## *Management System Assessment and Improvement*

An assessment of the degree to which established expectations are met is essential to improve operations integrity and maintain accountability. This ensures that all aspects of the safety

management systems, including training and procedures relating to helicopter transport, are working effectively and it also provides an avenue for continuous improvement.

#### Safety Plan

Pursuant to the *Newfoundland Offshore Petroleum Drilling and Production Regulations*, each Operator must submit a safety plan to the C-NLOPB for approval prior to project sanction.<sup>17</sup> The integrated approach to safety management is reflected in this requirement to the extent that the plan sets out all procedures, practices, resources, sequence of key safety-related activities, and monitoring measures necessary to ensure the safety of any proposed work or activity.<sup>18</sup> For example, the plan includes:

- a summary of the management system and its application to the proposed work or activity and how the duties set out in the *Newfoundland Offshore Petroleum Drilling and Production Regulations* will be met;
- a summary of the studies undertaken to identify hazards and evaluate safety risks related to the proposed work or activity;
- a description of the hazards identified and the results of risk evaluation; and
- a summary of the measures to avoid, prevent, reduce and manage safety risk.<sup>19</sup>

The management systems and processes for safe operations in the Offshore Area, including helicopter operations, are specifically outlined in each Operator's safety plan. These plans must be resubmitted and approved by the C-NLOPB at least every three years and, as such, evolve as an integral component of a continuously improving safety management system framework.

#### **Risk Management in Helicopter Transportation of Passengers**

Risk is inherent in all human endeavours. While it is not possible to eliminate all risk, it must be assessed and reduced to a level as low as reasonably practicable. Accordingly, helicopter transportation risks are reviewed at all phases of a project from conceptual design to current operations.

In Phase 1(a), Aerosafe and the Operators described the "swiss cheese model" of risk. Preventative safeguards may be viewed as barriers in that model which reduce the probability of a given hazard scenario from occurring. There are numerous preventative safeguards put in place relating to helicopter operations. Some examples include the use of health and usage monitoring systems (HUMS) on the helicopter, the development of weather monitoring and adverse weather flying procedures, and the provision of simulator training for pilots (including flight training for normal and emergency conditions).

The Operators also put in place mitigating safeguards to reduce the consequences of an incident should one occur. Such safeguards include the requirement to wear helicopter passenger transportation suits and to complete offshore safety training, and the use of a four-point quick release harness system on helicopter seats.

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The various elements of the Operators' management systems ensure risk associated with helicopter operations is managed such that they effectively act as barriers to the realization of any potential risks. In the event risks materialize, the range of mitigating safeguards used by the Operators acts as a secondary barrier to reduce any negative consequences.

The safety management systems ensure the timely identification of hazards; implement preventative and mitigating safeguards; provide clear guidance on roles and responsibilities, accountabilities, policies and procedures; and establish clear measurement tools for continuous improvement. The full integration of each of these elements in helicopter operations ensures the risk to passengers is as low as reasonably practicable.

### INQUIRY ISSUE #3

*What is the role of organizational safety culture in offshore helicopter transport?*

#### **Summary**

The Operators' safety management systems contain procedures, practices and tools that establish and promote a mature or "generative" culture of safety. These systems instill the attitudes, values and beliefs that permeate all levels and all aspects of each Operator's operations. A clear test of the Operators' safety culture was their actions following the loss of Flight 491. As previously stated, all helicopter transport was voluntarily and immediately curtailed to the offshore facilities and the HOTF was established. Those actions illustrate the role of a mature safety culture in offshore helicopter transportation and how it continually improves safety.

#### **Analysis**

Safety culture refers to those attitudes, values and beliefs about safety that underpin the way an organization conducts its operations as a whole. As described in Issue #2, the Operators each have their own systematic, structured and disciplined management system. Safety management is fully integrated into all aspects of operations within these systems. While safety management and safety culture cannot properly be viewed in isolation of the overall system, each Operator's safety culture has an important role in offshore helicopter transportation.

As stated by Aerosafe in its report entitled "Overview of best practice in Organizational & Safety Culture", "[w]hen an organization adopts a formal approach to safety oversight through the implementation of a safety management system, an environment is created that influences behaviour which then eventually shapes the beliefs and attitudes of those in the organization."<sup>20</sup> Accordingly, the Operators' safety management systems are the foundation of the offshore safety culture.

The International Association of Oil & Gas Producers defines five levels of safety culture as follows:

- Pathological: "Who cares as long as we're not caught"
- Reactive: "Safety is important – we do a lot every time we have an accident"
- Calculative: "We have systems in place to manage all hazards"
- Proactive: "Safety leadership and values drive continuous improvement"
- Generative: "HSE is how we do business around here"<sup>21</sup>

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These five levels were also adopted by Aerosafe as “a model for measuring the maturity of an organizations [sic] safety culture.”<sup>22</sup> The Operators strive to maintain a generative safety culture.

The key elements of the Operators’ safety management systems contributing to their mature safety culture include:

- integrated systems and processes for the identification and reduction of risk;
- endorsement and commitment to safety at all levels;
- a philosophy that safety practices extend through every aspect of the business;
- extensive tools and processes including new worker orientations, pre-job meetings, hazard identification cards and incident investigation and reporting;
- audits and inspections to ensure compliance, verification and continual learning and improvement; and
- root cause analysis of incidents and hazards in a just culture.

The strong offshore safety culture was acknowledged throughout Phase 1(a) of the Inquiry. Both the Operators and worker representatives acknowledged that hazard awareness and reporting expectations permeate all aspects of operations.<sup>23</sup> These reporting systems have been, and continue to be, used by the offshore workforce to identify and respond to any potential transportation hazards. Investigations focus on isolating root causes rather than blaming individuals, and effective communications and continuous learning from incidents are key features of each system.

As stated by Jake Molloy in “The Elusive Culture of Safety”, “[b]uilding a safety culture commences with effective leadership from the top but ultimately must encompass all persons who come within the orbit of the organisation and, moreover, must engage each person as a full player in his or her own right.”<sup>24</sup> As such, one of the key measures of safety culture is the overall level of workforce engagement. This occurs at a variety of levels within each Operator’s operations and is illustrated by their participation in the following: OHS Committees, workplace inspections and investigations, hazard and event identification and reporting, health and safety education and promotion initiatives, development of safety alerts, review of hazard reporting trends, analysis of injury trends, and contractor safety forums.

In the context of helicopter operations in particular, an example of the offshore safety culture is found in the Operators’ response to the loss of Flight 491, which has already been described in Issue #2. As noted in Aerosafe’s report prepared for the Inquiry, “[t]he true test of the culture however is in the aftermath of a major incident or accident... The temptation to withdraw behind barriers and blame directly involved employees may perhaps be too overwhelming.”<sup>25</sup> The Operators’ actions have clearly demonstrated the role a generative safety culture plays in offshore helicopter transportation and how it continually strives to improve safety.

#### INQUIRY ISSUE #4

*What are the most appropriate practices, standards and forms of interaction between the C-NLOPB and the following:*

- (a) industry (including suppliers and providers);*
- (b) industry associations;*
- (c) regulators of associated services;*
- (d) other domestic and foreign oil and gas regulators; and*
- (e) worker representatives;*

*and are these interactions sufficient to ensure requirements that are understood, timely, achievable and enforceable?*

#### **Summary**

The C-NLOPB has broad and enforceable regulatory authority over the oil and gas industry in the Offshore Area. Through the Operators, it also ensures that contractors have appropriate safety processes in place. The C-NLOPB also verifies that these processes are followed through its audits and inspections.

The C-NLOPB has no regulatory authority over industry associations. The C-NLOPB has worked with the Canadian Association of Petroleum Producers (CAPP) to ensure key health and safety issues affecting the industry are considered and addressed.

With respect to the offshore workforce, there already exists significant and effective interaction with the C-NLOPB through the OHS Committee representatives.

The Operators believe that improvements can be made to the interaction between the C-NLOPB, CAPP, workers and the Operators to ensure issues are dealt with in an efficient and effective manner.

#### **Recommendation**

The Operators recommend the following:

1. Improvements to the C-NLOPB's annual OHS meeting, including:
  - (a) the establishment of formal terms of reference setting out the goals and expectations of the meeting;
  - (b) a survey of the workforce to determine topics of interest; and

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- (c) the expansion of the subject matter of the meeting to include safety learnings and new initiatives from other oil and gas jurisdictions.
- 2. The C-NLOPB should develop enhanced training specific to the offshore oil and gas industry for OHS Committee representatives.
- 3. Enhanced engagement between CAPP, the C-NLOPB and other stakeholders, such as the offshore workforce, training institutes and service providers should occur during the administration of complex projects, including:
  - (a) more frequent and formal reporting by CAPP to the C-NLOPB at regular intervals to provide status updates on initiatives and activities of CAPP Committees;
  - (b) the provision by CAPP of updates on safety-related initiatives and activities at the C-NLOPB's annual OHS meeting;
  - (c) the inclusion of a stakeholder engagement plan in the project scoping process to outline the extent to which stakeholders will be informed and engaged in CAPP projects; and
  - (d) the development of communication materials and feedback forms.

## **Analysis**

### **Industry (including suppliers and providers)**

The C-NLOPB's authority over the Operators in the industry is broad and enforceable and, through them, to the industry as a whole. As holders of the relevant authorizations, the Operators have ultimate accountability to the C-NLOPB to ensure that all companies and persons working under a work authorization comply with all relevant regulatory requirements.

The Accord Acts provide jurisdiction to the C-NLOPB over petroleum operations in the Offshore Area. Section 138.2 of the Federal Act provides that before issuing an authorization for a work or activity, the C-NLOPB must consider the safety of that work or activity by reviewing the system as a whole and its components, including its structures, facilities, equipment, operating procedures, and personnel. The Operators are also subject to a range of active regulations and guidelines issued by the C-NLOPB.

In terms of safety specifically, the C-NLOPB is responsible to ensure that the Operators have appropriate safety plans in place. These plans are verified through annual audits and quarterly inspections conducted by the C-NLOPB to ensure the Operators are in compliance with applicable regulatory requirements. *Ad hoc* meetings and incident investigations are also held. The C-NLOPB ensures that any deviations identified from approved safety plans and regulatory requirements are properly corrected.<sup>26</sup>

The C-NLOPB has a range of powers available for compliance and enforcement, including safety audits, warnings and orders to cease or comply, suspension or revocation of a work

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authorization, cancellation of an interest, as well as prosecution and establishment of an inquiry.<sup>27</sup>

The reporting requirements imposed on the Operators by the C-NLOPB are also quite extensive. These include the provision of daily reports, minutes of OHS Committee meetings, monthly statistics reports, as well as incident reports.<sup>28</sup>

The Operators believe the level of audit and inspection activity conducted by the C-NLOPB is significant in comparison to that of other offshore petroleum regulatory regimes. While there is no direct relationship between the C-NLOPB and the Operators' contractors, the C-NLOPB may also conduct an inspection of contractor facilities as part of an Operator's audit.

### **Industry Associations**

CAPP is an industry association representing member companies in the upstream oil and gas industry throughout Canada. It has proven to be a useful vehicle for industry engagement and alignment on important issues affecting oil and gas operations. Specifically, individual companies may participate in CAPP's Committees to:

- facilitate discussion on issues relating to the development of regulations, safety and environmental protection initiatives, and other topics of joint industry concern;
- coordinate the engagement of other stakeholders on industry issues, including government, other oil and gas jurisdictions and service providers;
- facilitate issue identification, analysis and information collection on new and emerging issues; and
- facilitate the development of industry guidelines and standards.

The C-NLOPB participates in certain CAPP Sub-Committees in order to facilitate the development of industry guidelines and standards, which are then used by the regulator for audit and compliance purposes. Such regulatory participation has provided effective and thorough consideration of key health and safety issues. Some examples are the development and continuous update of the CAPP Standard Practice for the Training and Qualifications of Personnel (CAPP Training Standard) and the Safe Lifting Practice.

Despite CAPP's effective consideration and advancement of several issues, the Operators and CAPP have acknowledged that the consideration and implementation of HUEBA took too long. As such, CAPP recently undertook a lessons learned exercise to identify continuous improvement opportunities regarding the process by which issues of joint industry concern can be worked through CAPP in an effective and efficient manner.<sup>29</sup> The results of that exercise form the basis of the recommendations identified at the beginning of this Issue, which CAPP has already begun implementing.

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### **Worker Representatives**

The offshore workforce currently has substantial interaction with the C-NLOPB through their OHS Committee representatives who:

- attend opening and closing audit and inspection meetings;
- are copied on the C-NLOPB's offshore audit and inspection reports;
- meet with the C-NLOPB's safety officers during quarterly offshore visits;
- attend the annual C-NLOPB OHS meetings; and
- are engaged by the C-NLOPB in the investigation and resolution of rights to refuse.

Apart from worker representatives, all workers have direct access to the C-NLOPB if they have a complaint. The C-NLOPB's safety officers also review the minutes of OHS Committee meetings on a regular basis.

## INQUIRY ISSUE #6

*What is the appropriate standard of first response search and rescue that the C-NLOPB should require of all operators in the Newfoundland and Labrador offshore?*

### **Summary**

The standard of first response search and rescue (First Response SAR) required by the C-NLOPB pursuant to the interim recommendations of the Commissioner is appropriate. The Operators will continue to work with Cougar to meet this standard and to identify and implement additional improvements.

### **Analysis**

#### **First Response SAR and Government SAR**

In this jurisdiction, the Operators provide First Response SAR for their installations in the Offshore Area. The C-NLOPB's Safety Plan Guidelines require the Operators to provide for a First Response SAR standby helicopter in their respective safety plans.<sup>30</sup> Such a helicopter would provide the initial SAR response in the event of an incident in the Offshore Area.

These SAR requirements are consistent with the approach taken by regulatory agencies in other jurisdictions where oil and gas operators must demonstrate they have adequate SAR infrastructure to complement that provided by government. As outlined in Aerosafe's report respecting SAR capabilities in other jurisdictions, in Australia, Norway and the UK, the initial response to an emergency is provided by industry.<sup>31</sup> However, the national governments in those jurisdictions also play a critical role in providing and coordinating SAR.

DND (Government SAR) is mandated to provide SAR in Canada and surrounding areas, including the Offshore Area, and has sole authority over all SAR operations. DND's SAR helicopters closest to the Offshore Area are stationed in Gander, which is approximately 45 minutes transit time to St. John's where Cougar's operations are based. In most situations, Cougar will be the first on the scene to provide SAR support to any offshore-related incident. The respective response time, or wheels-up time as it is referred to in the industry, of DND and Cougar also enables Cougar to be the first responder in most instances. Specifically, DND maintains a standard of 30-minute wheels-up time on weekdays (0800 – 1600) and two-hour wheels-up time after hours, on weekends and statutory holidays.<sup>32</sup> Cougar currently responds with a wheels-up time of 30 minutes during hours of flight operations and 60 minutes at all other times.

Upon notification of an incident, Cougar will immediately mobilize the First Response SAR helicopter and alert DND's Joint Rescue Coordination Centre. As stated, DND is vested with

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the authority for control over all SAR operations.<sup>33</sup> The assets of both Cougar and DND must therefore be considered in the assessment of the appropriate standard of First Response SAR.

## **The C-NLOPB's First Response SAR Directive**

In response to interim recommendations made by the Commissioner in February 2010, the C-NLOPB issued a directive requiring the Operators to enhance their existing First Response SAR. The directive required a fully equipped SAR helicopter on standby in St. John's with an effective wheels-up time of 15-20 minutes when transporting workers by helicopter, and 45 minutes otherwise. It also required that the First Response SAR helicopter be equipped with auto-hover and forward-looking infrared (FLIR) capabilities as soon as practicable.

The Operators began the implementation process of the enhanced First Response SAR requirements by immediately sourcing equipment and contracting for an additional S-92A helicopter. The Operators have already significantly improved wheels-up time to 30 minutes during flight operations and 60 minutes otherwise. Cougar has advised that these response times can be further improved by its construction of a new hangar facility to support the dedicated First Response SAR helicopter and crew. The Operators are working with Cougar to support this initiative.

The Operators anticipate that the newly chartered S-92A helicopter as the primary First Response SAR helicopter will be equipped with auto-hover (pending regulatory approval), FLIR and Night Sun capabilities by the Fall 2010. The C-NLOPB and the workforce have been fully informed of the implementation plan and they are regularly provided with progress updates.

## **Training and Dispatch Initiatives**

In addition to addressing the C-NLOPB's directive noted above, the Operators are also actively supporting further First Response SAR training initiatives and dispatch protocols. In terms of training in particular, pursuant to Cougar's request, the Operators have committed to increased flight hours for competency training, including night operations to complement crew readiness. The Operators fully support this enhanced training initiative. As indicated in Cougar's evidence in Phase 1(a), this initiative is another example of the continuous improvement opportunities that have characterized the entire relationship between the parties.<sup>34</sup>

**INQUIRY ISSUE #7**

*Are there circumstances, other than declared emergencies, when a rescue helicopter should be dispatched to assist a transport helicopter?*

**Summary**

The Operators fully support the pro-active dispatch of a First Response SAR helicopter by Cougar in relation to incidents which have the potential to escalate to an emergency where Cougar deems such a response to be reasonable and prudent.

**Analysis**

The decision to dispatch a helicopter for such an incident can only reside with Cougar personnel. The Operators do not require any prior consultation, but should be notified immediately following dispatch.

The conditions for dispatch should not be prescriptive in nature as it is impractical to systematically catalogue each and every potential condition, or combination of conditions, that would dictate the dispatch of a helicopter. As such, the decision must ultimately be left to the experience and discretion of those persons assigned this responsibility.

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## INQUIRY ISSUES #9 AND #10

*Are operational limitations on helicopter transport, in addition to those dictated by Transport Canada, required to ensure the standard of first response search and rescue is able to be maintained at all times? (Note: For example, operational sea states, night flight and low visibility.)*

*Should the C-NLOPB impose additional operational requirements on operators to ensure that the risk from helicopter travel in the Newfoundland and Labrador offshore is as low as is reasonably practicable? (Note: For example, safety systems, auxiliary fuel tanks, location of and restrictions on seating, safety screening, etc.)*

### Summary

The primary goal of the Operators is to do all that is reasonably practicable to prevent helicopter incidents. As such, there are numerous preventative safeguards, including operational limitations, in place to ensure that the potential risk of an incident is as low as reasonably practicable. The Operators fully support continuous improvement opportunities respecting safety in design, equipment, operations, training, and procedures to reduce or eliminate risks. The Operators are undertaking initiatives, among others, to have Cougar and Sikorsky Aircraft Corporation (Sikorsky) review the design and use of the auxiliary fuel tank and implement auto-hover and FLIR capabilities on helicopters.

### Analysis

#### **Prevention of Helicopter Incidents**

Robert Decker stated in his testimony in Phase 1(a) of the Inquiry:

*“Training to escape from a crashed helicopter is important. Having good survival suits is important, and having search and rescue capacity nearby is important. But all those things are what you need after there’s been a crash into the ocean. If we really want to make offshore helicopter travel safe, what we have to do is to make sure that every helicopter does not crash. The best way to keep every offshore worker safe is to keep every helicopter in the air where it belongs. Safety starts with the helicopter and I think everything else is secondary.”<sup>35</sup>*

The Operators in conjunction with Cougar have put in place numerous preventative safeguards, including the use of the latest engineering technology, training and safety management systems.

The S-92A helicopter is certified to the latest regulations of the Federal Aviation Authority (FAA) in the US, the European Aviation Safety Agency (EASA) and Transport Canada. It was developed with a new fuselage design, which incorporated many lessons learned from offshore operations. The advanced features of the S-92A are outlined in the attached **Appendix B**.

The S-92A airframe is also equipped with the most advanced version of a HUMS which monitors more than 125 drive train components. A flight data monitoring program is a supplement to the HUMS and provides mechanisms to monitor the aircraft status and application of flight procedures for every flight with any unusual flight activity or procedural violation.

The effective and integrated safety management systems of the Operators, which were discussed in detail in Issue #2, as well as that of Cougar, provide further support for the prevention of helicopter incidents.

### **Conducting Safe and Effective Flight Operations**

Cougar uses a satellite-based flight following system which automatically provides an updated aircraft position every three minutes when operating below 2,000 feet above ground level, and every five minutes when operating above 2,000 feet. In the event of an in-flight emergency, reports are generated every 15 seconds.

Cougar is also the first helicopter service provider in North America to operate a formal Type "B" Dispatch System. The primary component of this system is a 24/7 Operational Control Centre located in St. John's. There is a requirement that the pilot-in-command and dispatcher agree that all conditions are acceptable in order for flight operations to proceed.

In addition, one of Cougar's safety initiatives was the development of a pre-flight risk assessment matrix to assist in the identification of relative risk factors that helicopter crews should be aware of prior to each offshore flight. These factors include crew experience level, environment, time of day, fatigue and complexity. Pilots are required to advise the chief pilot or director of flight operations of any pre-flight risk assessment which indicates an elevated level of risk that may influence the safety of a flight, and manage those risks prior to dispatch.

The Operators are committed to the safe and reliable transportation of the workforce to the Offshore Area. Accordingly, an important aspect of the pre-flight risk assessment process is the designation of the authority with responsibility for determining the go-ahead for flight operations. As noted above, the ultimate responsibility for making the final decision to execute a flight rests with the pilot-in-command and dispatcher. The offshore installation manager (OIM) also has authority to cancel or prevent a flight from landing on their installation. Generally, the OIM will be concerned with the safety of helideck operations in support of helicopter operations, and whether any changes in operational or facility status may impact any inbound flight.

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An equally important aspect of safe helicopter transport is the establishment of environmental criteria to ensure the safety of helicopter operations. The existing limits in the Offshore Area are described in more detail below.

### Operating Limits

The Operators in conjunction with Cougar have established the following criteria for flight operations which comply with regulatory, manufacturer, Cougar and Operator requirements: (1) heave, pitch and roll; (2) wind speed; (3) visibility; and (4) sea state (which can affect (1)). These four criteria may be generally applicable or installation-specific. The operational criteria for helicopter transport in the Offshore Area are consistent with those in other offshore jurisdictions.

### *Sea States*

Offshore fixed platforms are not impacted by criteria such as heave, pitch and roll, whereas offshore floating facilities have established limitations for these parameters. Such limits are intended to ensure the safe landing of the helicopter with particular consideration given to the helideck design and configuration of the offshore facility. Each Operator maintains an operations manual which describes all operating criteria that ensure the safety of flight operations for their respective facilities and installations.<sup>36</sup> First Response SAR can be initiated when flights are operating in these conditions.

### *Visibility*

With respect to low visibility flying, Cougar operates in accordance with Transport Canada regulations. Cougar has provided the Operators with the following information regarding flight operations:

- Due to the distance and variability of weather conditions between onshore and offshore facilities, Cougar's standard operating procedure is to conduct all offshore passenger flight operations according to Transport Canada Instrument Flight Rules. The helicopter is flown safely with no visual reference through the use of instrumentation.
- Cougar's flight planning process includes a series of considerations, including aircraft status, forecasted and reported conditions throughout the flight path, precipitation conditions, surface winds at the take-off and landing site and wind-aloft, freezing precipitation, installation motion, and alternate onshore landing site.
- Prior to any flight dispatch, the dispatcher and the pilot will determine if it is suitable to conduct an entire flight, including return to base.
- Cougar's dispatch operation ensures constant monitoring of all weather and flight-related conditions and adjusts flight operations accordingly.

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Cougar uses a variety of certified aviation weather sources and compares forecasted data with actual data on a regular basis. It is only when Cougar is confident that conditions are suitable for flight that they will make the determination to fly.

With respect to the rescue of individuals from the sea surface during periods of low visibility, Cougar has advised the Operators of the following:

- At any time during passenger flight operations, a First Response SAR aircraft can be launched.
- With the use of various tracking and locator tools such as Emergency Locator Transmitters, real-time flight tracking system (Blue Sky), and Personal Locator Beacons (PLBs), both aircraft and passengers can be located with precision.
- As weather conditions are variable, an on-site assessment conducted by the flight crew is the only way to determine the most effective rescue methods.
- Once on scene, the flight crew will make a site assessment to determine if a mechanical hoist rescue can be performed. The assessment is subject to the pilot-in-command observing the required visual reference point. If that cannot be achieved, the First Response SAR aircraft would, with the assistance of PLBs, locate personnel and deploy survival kits as required.

Given the existing safeguards discussed above relating to low visibility flying, no additional limitations should be required by either Transport Canada or the C-NLOPB. Due to the variability of weather in the Offshore Area, the introduction of additional visibility limitations would exacerbate an already challenging operating environment and make flight operations virtually impossible to conduct with any consistency. Additional constraints in efforts to conduct personnel crew changes on schedule will likely lead to the introduction of other risk factors that would have to be managed, while not resulting in any verifiable reduction in flight risk.

#### *Night Flights*

Helicopter operations in the Offshore Area are generally conducted during daylight hours. As the area is subject to adverse weather conditions, such as precipitation (snow, rain and freezing rain), fog and high winds, delays to scheduled daytime flights result. The Operators must therefore balance the risk associated with conducting a flight at least in part during darkness with the risks associated with failing to effect a timely crew change.

During the summer months, the recovery from these flight delays can generally be accomplished during daylight hours. Also, if delays continue during the week for a significant period, flights can be scheduled over the weekend.

During the winter, the limited number of daylight hours in the Offshore Area presents a significant challenge to the recovery from delayed flights due to adverse weather. When compounded by the restrictions on night flights, notwithstanding the fact flying conditions may

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be otherwise ideal at that time, this presents a significant challenge for completing flight operations in a reasonable timeframe.

There are many jurisdictions where offshore operations are routinely carried out at night. For example, in the northern regions of the North Sea, the hours of darkness can extend to 17 or even 18 hours daily, resulting in crew change helicopter activity taking place in darkness. By comparison, the hours of darkness in the Offshore Area can extend to 16 hours during the winter.

## Rescue and Recovery

### *In-Transit Rescue*

An in-transit rescue refers to rescue required during transit where air SAR resources would likely be the primary mode of rescue, given that the support vessels would require a longer transit time. As such, First Response SAR helicopter resources would be used.

Limiting conditions such as wind, significant wave height, and visibility to execute a SAR mission by helicopter for rescue from the sea or a life raft, both en route and near installations, is assessed at the rescue site by the pilot-in-command. In terms of recovery rates by helicopter, it is understood that increases in wind speed and wave height make helicopter rescue more difficult. However, there is no defined limit in wind speed and wave height for successful rescues of personnel either in the sea or in a life raft, other than the limits described earlier for flight operations.

### *Installation Rescue*

If a helicopter incident should occur in the vicinity of the offshore facilities, it will be responded to immediately by the support vessels on location, which are equipped with a Fast Rescue Craft (FRC) and Dacon Scoop to assist with rescue depending on wave conditions. In addition to the primary support vessel which will initiate rescue, additional vessels from nearby installations as well as First Response SAR and Government SAR resources would be mobilized to the site.

The support vessels used by the Operators have sufficient survivor capacity, are highly manoeuvrable, are well equipped and have well trained crews. During helicopter operations, the vessels are positioned strategically in preparation of a response to an incident. The wave height limit for the use of the FRC and Dacon Scoop in an emergency situation is up to 5.5 metres and 7 metres respectively.<sup>37</sup>

### *S-92 Flotation System Enhancements*

FAA regulations stipulate that helicopters operating over water will be equipped with emergency flotation equipment. The S-92A is currently fitted with the standard three-float Emergency Flotation System which is certified to sea state 4<sup>38</sup>.

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The report of the HOTF included a recommendation to consider the adoption of enhanced emergency flotation equipment. Accordingly, the Operators have requested that Cougar upgrade flotation to the Enhanced Flotation System available from Sikorsky, which has demonstrated sea state 5, and limited sea state 6, capability in simulation (wave tank). This upgrade is currently ongoing and exceeds all FAA and Joint Aviation Authorities stability requirements.

Although sea state is one important factor to consider in the likelihood of a helicopter remaining upright under various wave and wind conditions, other factors affect whether the helicopter might invert.

### **Auxiliary Fuel Tank**

Auxiliary fuel tanks are necessary for helicopter travel in the Offshore Area due to the long distances to installations from Cougar's base in St. John's. They have been used in all types of aircraft flown in the Offshore Area, including the AS332L Super Puma, Sikorsky S-61 and S-92A helicopters. The auxiliary fuel tanks provide for fuel plus adequate reserves to reach alternate landing sites.

The amount of fuel required for a flight is determined on an individual flight basis and is dependent on factors such as wind, routing, alternate landing sites and altitudes. If the fuel requirements for a particular flight exceed the capacity of the primary tank, an auxiliary fuel tank is required. Without the auxiliary fuel tank, flights to many of the offshore installations could simply not occur.

### Type Approval

The auxiliary fuel system design was tested in accordance with *Federal Aviation Regulations (FAR) 29* and subsequently approved for use under independent Supplementary Type Certificates issued by the FAA and Transport Canada. The auxiliary fuel tank has also received approval for use under the requirements of the EASA.

The Supplementary Type Certificate process allows for modifications or additions to the approved original design of the aircraft. Cougar's auxiliary fuel tank meets all of the requirements of the Supplementary Type Certificate, which specify the installation, maintenance and operational requirements for the tank. The auxiliary fuel tank also meets the following specific requirements for:

- *Crashworthiness*: It meets or exceeds *FAR 29* crashworthiness regulations; the TSB also found that the tank on Flight 491 was structurally intact.
- *Safe Carriage of Fuel*: It satisfies the *Canadian Aviation Regulations (CAR) 529* and *FAR 29* requirements for the carriage of flammable liquids.
- *Impact on Flotation and Buoyancy*: Transport Canada and the FAA have approved Supplementary Type Certificates for the S-92A auxiliary fuel tank such that it

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does not affect buoyancy or flotation except as a factor in the calculation of the flight weight and balance. The position of the tank or the weight of the tank, full or empty, is within the weight and balance limits of the aircraft.

### Egress and Seating Requirements

Regulatory requirements stipulate that there must be emergency exits in the passenger cabin and cockpit. The S-92A, equipped with the auxiliary fuel tank, meets or exceeds both the *FAR* and *CAR* egress requirements. Specifically, the S-92A has:

- cockpit windows which can be jettisoned,
- four cabin emergency exits which can be jettisoned,
- an air stair door with upper section that can be opened, and
- push out cabin windows at each seat.

It is also a *FAR* requirement that the aircraft manufacturer demonstrate that there are adequate paths to the emergency exits. The auxiliary fuel tank must not intrude into the center aisle or into the areas in front of the exits, and must not impede egress.

During the design of the auxiliary fuel tank, egress was an important consideration. The design incorporated additional features not required by *FAR 29*, including:

- two smaller 150 US gallon tanks rather than a single larger tank,
- additional floor strengthening,
- no protruding tank attachment fittings in the floor or in the walls that may impede egress,
- no protruding into aisles or seat rows and impeding of access to emergency exits,
- no protrusions or snag hazards, and
- location below the window sill.

Under *FAR*, the auxiliary fuel tank may not have any protrusions that interfere with egress from the aircraft. As such, the tank is designed as a smooth surfaced rectangular shape with no protrusions or snag hazards to inhibit emergency egress. In the spirit of continuous improvement, the Operators have engaged Cougar to review the design, use and impact of the auxiliary fuel tank on the safety of helicopter operations.

In addition, the S-92A cabin windows are larger than other helicopters and the window glass is designed to pop-out. This requirement exceeds *FAR 29* and allows the windows to be used in emergencies or in the event of hazards blocking access to the emergency exits.

Further, with the introduction of HUEBA, passengers are provided sufficient oxygen to compensate for any delay in egress caused by sitting in an aisle seat if the helicopter is

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submerged. Alternatively, a passenger in an aisle seat can also exit through the push out window on the right side (starboard) of the helicopter.

Limiting the use of certain seats on the S-92A helicopter would necessitate increasing the number of flights, which will correspondingly increase the overall risk. Therefore, limiting the use of certain seats would not improve helicopter safety.

### **The C-NLOPB's Response to Rights to Refuse**

In 2009, the C-NLOPB investigated a refusal to work by an offshore employee based on their belief that the current configuration of the auxiliary fuel tank on the starboard side of the cabin creates an unacceptable increased risk to egress from the helicopter during an emergency situation.<sup>39</sup> The C-NLOPB recognized that there are inherent risks associated with travel by helicopter. However, they determined that the inclusion of an auxiliary fuel tank does not result in an unacceptable increase in risk.

The investigation of the work refusal included consultation with the FAA as well as Transport Canada. Both confirmed that their process for review and approval of the design, installation and use of the auxiliary fuel tank included consideration of the impact on passenger safety, and it was determined to meet all of the regulatory requirements. The C-NLOPB was therefore satisfied that the presence of the auxiliary fuel tank in the helicopter does not result in an unacceptable increase in risk.

In their decision, the C-NLOPB recognized that the current HUET simulator training does not include the auxiliary fuel tank during egress exercises. However, they did note that the training does provide the basic skills necessary for escape from an upright and inverted helicopter.

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## INQUIRY ISSUE #11

*Can helicopter transport safety be affected by the capacity of the helicopter transport fleet and, if so, what role should the C-NLOPB play in the determination of fleet capacity?*

### Summary

While fleet capacity is a function of safety and operational considerations, safety is the primary consideration. The Operators believe capacity is most appropriately determined by Cougar and the Operators. There is ample capacity within the existing pool to manage both the offshore transportation requirements of the Operators and ensure that any associated risks are as low as reasonably practicable.

### Analysis

The Operators evaluate helicopter fleet requirements in consultation with Cougar on the basis of a range of considerations. Such considerations include the number of operating facilities and associated personnel requirements, season (i.e. summer vs. winter), geographic location of the facilities, the Transport Canada approved airframe capacity, and maintenance and pilot training schedules.

Cougar provides helicopter services through a pooling arrangement with the Operators in the Offshore Area. Each Operator contributes equal capacity to the pool of helicopters.<sup>40</sup> Given the capacity of the current S-92A airframe, equal capacity essentially translates into one helicopter per project (in addition to the First Response SAR helicopter).

When additional short-term offshore operations arise, the Operators in conjunction with Cougar assess whether the existing helicopter pool can manage the work. In addition to the fleet capacity considerations noted above, the assessment is also based on the normal and maximum personnel on the installation, type of operation, and location of that facility. If it is determined that the existing pool cannot support the additional short-term requirements, the Operator will contract for another airframe to support its needs.

It is significant to note that the average utilization rate of the existing helicopter pool is currently less than 90% for regularly scheduled flights and approximately 60% for *ad hoc* flights.<sup>41</sup> There is therefore sufficient capacity within the existing pool to manage both the offshore transportation requirements of the Operators and ensure that any associated risks are as low as reasonably practicable.

## INQUIRY ISSUE #12

*What are the appropriate standards of offshore helicopter safety training to ensure that the risk to passengers is as low as is reasonably practicable, both during training and helicopter transport?*

### Summary

The Operators endorse the continued utilization of CAPP's Training and Qualifications Committee and CAPP Training Standard for the development and continual review of the appropriate standards of offshore safety training. The goal is to balance training requirements with any associated medical and safety risks. As new training methods and equipment are introduced, they are assessed to determine whether implementation will further that objective.

The Operators are reviewing training standards, upgrading training equipment and facilities, and exploring survival training enhancements.

### Analysis

#### **CAPP Training Standard**

The offshore training standards for the Operators are coordinated through CAPP and are binding on the Operators as a condition of their C-NLOPB authorizations.

As stated in the Joint Operator Panel in Phase 1(a), “[i]ndustry, regulators and the training institutions continually review training requirements for offshore workers through the CAPP Training and Qualifications Committee.”<sup>42</sup> This Committee is comprised of representatives from the C-NLOPB, C-NSOPB, Canadian Association of Oilwell Drilling Contractors and CAPP. By invitation, the Offshore Safety and Survival Centre (OSSC) at the Marine Institute in St. John's and Survival Systems Training Ltd. (Survival Systems) in Dartmouth, Nova Scotia also participate.<sup>43</sup>

The CAPP Training Standard was first issued in March 2001 and is updated regularly. A 2010 revision is expected later this year. These revisions are reviewed with the Operators' OHS Committees. The CAPP Training Standard provides guidance on the appropriate level of training required for the offshore workforce and required qualifications, including that associated with offshore helicopter travel.<sup>44</sup>

The three main offshore helicopter safety training certifications established by the CAPP Committee, along with a brief description of course content, are as follows:

- *Basic Survival Training (BST)*: Provides 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

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care for themselves and others in a survival situation. This is a five-day course with a three-year renewal period.

- *Basic Survival Training- Recurrent (BST-R)*: BST refresher that provides personnel with continued proficiency in the use of safety, survival and rescue equipment and techniques, and updates individuals with respect to advancements in equipment technology and procedures since their previous training. This is a two-day course with a three- year renewal period.
- *Offshore Survival Introduction (OSI)*: Provides participants 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. This is a one-day course that permits holders to go offshore for six days during a twelve-month-period. It is effective for three years.

In addition to the requirements set out above, all workers travelling by helicopter view a recorded helicopter safety briefing at the heliport prior to departure onshore and offshore.

Medical assessments are also required of all offshore workers prior to taking the BST, BST-R and OSI to ensure that they are medically fit to travel and work. CAPP's East Coast Medical Assessment for Fitness to Work Offshore outlines this mandatory requirement. The level of fitness prescribed by the standard is uniform, but the frequency for medical certification increases with age.<sup>45</sup>

### Offshore Helicopter Safety Training

The offshore training requirements for workers employed in the Offshore Area are rigorous. The Operators do however recognize that training itself can involve risk. As such, the benefit achieved by training workers in offshore survival must be balanced with the training risk.

In her 2006 report prepared for the UK's Offshore Petroleum Industry Training Organization, Susan Coleshaw reviewed stress levels on offshore training following the introduction of emergency escape exits in safety training courses. Increasing the frequency of egress training in the HUET resulted in elevated levels of stress. She concluded that while some level of stress can be beneficial in reacting to a real or perceived emergency, excessive stress can have negative effects.<sup>46</sup> As such, the Operators state that such effects must be considered in the implementation of any new training requirement.

As of October 1, 2009, all workers travelling by helicopter to the Offshore Area are required to wear a HUEBA and be trained in its operation.<sup>47</sup> The training requirements associated with this device were developed by CAPP in consultation with medical experts.

In addition, offshore safety training includes HUET, consisting of a simulation exercise of a controlled helicopter landing on water. It also includes a simulation of the inversion of a helicopter and sinking, which is conducted in a purpose-built device. It should be noted that emergency helicopter egress training is designed to assist with escape from a helicopter which

has made a controlled ditching on water. The training and equipment is not designed for training in high impact or uncontrolled helicopter accidents.

The offshore safety training takes place mainly at the OSSC. Survival Systems is also a training provider for BST, BST-R and OSI. The Operators recognize the importance of effective survival training and that training standards and equipment evolve as new techniques and technologies emerge. The Operators have therefore committed to reviewing current training standards, upgrading training equipment and facilities, and exploring survival training enhancements. These initiatives are being carried out through industry association committees, individual operator equipment procurement processes, and industry joint research projects.

Negotiations are underway with the OSSC to procure a newly designed HUET, which can be configured to represent multiple airframe types, including the S-92A. The HUET will be fitted with four-point harnesses, high back stroking seats and an auxiliary fuel tank. The Operators are also negotiating with OSSC to procure new facilities equipment to simulate wind and wave conditions to create a more realistic training environment. Despite this commitment, it is significant to note that not all experts believe that training with high fidelity is necessary.<sup>48</sup>

Furthermore, the Operators agree with Michael Taber's testimony in Phase 1(b) of the Inquiry that repetition reinforces survival skills acquired during BST and BST-R training. This increased proficiency however involves training risk. The Operators caution that an increase in the number and complexity of egress exercises from an inverted HUET, including the use of HUEBA in the device, should not be recommended without consideration of any increased risks associated with the training simulation.

#### **Survival Course Review Project**

Industry, through CAPP, initiated the Survival Course Review Project in March 2010 to review the offshore survival courses. The purpose of the Project is to define performance standards and identify core competencies for offshore survival training, as well as to achieve a consistent training standard for survival courses being taught in Atlantic Canada. In their review, the Project's team will consider reviews of the BST and BST-R and solicit regulatory, industry and worker input. The review is expected to be completed by the end of 2010.

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## INQUIRY ISSUE #13

*What personal protective equipment and clothing is necessary for helicopter passengers and pilots; what are the standards, and should the C-NLOPB require guidelines to ensure such equipment and clothing is properly fitted?*

### Summary

The current structure in which the C-NLOPB requires the Operators to have helicopter passenger transportation suits approved by the Canadian General Standards Board (CGSB) is appropriate. The role of the C-NLOPB is to audit the Operators' safety management systems and processes to ensure that passengers are equipped with the most appropriate personal protective equipment (PPE) and that MOC processes are used when changes in PPE are made.

With respect to suit fitting standards in particular, no further action is required. The Operators believe the protocols developed by Helly Hansen in conjunction with the Operators are best industry practice.

The Operators continue to look for continuous improvement opportunities with respect to helicopter passenger PPE, with the current focus being enhanced goggles and PLBs.

### Recommendation

The Operators recommend the following:

1. Any further consideration of the appropriate standards for PPE and clothing necessary for helicopter passengers be done in consultation with the CGSB Working Group.
2. The C-NLOPB should audit the Operators' safety management systems and processes to ensure that:
  - (a) passengers are equipped with the most appropriate PPE; and
  - (b) MOC processes are used to ensure equipment integrity, including appropriate fit, when changes are made in PPE.

### Analysis

#### **Role of CGSB and the C-NLOPB**

With respect to helicopter passenger transportation suits, the *Newfoundland Offshore Area Petroleum Geophysical Operations Regulations*<sup>49</sup>, the Draft Petroleum Occupational Safety and Health Regulations – Newfoundland<sup>50</sup> and the Guidelines Respecting Drilling Programs<sup>51</sup>

specify that passengers must wear a suit system certified to the CGSB standard.<sup>52</sup> The C-NLOPB should continue to audit the Operators' safety management systems to ensure compliance with this requirement.

In 2008, the CGSB began consideration of its standard with respect to helicopter transportation suits. The National Review Committee members include representatives from government, regulators (i.e. the C-NLOPB and C-NSOPB), suit manufacturers, scientific groups, trade unions (i.e. CEP, Local 2121), industry and other interest groups. In November 2009, the first meeting to begin the review of the standard was held with tasks assigned to Committee members, including the development of recommendations for the revised standard and the improvement of its format and functionality.

The CGSB, through a working group of stakeholders, is currently reviewing the standard, which consists of a review of all aspects of the suit standard including water egress standards, undergarment requirements and glove design requirements.

The National Research Council (NRC) recently reported there is a knowledge gap between the calm water testing conditions used to determine a human's thermal responses in immersion suits and a real world scenario.<sup>53</sup> The NRC also stressed the importance of more realistic testing in conditions where PPE will be used.<sup>54</sup> Accordingly, this knowledge gap is currently being addressed in the CGSB review process of the suit standard.

Research is being carried out by the CORD Group Limited (CORD), the NRC Institute for Ocean Technology and Mustang Survival Corporation. Research requirements have been identified to review the many elements of the suit standard and are outlined in the attached **Appendix C**.

The results from these studies will assist the CGSB Working Group in their recommendations to update the CGSB standard and improve testing methodologies. The Operators view this work as vital for the continuous improvement in the helicopter transportation suit system.

### **Suit Fitting Protocols**

As noted by Susan Coleshaw in her report to the Inquiry, "it is important that helicopter suits are well fitted to the individual, limiting the air that can be trapped. Measures to check that the correct size of suit was being worn by each passenger would also be beneficial."<sup>55</sup>

In early 2009, Helly Hansen and the Operators began to address this issue. They formalized a suit fitting assessment process that was ultimately implemented in May 2009 for all personnel travelling offshore in conjunction with the return to helicopter operations. The suit fitting protocol adopted by the Operators has been recognized by the TSB who recommended that Transport Canada inform others about the importance of confirming appropriate suit sizing.<sup>56</sup>

This suit fitting assessment process was the first of its kind and is now a standard component of any suit system MOC process used by the Operators. As a result, in 2010 when the Operators

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converted from the Helly Hansen E-452 suit to the HTS-1 suit, all offshore workers were required to be fitted for the new suit.

### **Water Ingress Testing Protocols**

In June 2009, the Operators contracted CORD to perform water ingress testing on the Helly Hansen E-452 helicopter transportation suit. The Operators considered the testing protocols associated with the existing CGSB standard<sup>57</sup> and worked with CORD to develop more rigorous and realistic testing. New testing protocols were evaluated in trials that included simulated ditching, helicopter evacuation and surface swim conducted in wind, wave and continuous waves. The trials provided a significantly more rigorous testing protocol than that contained within the existing standard.

In July 2009, offshore OHS Committee representatives were invited to witness naïve subject testing of the E-452 suit using the more rigorous testing protocol. That testing concluded that the E-452 suit met or exceeded thermal requirements of the CGSB standard. The testing methodology developed through this initiative is being evaluated in the CGSB water ingress research.

### **Transition to HTS-1 Suit**

In 2008, Helly Hansen had begun work to improve some areas of functionality in the E-452 suit. That work included enhancements in the E-452 suit hood, zipper, glove and suspenders. The prototype suit (HTS-1) combined the body of the existing E-452 suit with these enhanced features. The HTS-1 suit was evaluated by Helly Hansen and determined to provide an appropriate solution for the majority of those who had not been able to achieve an appropriate fit in the E-452 suit.

The Operators then commenced a series of MOC initiatives including the following:

- CORD was contracted to perform water ingress testing in accordance with the new and more rigorous protocol developed in the Summer 2009. This testing was successfully completed in November 2009.
- HUET egress testing was conducted to ensure identification of any suit performance issues.
- OHS Committee members participated in the testing process.
- Feedback was solicited in a survey of HTS-1 suit users.

Based on these activities, the Operators introduced the HTS-1 suit for offshore personnel in the first quarter of 2010. The introduction of the HTS-1 suit included individual fit testing and group orientation to the suit's features. If an individual cannot obtain a fit, then a custom suit will be provided.

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Transport Canada approval of the HTS-1 suit was received in November 2009 and the suits were put into circulation for those individuals who were unable to fly in the E-452 suit. The HTS-1 suit is now the primary suit for the Operators.

**Thermal Undergarment Requirements**

Current regulations and CGSB standards do not specify what clothing should be worn under a helicopter transportation suit. However, further study in this area is being conducted as a component of the CGSB review process. As such, any recommendations should await the results of this work.

**Additional Helicopter PPE Initiatives**

The Operators continue to monitor additional improvement in other areas of PPE, including goggles and PLBs. The Operators will also review the anticipated UK Emergency Breathing System technical standard, noted in Susan Coleshaw's report to the Inquiry<sup>58</sup>, for any continuous improvement opportunities that may be applied in Canada.

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## INQUIRY ISSUE #14

*Are changes needed to maximize worker and pilot participation in the development, implementation and monitoring of helicopter safety initiatives and activities?*

### **Summary**

In addition to the initiatives already undertaken since March 12, 2009 and described in Issues #2, 4 and 18, the Operators propose to establish a forum to be held twice a year to facilitate worker engagement in the identification, development, implementation and monitoring of helicopter safety initiatives.

### **Recommendation**

The Operators recommend that a Helicopter Operations Safety Forum be established and held twice a year to facilitate worker engagement in helicopter safety initiatives, which would be attended by representatives from key stakeholders including the offshore workforce.

### **Analysis**

It is critical to maintain open communication and engagement with the offshore workforce. As such, the Operators communicate regularly with their workers in relation to safety and continually strive to identify opportunities to enhance communication.

### **Return to Service**

As mentioned in Issue #2, the Operators implemented enhanced communication mechanisms with workers following the HOTF report. In particular, during the return to helicopter service process, all the Operators provided regular updates to workers as well as more comprehensive and frequent updates to the offshore OHS Committees. The OHS Committees and the offshore workforce were also engaged in the resumption of helicopter operations through their submission of over 350 questions to the Operators for consideration and response.

In addition, prior to the return to helicopter service, Town Hall briefings were held which were attended by the offshore workers and their families, the Operators' senior management teams, the HOTF, the C-NLOPB, Cougar, and other service providers. At these briefings, the Operators' management representatives provided updates and answered questions on helicopter safety-related issues. Management also conducted briefings with regulators and government with respect to the resumption of helicopter operations.

### **Helicopter Operations Safety Forum**

The Operators propose to host a Helicopter Operations Safety Forum twice a year which would be attended by key stakeholder representatives, including OHS Committee representatives from the offshore and onshore workforce as well as Cougar.

The formation of such a forum will clearly enhance worker and pilot participation in the development, implementation and monitoring of helicopter safety initiatives and activities. The proposed agenda for the forum is attached in **Appendix D**.

### **Other Initiatives**

In addition to the proposed forum relating to helicopter operations, the Operators have committed to other communication and stakeholder engagement initiatives which are described in Issues #4 and #18.

# Offshore Helicopter Safety Inquiry

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## INQUIRY ISSUE #15

*Should offshore workers have a level of personal accountability for their own safety in helicopter transport? (Note: For example, clothing to be worn under the suit, fitness training and reporting.)*

### Summary

Workers play a key role in ensuring that the health, safety and environmental objectives established by the Operators are achieved through their consistent application of policies, procedures and safe work practices in their day-to-day work activities. It is therefore a clear expectation of the Operators, as well as a legislative requirement, that workers be accountable for their own safety at the workplace, including during helicopter transport.

### Analysis

The Operators are ultimately accountable for the health and safety of their workers. However, in the Offshore Area, as in all workplaces, safety is everyone's responsibility.

All workers are trained in, and responsible for the adherence to, all safety procedures and practices established by the Operators, including those relating to helicopter transport.

Worker's accountability for their own personal safety is also reflected in the Operators' expectation that all safety concerns are reported to a supervisor or through their hazard reporting systems. For example, workers can complete hazard identification cards so that the Operators are aware of any potential safety risks and can manage them appropriately.

Workers are also expressly subject to legislative requirements respecting their own safety in the workplace. The Newfoundland and Labrador *Occupational Health and Safety Act* outlines various general and specific duties of workers respecting the protection of their own health and safety and that of other persons at or near the workplace.<sup>59</sup>

**INQUIRY ISSUE #17**

*Should the C-NLOPB and oil operators' safety aviation audits include reviews of past responses to declared emergencies and emergency preparedness exercises?*

**Summary**

A comprehensive audit process currently exists which includes reviews of declared emergencies and emergency preparedness exercises.

**Analysis**

The Operators have testified about their audits of Cougar. In particular, each Operator has outlined its specific protocols and requirements in this area respecting the assessment of the effectiveness of the emergency response processes of Cougar.

Cougar is engaged in Operator emergency response exercises and drills. Any learnings acquired through this process, and specifically those relating to helicopter emergency response, are immediately identified for follow-up.

# Offshore Helicopter Safety Inquiry

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## INQUIRY ISSUE #18

*What information from the helicopter operator about flight operations should the C-NLOPB require the oil operators to provide to offshore workers? (Note: For example, alert service bulletins, airworthiness directions, incident reports, information regarding departures from normal flight times, routines and the reasons.)*

### Summary

The Operators currently have various communication protocols in place that provide relevant helicopter information received from Cougar to the offshore workforce. Communications with respect to normal operational matters is not typically the subject of specific C-NLOPB requirements.

### Recommendation

The Operators will work with Cougar to develop a DVD on routine helicopter maintenance and operations to disseminate to the workforce.

### Analysis

#### **Existing Communication**

The Operators provide the workforce with information or updates concerning:

- HOTF recommendations
- TSB investigation
- Worker rights to refuse relating to helicopter transport
- First Response SAR
- Shutdown of aircraft due to mechanical issues when passengers have already boarded
- In-flight and in-taxi turnarounds
- Unplanned shutdown of aircraft offshore due to mechanical issues
- Significant maintenance and inspection activities (i.e. cracks in gearbox mounting feet)
- Manufacturer's continuous improvement activities

### **Alert Service Bulletins and Airworthiness Directives**

Alert Service Bulletins (ASB) and Airworthiness Directives (AD) are written for airframe owners and helicopter service providers, such as Cougar, and contain significant technical information in relation to the required actions to be taken. Accordingly, they are not written for general release. ASBs in particular are not even authorized for dissemination without the express consent of the manufacturer at issue. While ADs are public documents published on Transport Canada's web site, their highly technical nature is evident from the example attached at **Appendix E**.

When the Operators are alerted to an ASB or AD considered relevant to the offshore workforce, the Operators commit to work with Cougar and the manufacturer to develop an information package to assist the workforce in understanding the ASB or AD. This approach was adopted by the Operators with respect to recent ASBs dealing with maintenance of filters and gearbox mounting feet inspection requirements.<sup>60</sup>

### **Cougar's Maintenance Activities**

Ongoing aircraft maintenance activities are based on prescriptive maintenance regimes and are generally conducted after normal flying hours in order to minimize flight disruption. The Operators believe it would be beneficial to improve its workers' awareness and understanding of routine maintenance regimes and practices. Accordingly, the Operators propose that they work with Cougar to develop a DVD.

### **Routine Flight Information**

On average only 66% of scheduled helicopter flights depart on time, with 70% of delays relating to weather.<sup>61</sup> As such, there are limitations respecting the amount of information that can be provided in relation to departures from normal flight times and the associated reasons. Apart from weather, delays may also be attributable to unplanned maintenance as well as late passengers or cargo requirements.

While general flight status updates are provided onshore and offshore as well as through the Cougar flight information line, more detailed updates would not be feasible or practical.

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## INQUIRY ISSUE #21

*Should there be safety conferences for all parties involved in offshore helicopter transport, and if so, how often should they be held?*

### Summary

The Operators support the convening of a Helicopter Operations Safety Forum to be held twice a year, as is more particularly discussed in Issue #14.

### Analysis

The Operators fully support the need for continuous improvement in communication and engagement relating to helicopter safety, and remain committed to identifying any additional opportunities that may support that goal.

The Operators recognize that relative to other operating areas, the East Coast does not have significant helicopter operations. As such, they endeavour to learn from other oil and gas jurisdictions, as illustrated by CAPP's participation in the UK Helicopter Task Group.

Further, the Operators support safety-related forums which focus on best practice and sharing learnings. In particular, the Operators support the establishment of a Helicopter Operations Safety Forum to be held twice a year, which is discussed in detail in Issue #14.

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**APPENDIX A:**

**Jurisdiction of the C-NLOPB and Transport Canada**

# Offshore Helicopter Safety Inquiry

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### Jurisdiction of the C-NLOPB and Transport Canada

#### The C-NLOPB

The C-NLOPB has the mandate to interpret and apply the provisions of the Accord Acts to all activities of the Operators in the Offshore Area. Specifically, it has jurisdiction over offshore petroleum operations on or within the vicinity of 500 metres of a facility as well as any emergency affecting operations. The C-NLOPB exercises this authority through the issuance of work authorizations. It also monitors compliance with statutory requirements.

Helicopter operations in particular are within the mandate of the C-NLOPB by virtue of its authority with respect to offshore worker safety. Various regulations and guidelines issued by the C-NLOPB outline specific requirements in regards to helicopter operations including:

- *Newfoundland Offshore Petroleum Installations Regulations*, SOR/95-104; 120/09; N.L.R. 20/97
- *Newfoundland Offshore Area Petroleum Geophysical Operations Regulations*, SOR/95-334; N.L.R. 16/97
- Draft Petroleum Occupational Safety and Health Regulations – Newfoundland
- *Newfoundland Offshore Drilling and Production Regulations*, SOR/2009-316; N.L.R. 120/09
- Safety Plan Guidelines
- Drilling and Production Guidelines
- Guidelines Respecting Drilling Programs

The Guidelines Respecting Drilling Programs, in particular, set out several requirements with respect to offshore helicopter transportation including the following:

- All helicopters must be certified by Transport Canada.
- All pilots must be licenced by Transport Canada.
- Helicopter crews, including first response technicians, should have experience with the aircraft being used and experience with offshore operations in similar environments.
- Adequate flight time must be provided for first response practice and drills.
- Aircraft should be of multiple-engine design and should be capable of landing on the water in at least moderate sea states.
- Aircraft must be capable of communication with the shore base, drilling installation, supply vessels and lifeboats.
- All aircraft must be equipped with externally mounted life rafts.
- Aircraft interiors should be configured to allow the emergency egress of passengers.

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- Suitable upper torso passenger restraints should be used in the aircraft.
- All passengers must receive HUET training and be suitably briefed prior to transport. All passengers must also wear approved helicopter transportation suits.
- Passengers and freight should not normally be carried on the same aircraft.
- Operators must give proper consideration to weather and helicopter load limits when planning flights.
- Flying at night should be avoided to the extent possible.
- Operators must specify the amount of reserve helicopter fuel to be kept on board the offshore installation and provide the rationale used to arrive at this amount.
- Consideration should be given to providing goggles and appropriate breathing devices to assist in underwater escape.
- Maintenance systems and activities are expected to meet the highest possible standards. Proven automated usage and monitoring systems should be used where practicable.

The C-NLOPB has also recently issued additional requirements with respect to helicopter operations including:

- SAR capability in addition to that provided by DND
- Limitations on night flights
- Limitations on low visibility flying
- Limitations on flight pending enhancements to SAR capability

### **Transport Canada**

Transport Canada has the primary responsibility for the oversight of helicopter operations. The Minister of Transport is responsible for the development of regulations and standards, licensing and certification and promotion and security of services relating to aeronautics, including aviation safety. The Minister also has the authority under the *Aeronautics Act*, R.S.C. 1985, c. A-2, to develop guidance and advisory materials pertaining to aviation. Helicopter service providers, such as Cougar, are within Transport Canada's authority. They are issued a Certificate of Airworthiness to conduct operations pursuant to the requirements set out in *CAR*.

It is also significant to note that Transport Canada established the Canadian Aviation Regulation Advisory Council (CARAC) as a joint undertaking between the federal government and the aviation community to streamline the approach to consultation and rulemaking and improve its regulatory regime. CARAC's prime objective is to assess and recommend potential regulatory changes through cooperative rulemaking activities. All recommendations for change to the aviation regulatory system must also be made with a view to maintaining or improving aviation safety in Canada.

**APPENDIX B:**  
**Features of the Sikorsky S-92A**

## Features of the Sikorsky S-92A

### Overview

- Flaw/Damage Tolerant Design
  - The enhanced safety requirements of the FAA and Joint Aviation Authorities (JAA) require that the Sikorsky S-92A be designed to withstand damage from flawed, damaged, scratched, corroded or dented parts:
    - Critical parts are purposely scratched, corroded or dented, then tested to ensure that parts maintain their strength
    - Small flaws (0.005 inch) are qualified for 30,000 hour life with no cracks allowed to form
    - Larger damage and corrosion (0.040 inch) is qualified for at least 1250 flight hours with no cracks allowed to form
    - Composites are tested with built-in voids and hammer blows
- Rotor Ice Protection System
  - The Sikorsky S-92A offers the most modern ice protection system ever designed for a helicopter. Extensive testing in the offshore operations in the East Coast of Canada and in Alaska has proven the fully automatic system to be very effective in the prevention and removal of ice.
- State-of-the-Art Cockpit
  - The “clean-sheet” design of the Sikorsky S-92A permitted the design of a cockpit that rivals most modern jetliners. The Engine Indicating Caution Advisory System provides automatic alerting and system information for virtually every system installed in the helicopter.
- Enhanced Ground Proximity Warning System
  - Standard equipment on the Sikorsky S-92A includes an Enhanced Ground Proximity Warning System. Over the past several years, this equipment has saved a countless number of lives by providing timely warnings of approaching water or terrain.
- Enhanced Passenger Survivability - improved crashworthiness
  - The Sikorsky S-92A was designed with crashworthy seats and crashworthy landing gear. Both systems are designed to absorb crash energy during an accident, thereby reducing the severity of injuries to the occupants on board.
- Enhanced Emergency Egress
  - The Sikorsky S-92A is fitted with an emergency exit at *every* row of seats, on both sides of the helicopter fuselage. In the event of an offshore ditching, this safety feature offers an unprecedented availability of choice of emergency exits:
    - Four emergency exits FAA and JAA Type III or larger
    - Ten push out windows 42.7 x 50.8 cm (16.8” x 20.0”)
    - Escape area is 530% larger than FAA and JAA requirement

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- Enhanced Bird Strike Protection
  - Continued safe flight despite 2.2 pound (1 kg) bird strike at maximum speed of 165 knots
- Crash Resistant Fuel Systems
  - The Sikorsky S-92A offers a safer fuel system design due to the fact the main fuel tanks located in the sponsons are external to the passenger cabin and they are fitted with self-sealing break-away shut-off valves.
- Dynamic Seat Testing for Passenger and Crew Seats
  - Designed to absorb impact force up to 16 Gs - A 16 G seat is tested in a manner that simulates the loads that could be expected in an impact-survivable accident. Two separate dynamic tests are conducted to simulate two different accident scenarios: one in which the forces are predominantly in the vertical downward direction and one in which the forces are predominantly in the longitudinal forward direction.
- Engine Turbine Burst Protection
  - As turbines have high energy and can burst and destroy surrounding systems, the S-92A has detailed designs to deal with such bursts vastly reducing the hazard of such failures
- Enhanced Lightning Strike Protection
- High Intensity Radiated Field Protection
  - Critical electronic systems are protected from dangerous electromagnetic interference
    - Electromagnetic interference hardened equipment bays
    - Extensive electrical/electronic qualification
    - Over-braided electrical and avionics harnesses
- Improved Life Raft System
  - The Sikorsky S-92A is fitted with two life-rafts that can be deployed either electrically or mechanically. They are positioned in the forward section of each sponson. The two 14-person rafts can each hold up to 21 persons (50% overload capacity)

### **Passenger capacity and comfort**

- Enhanced Passenger Comfort
  - The larger cross section of the Sikorsky S-92A offers passengers room and comfort more closely associated with a fixed wing commuter aircraft.

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- Enhanced Environmental Control System
  - The Sikorsky S-92A offers an excellent heating and ventilation system for both the cockpit and main cabin. The optional air conditioning system enhances passenger comfort during summer-time operations.
- Active Vibration Control System
  - The system makes both cockpit and cabin environments smoother.
- Actuators
  - Actuators on the aircraft cancel structural vibration as measured by accelerometers.

### **Speed and range**

- Reduced Number of Flights
  - Considering the fact that the passenger carrying capacity of the Sikorsky S-92A is almost double that of the Super Puma (16-19 passengers versus 8-10), the number of flights to the offshore installations has been notably reduced, which translates into reduced risk.
- Reduced Number of Helideck Landings
  - The reduced number of overall flights has also reduced the number of landings at the offshore facilities, which translates into reduced risk to everyone involved with helideck operations.

### **Cargo capability and flexibility**

- Enhanced baggage capacity - large external cargo/baggage area, which is easily loaded with the full-width overhead door and a hydraulically lowered ramp
- 140 cubic feet of cargo space
- Removable bulkhead, shelf, netting
- Total capacity of 100 pounds: 300 pounds (shelf) and 700 pounds (ramp)
- Loading/unloading through overhead door and/or by lowering ramp
- High capacity actuators (200 psf floor)
- Wide open standup accessibility to the baggage
- Main cabin door fork lift capability

### **Maintenance support**

- Canadian-Based Field Service Representative
  - Full-time assigned representatives
  - On call 24 hours a day
  - Front line support for all matters operational, maintenance and logistics
  - Guidance, training and factory liaison for technical and material support

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- Customer Support Manager
  - Responsible for delivery of all product support items and resolution of all customer issues

### **Enhanced S-92A Flotation Gear**

- Enhanced Emergency Flotation System
  - The Sikorsky S-92A offers a standard three-float Emergency Flotation System which is certified to sea state 4. The Enhanced Flotation System available from Sikorsky has demonstrated sea state 5, and limited sea state 6, capability in simulation. The flotation system is designed to allow time and stability to evacuate the helicopter in the event of a water landing:
    - Exceeds all FAA and JAA stability requirements
    - Deploys automatically or manually
    - Safeguarded against spontaneous/ inadvertent deployment

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**APPENDIX C:**  
**CGSB Survival Suit Research Topics**

# Offshore Helicopter Safety Inquiry

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### CGSB Survival Suit Research Topics

In its review of the current CGSB standard with respect to helicopter passenger transportation suits, the National Review Committee has identified the following research topics:

- Water Ingress
  - Develop a testing protocol which more realistically contemplates helicopter egress
  - Consider leakage modelling to determine whether leakage rates are linear
- Escape Buoyancy
  - Develop the appropriate buoyancy level using dynamic scenarios
- Thermal Protection
  - Determine performance of existing standards in a simulated dynamic environment (including air temperature, wave, wind and water ingress)
  - Test the relationship between mannequin versus human measurements under simulated sea conditions
- Hand Protection
  - Conduct cold water hand dexterity testing to determine the time needed to perform key survival tasks
  - Determine optimal thermal requirements for gloves that could be worn to provide the hand dexterity required while performing key survival tasks
- Spray Shield
  - Review existing test methodology for improvement opportunities
- Floating Stability
  - Determine impacts of wave frequency on stable floating position
- Vertical Positioning
  - Determine impacts of wave frequency on vertical positioning
- Colour
  - Determine if ISO colour standards should be adopted

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**APPENDIX D:**

**Agenda for the Helicopter Operations Safety Forum**

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## Agenda for the Helicopter Operations Safety Forum

### Morning Session I: Operations Overview

Objective: Cougar will present an overview on various operations and maintenance-related subjects for the purpose of providing OHS Committee members with a comprehensive update on matters that are believed to be of interest in regards to the safety of offshore travel by helicopter. This session may include:

1. Helicopter Base Tour
2. Flight Operations Update
  - o Flight planning/scheduling including flight interruption issues
  - o In-flight procedures
3. Equipment and Maintenance
  - o Safety aspects of flight operations (aircraft, SAR)
  - o Overview of maintenance program
  - o Overview of the management of ASB and AD process
  - o Discussion on any significant maintenance challenges
  - o Equipment and technology updates and improvements
4. Hazard/Incident Update (Regional/Global)
  - o Update on any operational or equipment related incidents
  - o Safety performance update on key performance indicators
5. Question and Answer

### Afternoon Session II: Helicopter Safety Update

Objective: Various presenters will provide an update on regulatory matters, research and development initiatives, safety performance and industry trends for the purpose of providing OHS Committee members with a comprehensive update on topics related to the safety of offshore travel by helicopter. This session may include:

1. Regulatory Update from the C-NLOPB and Transport Canada
2. CAPP Update
  - o Standards, guidelines, research and initiatives
3. Guest Speakers
4. Operator Update
  - o Safety Performance
  - o Operations Update
5. Question and Answer

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**APPENDIX E:**  
**Sample Airworthiness Directive**

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[Federal Register: December 4, 2009 (Volume 74, Number 232)]

[Rules and Regulations]

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[DOCID:fr04de09-6]

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2009-1130; Directorate Identifier 2009-SW-40-AD; Amendment 39-16130; AD 2009-25-10]

RIN 2120-AA64

#### Airworthiness Directives; Sikorsky Aircraft Corporation (Sikorsky) Model S-92A Helicopters

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD) for the Sikorsky Model S-92A helicopters. This action requires a one-time visual inspection of the main gearbox (MGB) lube system filter assembly for oil filter damage. This action also requires if either the primary or secondary oil filter is damaged, replacing both filters, all packings, and the studs before further flight. This AD also requires replacing the oil filter bowl within 30 days after replacing a damaged filter and a daily leak inspection for an oil leak (no oil leaks allowed) during that 30-day interim period. This amendment is prompted by three reports of damaged oil filters or packings resulting from installing the filter assembly with an oversized packing possibly because of incorrect part numbers in the maintenance manual. Based on a previous accident investigation, failure of the oil filter bowl or mounting studs can result in sudden and complete loss of oil from the MGB. The actions specified in this AD are intended to prevent complete loss of oil from the MGB, failure of the MGB, and subsequent loss of control of the helicopter.

**DATES:** Effective December 21, 2009.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of December 21, 2009.

Comments for inclusion in the Rules Docket must be received on or before February 2, 2010.

**ADDRESSES:** Use one of the following addresses to submit comments on this AD:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

- **Hand Delivery:** U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You may get the service information identified in this AD from Sikorsky Aircraft Corporation, Attn: Manager, Commercial Technical Support, mailstop s581a, 6900 Main Street, Stratford, CT, telephone (203) 383-4866, e-mail address [tsslibrary@sikorsky.com](mailto:tsslibrary@sikorsky.com), or at <http://www.sikorsky.com>.

Examining the Docket: You may examine the docket that contains the AD, any comments, and other information on the Internet at <http://www.regulations.gov>, or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Operations office (telephone (800) 647-5527) is located in Room W12-140 on the ground floor of the West Building at the street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Kirk Gustafson, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine and Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7190, fax (781) 238-7170.

**SUPPLEMENTARY INFORMATION:** This amendment adopts a new AD for the Sikorsky Model S-92A helicopters. This action requires a one-time visual inspection of the MGB lube system filter assembly for oil filter damage. This action also requires if either the primary or secondary oil filter is damaged, replacing both filters, all packings, and the studs before further flight. This action also requires replacing the oil filter bowl within 30 days after replacing a damaged filter and a daily inspection for an oil leak (no oil leaks allowed) during that 30-day interim period. This amendment is prompted by three reports of damaged oil filters or packings resulting from operating with an oversized packing possibly because of incorrect part numbers in the maintenance manual. Sikorsky has issued a temporary revision, T-Rev 63-19, to the maintenance manual to correct any errors. Installing the filter assembly with an oversized packing (also known as an O-ring) in the oil filter double bypass valve can produce excessive assembly and fatigue loads in the oil filter bowl or the mounting studs that secure the oil filter bowl to the MGB. Based on rig testing, these conditions can result in reduced fatigue life in the studs and the oil filter bowl. Based on information from a previous accident investigation, failure of the oil filter bowl or mounting studs can result in sudden and complete loss of oil from the MGB. This condition, if not corrected, could result in complete loss of oil from the MGB, failure of the MGB, and subsequent loss of control of the helicopter.

We have reviewed Sikorsky Alert Service Bulletin (ASB) No. 92-63-018, dated July 1, 2009, and No. 92-63-019, dated July 14, 2009. ASB No. 92-63-018 specifies a one-time visual inspection for a damaged oil filter element. ASB No. 92-63-019 specifies replacing the MGB filter bowl on those helicopters that have previously been found to have a damaged MGB oil filter. ASB No. 92-63-019 also requires a daily visual inspection of the MGB lube system filter assembly for oil leaks (no leaks allowed) until the oil filter bowl is replaced.

This unsafe condition is likely to exist or develop on other helicopters of the same type design. Therefore, this AD is being issued to prevent complete loss of oil from the MGB, failure of the MGB, and subsequent loss of control of the helicopter. This AD requires visually inspecting the oil filter for damage and replacing any filter, packings, and mounting studs before further flight if the filter is damaged. The AD also requires replacing the oil filter bowl within 30 days after a damaged filter has been replaced. Do the actions by following specified portions of the service bulletin described previously.

The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the controllability or structural integrity of the helicopter. Therefore, a one-time visual inspection of the oil filter within 7 days is required. If the visual inspection finds a damaged filter, replacing the damaged filter, packings, and filter bowl mounting studs before further flight are also required. Also, a one-time replacement of the oil filter bowl is required within 30 days

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after replacing a damaged oil filter. All of these are very short compliance times. Therefore, this AD must be issued immediately.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

We estimate that this AD will affect 44 helicopters. Assuming a one-time inspection shows no damage to 39 of the helicopters, it will take about 1.5 work hours to remove, inspect, and reinstall each oil filter assembly and packing for 39 helicopters. Assuming oil filter damage is discovered in 5 helicopters, the additional required actions will take about:

- 1.5 work hours to remove, inspect, and reinstall each filter assembly and packing, and
- 3 work hours to replace the mounting studs.

Assuming the bowl replacement is deferred on all 5 helicopters for 30 days, it will take about:

- 15 work hours for 30 daily (.5 work hour each) inspections for leakage, and
- 1 work hour to replace the oil filter bowl.

The average labor rate is \$80 per work hour. Required parts will cost about \$817 for the oil filter assembly, \$81 for the filter bowl mounting studs, and \$4,568 for the filter bowl per helicopter. Based on these figures, we estimate the total cost impact of the AD on U.S. operators to be \$40,210.

### Comments Invited

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any written data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2009-1130; Directorate Identifier 2009-SW-40-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD. We will consider all comments received by the closing date and may amend the AD in light of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of our docket Web site, you can find and read the comments to any of our dockets, including the name of the individual who sent the comment. You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

### Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this AD. See the AD docket to examine the economic evaluation.

**Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

**PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

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**FAA**  
**Aircraft Certification Service**

## AIRWORTHINESS DIRECTIVE

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

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**2009-25-10 Sikorsky Aircraft Corp.:** Amendment 39-16130. Docket No. FAA-2009-1130; Directorate Identifier 2009-SW-40-AD.

**Applicability:** Model S-92A helicopters, serial numbers 920006 through 920109, certificated in any category.

**Compliance:** Required as indicated, unless done previously.

To prevent complete loss of oil from the main gearbox (MGB), failure of the MGB, and subsequent loss of control of the helicopter, do the following:

(a) Within 7 days, inspect the MGB lube system filter assembly for damage to the primary and secondary oil filters by following the Accomplishment Instructions, paragraphs 3.A.(4) and through 3.A.(6) of Sikorsky Alert Service Bulletin (ASB) No. 92-63-018, dated July 1, 2009 (ASB No. 92-63-018). For purposes of this AD, "damage" is the presence of those conditions described in paragraphs 3.A.(5) and 3.A.(8) of the Accomplishment Instructions of ASB No. 92-63-018.

(b) If you find damage in the primary oil filter element (part number (P/N) 70351-38801-102) as follows: "wavy pleats" as depicted in Figure 1, internal buckling or a crack as depicted in Figure 2, or indented dimples as depicted in Figure 3 of ASB No. 92-63-018 or damage in the secondary oil filter element (P/N 70351-38801-103) as follows: "wavy pleats" as depicted in Figure 4 or an elongated cup as depicted in Figure 5 of ASB No. 92-63-018, replace both the primary and secondary filters, packings, and filter bowl mounting studs, service the transmission and perform a functional test before further flight by following the Accomplishment Instructions, paragraphs 3.C.(1) through 3.C.(23), of ASB No. 92-63-018, except this AD does not require you to return removed studs to HSI nor does it require you to contact the manufacturer. If you find damage in the tapped holes or in the MGB housing locking counterbore, contact the Boston Aircraft Certification Office for an approved repair.

(c) If you find no damage in the primary or secondary oil filter element, before further flight, replace the packings, service the transmission, and perform a functional test by following the Accomplishment Instructions, paragraphs 3.B.(1) through 3.B.(4) of ASB No. 92-63-018.

(d) For those helicopters on which the primary or secondary oil filter element and filter bowl mounting studs were replaced as required by paragraph (b) of this AD:

(1) Before the first flight of each day until the oil filter bowl, P/N AAC367-16D2A, is replaced, inspect the MGB lube system filter assembly for any oil leak.

(2) Before further flight after any oil leak is detected as required by paragraph (d)(1) of this AD or within 30 days, whichever is earlier, replace the oil filter bowl.

**Note:** Sikorsky ASB No. 92-63-019, dated July 1, 2009, pertains to the subject of this AD.

(e) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Manager, Boston Aircraft Certification Office, FAA, ATTN: Kirk Gustafson, Aviation Safety Engineer, Engine and Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7190, fax (781) 238-7170, for information about previously approved alternative methods of compliance.

(f) The Joint Aircraft System/Component (JASC) Code is 6300: Main Rotor System.

(g) Inspecting and replacing the main gearbox lube system assembly parts shall be done by following the specified portions of Sikorsky Alert Service Bulletin (ASB) No. 92-63-018, dated July 1, 2009. The Director of the Federal Register approved this incorporation by reference under 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Sikorsky Aircraft Corporation, Attn: Manager, Commercial Technical Support, mailstop s581a, 6900 Main Street, Stratford, CT, telephone (203) 383-4866, e-mail address [tsslibrary@sikorsky.com](mailto:tsslibrary@sikorsky.com), or at <http://www.sikorsky.com>. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(h) This amendment becomes effective on December 21, 2009.

Issued in Fort Worth, Texas, on November 25, 2009.  
Lance T. Gant,  
Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.  
[FR Doc. E9-28863 Filed 12-3-09; 8:45 am]

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<sup>1</sup> International Association of Oil & Gas Producers, “A Guide to selecting appropriate tools to improve HSE Culture” (Report No. 435, March 2010), online: <<http://www.ogp.org.uk/pubs/435.pdf>> [OGP, “Guide”] at p.1.

<sup>2</sup> Aerosafe Risk Management, “Overview of best practice in Organizational & Safety Culture” (Report prepared for the Inquiry, May 2010) [Aerosafe, “Safety Culture”] at p. 14.

<sup>3</sup> Helicopter Operations Task Force, “S-92A Return to Service Assessment: Final Report” (May 5, 2009) at Appendix 1: Helicopter Operations Task Force Charter (Exhibit P-00117-100).

<sup>4</sup> *Ibid.*

<sup>5</sup> OGP, “Guide”, *supra* note 1 at p. ii.

<sup>6</sup> *Canada-Newfoundland Atlantic Accord Implementation Act*, S.C. 1987, c. 3; *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act*, R.S.N.L. 1990 c. C-2.

<sup>7</sup> Testimony of Paul Sacuta, Joint Operator Panel (January 11, 2010) at p. 59.

<sup>8</sup> Aerospace Risk Management, “Review of Selected Offshore Petroleum Regulatory Regimes” (Report prepared for the Inquiry, May 2010) [Aerosafe, “Regulatory Regimes”] at p. 13.

<sup>9</sup> *Ibid.* at p. 36.

<sup>10</sup> *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act*, S.N.S. 1987, c. 3; *Canada-Nova Offshore Petroleum Resources Accord Implementation Act*, S.C. 1988, c.28.

<sup>11</sup> Governments of Canada, Newfoundland & Labrador and Nova Scotia, “Proposed Amendments to the Accord Acts to Incorporate an Offshore Occupational Health and Safety Regime” (April 2010) at p. 4.

<sup>12</sup> Aerosafe Risk Management, HSI Presentation on Risk Profile (Exhibit P-00058) at slides 54-57.

<sup>13</sup> *Newfoundland Offshore Drilling and Production Regulations*, SOR/2009-316 [Federal *Drilling and Production Regulations*], s. 5; *Offshore Petroleum Drilling and Production Newfoundland and Labrador Regulations, 2009*, N.L.R. 120/09 [NL *Drilling and Production Regulations*], s. 6.

<sup>14</sup> Joint Operator Panel Presentation (Exhibit P-00116) at slide 42.

<sup>15</sup> *Canadian Aviation Regulations Standard 325-Heliports and the Heliport and Helideck Standards and Recommended Practices* (TP 2586E); American Petroleum Institute, *API-RP-2L Recommended Practice for Planning, Designing and Constructing Heliports for Fixed Offshore Platforms*.

<sup>16</sup> Helicopter Operations Manual (Exhibit C-00141) (Suncor); (Exhibit C-00133) (HMDC); (Exhibit C-00149) (Husky).

<sup>17</sup> Federal *Drilling and Production Regulations*, s. 6(c) and NL *Drilling and Production Regulations*, s. 7(c), *supra* note 13.

<sup>18</sup> See Joint Operator Panel Presentation (Exhibit P-00116) at slide 29. Components of the safety plan include written policies, programs and procedures in the following areas:

- Safety Management
- Basis of Safe Operations in Design
- Organizational Structure (authorities/command)
- Hazard/Risk Identification and Assessment
- Facilities and Equipment
- Operations and Maintenance
- Training and Qualifications
- Command Structure and Contingency Planning
- Physical Environmental Monitoring

<sup>19</sup> Federal *Drilling and Production Regulations*, s. 8 and NL *Drilling and Production Regulations*, s. 9, *supra* note 13.

<sup>20</sup> Aerosafe, “Safety Culture”, *supra* note 2 at p. 1.

<sup>21</sup> OGP, “Guide”, *supra* note 1 at p.1.

<sup>22</sup> Aerosafe, “Safety Culture”, *supra* note 2 at p. 10.

<sup>23</sup> Testimony of Paul Sacuta, HMDC (January 18, 2010) at p. 5-7, 36-37; Testimony of John Fraser, HMDC (January 18, 2010) at p. 123-24; Testimony of Gary Vokey, Suncor (January 20, 2010) at p. 18; Testimony of Michele Farrell, Suncor (January 20, 2010) at p. 58-59; Testimony of Brian Stacey, Suncor (January 20, 2010) at p. 83-87; Testimony of Trevor Pritchard, Husky (January 25, 2010) at p. 9, 24-25; Testimony of Don Williams, Husky (January 25, 2010) at p. 124-25; Testimony of Ken Dyer, Husky (January 25, 2010) at p. 167-68;

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Testimony of Brian Murphy, CEP (February 9, 2010) at p. 11-12; Testimony of Sheldon Peddle, CEP (February 9, 2010) at p. 104; Testimony of Stan Hussey (February 9, 2010) at p. 229.

<sup>24</sup> Jake Molloy, "The Elusive Culture of Safety" (Paper presented to the Conference on HSE Risk Management & Process Safety for Oil & Gas, Aberdeen, UK, February, 2008), online: <[http://www.oilc.org/download/OILC\\_ProcessSafety.pdf](http://www.oilc.org/download/OILC_ProcessSafety.pdf)> at p.1.

<sup>25</sup> Aerosafe, "Safety Culture", *supra* note 2 at p. 14.

<sup>26</sup> Presentation of John P. Andrews, C-NLOPB (Exhibit P-00029) at slide 8.

<sup>27</sup> Presentation of Howard Pike, C-NLOPB (Exhibit P-00030) at slides 22, 25-26; Testimony of Howard Pike, C-NLOPB (February 17, 2010) at p. 257-266.

<sup>28</sup> Presentation of Howard Pike, *ibid.* at slides 22, 25-27.

<sup>29</sup> Testimony of Paul Sacuta, Joint Operator Panel (January 11, 2010) at p. 218; Testimony of Paul Barnes, CAPP (November 17, 2009) at p. 73; Testimony of Michele Farrell, Suncor (January 21, 2010) at p. 93.

<sup>30</sup> C-NLOPB, Safety Plan Guidelines, s. 7.1.2.

<sup>31</sup> Aerosafe, "Regulatory Regimes", *supra* note 8.

<sup>32</sup> Testimony of Colonel Paul Drover, DND (January 27, 2010) at p. 153.

<sup>33</sup> Testimony of Colonel Paul Drover, DND (January 28, 2010) at p. 46-50, 78-79.

<sup>34</sup> Testimony of Rick Burt, Cougar (February 3, 2010) at p. 226.

<sup>35</sup> Testimony of Robert Decker (November 5, 2009) at p. 86.

<sup>36</sup> See each Operator's Helicopter Operations Manual, *supra* note 16.

<sup>37</sup> Kelley Consultancy, "Survival After Helicopter Ditching" (December 2000), online:

<<http://www.docstoc.com/docs/26241455/SURVIVAL-AFTER-HELICOPTER-DITCHING/>>

at p. 31. See also Wisense Ltd.'s "Assessment of the Dacon Scoop Rescue System Report" and associated presentation which discussed trials involving the use of the Dacon Scoop in the North Sea. The trials showed that the Dacon Scoop was very effective at picking up personnel from the sea. For example, the results from trials in the Central North Sea were as follows:

- 6 mannequins picked up in 23 minutes at 7.5 metre sea wave height / 38 knots winds
- 5 mannequins picked up in 3 minutes at 5 metre sea wave height / 30 knot winds
- 6 mannequins picked up in 9 minutes at 5 metre sea wave height / 33 knot winds

An analysis of this data suggests that under current sea state standards, passengers in the water after a ditching have a high probability of recovery within a conservative survival period.

<sup>38</sup> For the purpose of the discussion on flotation system, it is understood that the sea state criteria pertaining to the flotation system is defined by the World Meteorological Organization. It states that a Sea State 5 condition involves a wave height of 2.5 to 4 metres and is characterized as "rough". A Sea State 6 condition involves a significant wave height in the range of 4 to 6 metres and is characterized as "very rough seas".

<sup>39</sup> Testimony of Howard Pike, C-NLOPB (February 17, 2010) at p. 178-86.

<sup>40</sup> Testimony of Gary Vokey, Trevor Pritchard and Paul Sacuta, Joint Operator Panel (January 11, 2010) at p. 181-186.

<sup>41</sup> Based on internal data provided by Cougar to the Operators for the 12-month period of July 2009 to June 2010.

<sup>42</sup> Testimony of Paul Sacuta, Joint Operator Panel (January 11, 2010) at p. 225.

<sup>43</sup> Presentation of Robert J. Rutherford, OSSC (Exhibit P-00011) at slide 20.

<sup>44</sup> Joint Operator Panel Presentation (Exhibit P-00116) at slide 83.

<sup>45</sup> *Ibid.* at slide 85.

<sup>46</sup> Susan Coleshaw, "Stress Levels Associated with HUET: The Implications of Higher Fidelity Training Using Exits" (Paper prepared for OPITO, December 2006), online:

<[http://www.opito.com/uk/library/documentlibrary/huet\\_stress\\_report.pdf](http://www.opito.com/uk/library/documentlibrary/huet_stress_report.pdf)>. At p. 13, she stated that "[w]hen considering the health impact of stress, the main concern for most people, and the concern with the greatest potential impact is the risk of coronary heart disease."

<sup>47</sup> Joint Operator Panel Presentation (Exhibit P-00116) at slide 78.

<sup>48</sup> See Susan Coleshaw, "Report for the Offshore Helicopter Safety Inquiry" (Report No. SC176, May 2010) (Exhibit P-00213) [Coleshaw, "Report for Inquiry"]. In her report, Ms. Coleshaw provides a tempered view of the requirement for training fidelity. At p. 34, she states:

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*There is much debate regarding the fidelity of training. This may be applied to the similarity of the environmental conditions, the similarity of equipment, and the similarity of tasks undertaken. For example, disorientation is known to be one of the most difficult factors that individuals must learn to cope with in an inverted helicopter. By experiencing disorientation in a controlled environment its impact in a real event can be diminished. However, in a real emergency it might be dark, there could be oil floating on the water, and there may well be damage to the helicopter structure in all but controlled landing on the water. It would therefore not be sensible or practical to recreate all aspects of this environment in training.*

And at p. 35, she notes the view expressed by Michael Taber in relation to HUET fidelity is not universally accepted:

*That said, it has been argued that exact physical fidelity is not needed. Summers (1996), in a study of procedural skill decay and optimal retraining periods in helicopter underwater escape training, considered that physical fidelity was not necessarily required for effective transfer of training from the simulator to the real environment. She considered that task analysis was more important when identifying the information needed for learning i.e. it was more important to physically go through the actions required to locate an exit and operate the exit mechanism than for the exit door to look like a real exit door. Summers stated that the most important factors in simulator training were operational realism and functional similarity.*

Further, as noted by the Presentation of OSSC (Exhibit P-00011) at slide 44, the purpose of helicopter escape training is to provide offshore workers with exposure to the disorientation that can result from inversion and sinking of a helicopter, and the basic skills to respond to such an event.

<sup>49</sup> Newfoundland Offshore Area Petroleum Geophysical Operations Regulations, SOR/95-334, s. 15; Offshore Area Petroleum Geophysical Operations Newfoundland and Labrador Regulations, N.L.R. 16/97, s. 15.

<sup>50</sup> Draft Petroleum Occupational Safety and Health Regulations – Newfoundland, s. 12.18.

<sup>51</sup> C-NLOPB, Guidelines Respecting Drilling Programs at p. 20-21.

<sup>52</sup> Canadian General Standards Board (1999), Helicopter Passenger Transportation Suit Systems, CAN/CGSB65.17-99.

<sup>53</sup> Jonathan Power and António Simões Ré, National Research Council of Canada, “Human Performance in Immersion Suits” (May 2010) (Exhibit P-00220) at p. 2.

<sup>54</sup> *Ibid.* at p. 7, 12.

<sup>55</sup> Coleshaw, “Report for Inquiry”, *supra* note 48 at p. 7.

<sup>56</sup> Letter from TSB to Transport Canada (9 December 2009) (Exhibit P-00119).

<sup>57</sup> See summary in Michael Taber, “Offshore Helicopter Safety Report” (2010) (Exhibit P-00216) at p. 40.

<sup>58</sup> Coleshaw, “Report for Inquiry”, *supra* note 48 at p. 16-17.

<sup>59</sup> Occupational Health and Safety Act, R.S.N.L. 1990, c. O-3, ss. 6-7:

6. A worker, while at work, shall take reasonable care to protect his or her own health and safety and that of workers and other persons at or near the workplace.

7. A worker

(a) shall co-operate with his or her employer and with other workers in the workplace to protect

(i) his or her own health and safety,

(ii) the health and safety of other workers engaged in the work of the employer,

(iii) the health and safety of other workers or persons not engaged in the work of the employer but present at or near the workplace;

(a.1) shall use devices and equipment provided for his or her protection in accordance with the instructions for use and training provided with respect to the devices and equipment;

(b) shall consult and co-operate with the occupational health and safety committee, the worker health and safety representative or the workplace health and safety designate at the workplace; and

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(c) *shall co-operate with a person exercising a duty imposed by this Act or regulations.*

<sup>60</sup> ASB 92-63-018 (July 2009) – maintenance parts numbering for MGB filter servicing and ASB 92-63-020 (September 2009) – gearbox mounting feet inspection requirements.

<sup>61</sup> Based on internal data provided by Cougar to the Operators for 2009.



**OFFSHORE HELICOPTER SAFETY INQUIRY**

**WRITTEN SUBMISSIONS FOR**

**COUGAR HELICOPTERS INC.**

**(A VIH AVIATION GROUP COMPANY)**

**Submitted by: Martin Whalen Hennebury Stamp  
Counsel for Cougar Helicopters Inc.**

**OFFSHORE HELICOPTER SAFETY INQUIRY**

**WRITTEN SUBMISSIONS FOR**

**COUGAR HELICOPTERS INC.**

**(A VIH AVIATION GROUP COMPANY)**

**July 30, 2010**

**PREAMBLE**

In addition to its other operations, Cougar Helicopters Inc. ("Cougar") operates within the offshore oil and gas support market and, pursuant to certain Helicopter support contracts, provides helicopter transportation services including passenger movement to various oil company offshore operations from its St. John's base.

The tragic accident on 12 March 2009 involving the loss of Cougar's Flight 491 has profoundly impacted the lives of the families of the Cougar pilots and the passengers who perished that day, as well, the life of Robert Decker, the sole survivor, and his family. To all those so deeply affected, including members of the Cougar family, Cougar management again extend their heartfelt condolences and sympathies.

Cougar appreciates the resilience and strength of spirit shown by all who continue to travel with us to the Newfoundland and Labrador offshore. Cougar reaffirms its unwavering commitment to continue to exercise the greatest diligence in matters affecting the safety of our pilots and passengers.

Cougar has welcomed the efforts of the Offshore Helicopter Safety Inquiry and has endeavored to fully cooperate with and assist the Inquiry Commissioner and officials and to advance the important mandate of the Inquiry.

Cougar's personnel have already presented extensive oral and documentary evidence to the Inquiry in connection with its flight operations including those associated with its maintenance, dispatch, and passenger movement activities and most particularly, a thorough presentation of Cougar's Safety Management System and related risk management tools.

Cougar will present written submissions to only those issues enumerated by the Commission of Inquiry which directly involve with the role of Cougar in the offshore oil industry. Cougar reserves the opportunity to present further submissions during the oral

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submissions portion of the inquiry process, particularly with respect to any concerns which may be raised in the written submissions of the other parties.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #1**

**Issue:**

**SHOULD THERE BE A DEGREE OF SEPARATION WITHIN THE C-NLOPB BETWEEN OFFSHORE HELICOPTER REGULATION AND OTHER OFFSHORE INDUSTRY REGULATION?**

**Cougar Submission to Issue #1**

Helicopter operations within Canada including those offshore, fall under the jurisdiction of Transport Canada. Cougar would respectfully caution against the creation of a second or parallel helicopter operations regulatory regime, particularly if the additional oversight were to be undertaken without the same level of knowledge, training and expertise as expected from Transport Canada aviation safety officials.

Cougar respectfully submits that the appropriate role of C-NLOPB in respect of helicopter crew and passenger safety lies in its assessment of helicopter safety requirements directly and specifically related to offshore oil company passenger training and appropriate personal protective equipment for offshore oil workers.

The role of C-NLOPB would, in the opinion of Cougar, be best achieved through appropriate dialogue and exchange between C-NLOPB and Transport Canada. Cougar does not envisage that such role on the part of C-NLOPB would require regulatory separation from the C-NLOPB's other roles and responsibilities.

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #2

### Issue:

**ARE THE RISK MANAGEMENT SYSTEMS OF OIL OPERATORS AND HELICOPTER OPERATORS SUFFICIENT AND ADEQUATE TO ENSURE THE RISKS OF HELICOPTER TRANSPORT ARE AS LOW AS REASONABLY PRACTICABLE IN THE NEWFOUNDLAND AND LABRADOR OFFSHORE?**

### Cougar Submission to Issue #2

Cougar can only properly speak to the risk management systems which it has implemented. From its perspective, Cougar submits that it has put a risk management system in place which meets and often exceeds the regulatory requirements currently in place. Cougar submits that the risk management system in place ensures that the risks of helicopter transport are as low as reasonably practicable in Newfoundland and Labrador.

During phase one of this Inquiry, Cougar made a complete copy of its safety management system available, on a confidential basis. To assist in responding to this phase of the Inquiry, we have attached as Appendix "A" a summary of some of the salient principles and procedures which are found in the complete SMS. We request that this appendix receive the same confidential treatment as the complete SMS.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #3**

**Issue:**

**WHAT IS THE ROLE OF ORGANIZATIONAL SAFETY CULTURE IN OFFSHORE HELICOPTER TRANSPORT?**

**Cougar Submission to Issue #3:**

Safety culture is the most important tool an organization can possess in relation to offshore helicopter transport. As Mr. Banks testified, safety culture regulates:

"How an organization behaves when no one is watching"

The safety culture at Cougar is one which places the preservation of life and equipment as the primary corporate goal. The Safety Management System (SMS) in place at Cougar, which was discussed in the response to Issue #2, is a direct product of the safety culture at Cougar. At the same time, the design and implementation of the SMS has further fostered a culture where safety is, at all times, given the highest priority.

A key element of the safety culture at Cougar is the non punitive nature of the SMS. By maintaining focus on safety issues, and not creating blame within the organization, each employee can make safety a priority without fear of undue recrimination for either making a mistake, or identifying a safety concern which requires correction.

Unless all employees are equally committed to the safety culture, the SMS merely represents another set of rules to be followed. Cougar addressed this potential concern by ensuring that all employees were empowered to

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participate fully in the development of the SMS. Again, as Mr. Banks noted:

"It's not ... the management's safety management system. It's everybody's system. It's facilitated and developed by higher management, but everybody within the organization has a play and a participation within it."

The ownership of the SMS by all employees at Cougar is the most tangible manifestation of the safety culture at Cougar.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #4**

**Issue:**

**WHAT ARE THE MOST APPROPRIATE PRACTICES, STANDARDS AND FORMS OF INTERACTION BETWEEN THE C-NLOPB AND THE FOLLOWING:**

- a. INDUSTRY (INCLUDING SUPPLIERS AND PROVIDERS);**
  - b. INDUSTRY ASSOCIATIONS;**
  - c. REGULATORS OF ASSOCIATION SERVICES;**
  - d. OTHER DOMESTIC AND FOREIGN OIL AND GAS REGULATORS; AND**
  - e. WORKER REPRESENTATIVES;**
- AND ARE THESE INTERACTION SUFFICIENT TO ENSURE REQUIREMENTS THAT ARE UNDERSTOOD, TIMELY, ACHIEVABLE AND ENFORCEABLE?**

**Cougar Submission to Issue #4**

To the extent that C-NLOPB practices, standards and forms of interaction are intended to or should deal with Aviation safety, Cougar encourages C-NLOPB to engage directly with oil operators and Transport Canada on such matters.

Cougar must and does comply with all standards contractually set by its oil operator customers and, at a minimum, with all rules, requirements, directives and regulations imposed by Transport Canada.

C-NLOPB through its interaction with operators and Transport Canada may seek to influence these standards.

# Offshore Helicopter Safety Inquiry

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #5

### Issue:

**DOES THE C-NLOPB USE BEST PRACTICES IN RELATION TO ITS REGULATORY ROLE IN HELICOPTER TRANSPORT SAFETY?**

### Cougar Submission to Issue #5

Cougar has no basis to conclude that C-NLOPB does not use best practices in its current regulatory role in respect to helicopter transport safety.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #6**

**Issue:**

**WHAT IS THE APPROPRIATE STANDARD OF FIRST RESPONSE SEARCH AND RESCUE THAT THE C-NLOPB SHOULD REQUIRE OF ALL OPERATORS IN THE NEWFOUNDLAND AND LABRADOR OFFSHORE?**

**Cougar Submission to Issue #6**

Cougar considers the newly adopted first response search and rescue standard to be reasonable and achievable as long as it is able to maintain a dedicated search and rescue helicopter and crew for this specific purpose. The present standard provides for a thirty minute wheels up SAR response after receipt of an emergency notification from a Cougar transport helicopter during normal flight time operations. Outside of normal flight time operations, Cougar's SAR response is sixty minutes wheels up.

There would be no circumstances in which a Cougar passenger transport helicopter operates offshore St. John's when those operations would fall outside of Cougar's normal flight time operations and accordingly, whenever Cougar's passenger helicopter(s) are operating, the Cougar SAR response would be thirty minutes wheels up.

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #7

### Issue:

ARE THERE CIRCUMSTANCES, OTHER THAN DECLARED EMERGENCIES, WHEN A RESCUE HELICOPTER SHOULD BE DISPATCHED TO ASSIST A TRANSPORT HELICOPTER?

### Cougar Submission to Issue #7

In addition to declared emergencies, additional circumstances which would give rise to a Cougar search and rescue response would include any occasion when any transport helicopter flight crew requests assistance or escort. Such request for assistance or escort by flight crew would be at the discretion of the flight crew, or as directed by a procedure or checklist item, and may include circumstances involving a drive train anomaly, warning light, or malfunction; an engine anomaly malfunction or indication; an electrical malfunction in more than one system, such as dual A.C. generator, dual D.C. converter or one A.C. generator and A.P.U.; or in the event of a suspected fire.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #8**

**Issue:**

**SHOULD THERE BE A MORE FORMAL PROTOCOL REGARDING THE ROLES OF THE DEPARTMENT OF NATIONAL DEFENCE AND THE HELICOPTER OPERATOR REGARDING FIRST RESPONSE?**

**Cougar Submission to Issue #8**

There presently exists a Canadian national search and rescue program that is linked to any filed flight plan that is overdue. The national plan also covers Mayday and Pan calls. It would be difficult for Cougar to stipulate additional conditions in addition for those provided in the national plan. It is doubtful whether offshore workers require any additional protective layer of search and rescue response, regardless of who might provide those services.

It should, however, be noted that a request by a transport helicopter flight crew for assistance or escort without the declaration of an emergency would not trigger the engagement of the national plan protocol as it presently exists. While a policy could be adopted to provide notification by Cougar's Operational Control Center to the Joint Rescue Coordination Center in Halifax ("JRCC") in the event that the Cougar SAR aircraft has been dispatched as a result of a request for assistance or escort, it is not known whether such notification would then result in the automatic dispatch of additional SAR equipment by JRCC.

# Offshore Helicopter Safety Inquiry

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #9

### Issue:

**ARE OPERATIONAL LIMITATIONS ON HELICOPTER TRANSPORT, IN ADDITION TO THOSE DICTATED BY TRANSPORT CANADA, REQUIRED TO ENSURE THE STANDARD OF FIRST RESPONSE SEARCH AND RESCUE IS ABLE TO BE MAINTAINED AT ALL TIMES? (NOTE: FOR EXAMPLE, OPERATIONAL SEA STATES, NIGHT FLIGHT AND LOW VISIBILITY.)**

### Cougar Submission to Issue #9

As noted in Cougar's submission in respect to Issue number 6, there would not likely be circumstances in which Cougar could not meet the thirty minute standard of first response during Cougar's normal flight time operations. In addition, Cougar's approach to helicopter transport to and from the offshore is designed to be as safe as reasonably practicable.

Cougar limits its flight operations to those conditions for which the aircraft is certified by Transport Canada. Within these certified conditions, ultimate authority as to whether a passenger flight will operate is in the hands of the Pilot in Command and the Cougar Flight Dispatch, both of whom must agree in order to allow a flight to operate. That determination is only made following a comprehensive risk assessment by the Pilot in Command and the Cougar Flight Dispatcher in advance of each flight and with the input of Cougar's Chief Pilot or Director of Flight Operations in the event of any perceived elevated risk factor. A flight departure is only authorized in circumstances where existing conditions are appropriate for the commencement of the flight and where such conditions are not forecasted to deteriorate within the timeframe allocated for both the St. John's outbound and the return flight.

Further operational limits can be imposed by individual Offshore Platform Installation Managers who by reason of localized adverse conditions in the vicinity of a particular platform can deny helicopter landing at that facility. A passenger flight would not be initiated by Cougar in the face of such adverse conditions. Furthermore, should adverse conditions develop after a flight has been launched, that flight would be returned to St. John's.

Operational factors can vary widely over time and space. Any attempt to regulate to protect against all possibilities will invariably be under-inclusive or overly restricted. The regulatory regime of Transport Canada implicitly recognizes this dilemma and sets standards accordingly.

A key tool ensuring that the risks of helicopter transport remain as low as reasonably practicable in the Newfoundland and Labrador offshore is the exercise of discretion by those who can immediately access the nature of unfolding conditions and act accordingly.

# Offshore Helicopter Safety Inquiry

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #10

### Issue:

SHOULD THE C-NLOP IMPOSE ADDITIONAL OPERATIONAL REQUIREMENTS ON OPERATORS TO ENSURE THAT THE RISK FROM HELICOPTER TRAVEL IN THE NEWFOUNDLAND AND LABRADOR OFFSHORE IS AS LOW AS IS REASONABLY PRACTICABLE? (NOTE: FOR EXAMPLE, SAFETY SYSTEMS, AUXILIARY FUEL TANKS, LOCATION OF AND RESTRICTIONS ON SEATING, SAFETY SCREENING, ETC.)

### Cougar Submission to Issue #10

While this is primarily an issue for oil operators, Cougar does not consider it necessary to impose any additional operational requirements on oil operators to ensure that the risk associated helicopter travel in the Newfoundland and Labrador offshore is as low as is reasonably practicable.

Cougar flight operations are, at a minimum, conducted in full compliance with all operational limitations, restrictions and conditions imposed by Transport Canada including specifications for and location of any necessary auxiliary fuel tank. Such rules and restrictions are applicable throughout Canada within Transport Canada's jurisdiction, and in general, Cougar's flight operations also meet or exceed international standards (FAA, EASA).

Cougar passenger helicopters flying offshore St. John's are already configured so as to provide each passenger seat row with its own push out window.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #11**

**Issue:**

**CAN HELICOPTER TRANSPORT SAFETY BE AFFECTED BY THE CAPACITY OF THE HELICOPTER TRANSPORT FLEET AND, IF SO, WHAT ROLE SHOULD THE C-NLOPB PLAY IN THE DETERMINATION OF FLEET CAPACITY?**

**Cougar Submission to Issue #11**

In cooperation with the oil company operators, Cougar's St. John's fleet capacity is maintained at a level to ensure that it can safely meet its contractual transportation obligations while, in every circumstance, and at the very minimum, meeting all Transport Canada's operational limitations, conditions and regulations and operating well within the certified limits of its contracted aircraft.

# Offshore Helicopter Safety Inquiry

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #12

### Issue:

WHAT ARE THE APPROPRIATE STANDARDS OF OFFSHORE HELICOPTER SAFETY TRAINING TO ENSURE THAT THE RISK TO PASSENGERS IS AS LOW AS IS REASONABLY PRACTICABLE, BOTH DURING TRAINING AND HELICOPTER TRANSPORT?

### Cougar Submission to Issue #12

While passenger training is not a Cougar responsibility, Cougar encourages appropriate passenger training and training certification and recertification.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #13**

**Issue:**

**WHAT PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING IS NECESSARY FOR HELICOPTER PASSENGERS AND PILOTS; WHAT ARE THE STANDARDS, AND SHOULD THE C-NLOPB REQUIRE GUIDELINES TO ENSURE SUCH EQUIPMENT AND CLOTHING IS PROPERLY FITTED?**

**Cougar Submission to Issue #13**

Personal protective equipment mandated by Transport Canada for pilots includes an immersion suit and lifevest. In addition to these mandated items, Cougar flight crew must also wear a personal locator beacon, helicopter emergency egress device and protective footwear. Individual crew members are also authorized and encouraged to wear a flight helmet.

**1. The Pilot Immersion Suit System**

**1. Undergarment – First Layer Protection**

The Stanfield's 2 layer undergarment offers a soft inner layer of blended cotton and polyester next to the skin. The outer layer is a moisture moving blend of wool and polyester which maintains warmth and a dry microclimate next to the skin. The additional insulating barrier is created when air is trapped between the two layers.

**2. Aircrew Flight Suit - Second layer protection**

Cougar aircrew wear the Sparrel one piece, 100% Nomex IIIA, Gortex material Flight Suit. The special fire retardant designed garment protects against flash fire events and is also designed for maximum comfort for everyday wear.

### 3. Pilot Immersion Suit - Third layer protection

The Viking PS4177 pilot immersion suit utilized by Cougar is considered a "best in industry" item selected in 2008 by both the Chief Pilot and Cougar's safety department after the completion of global research.

The Viking PS4177 outer shell is a special design immersion suit appropriate for various types of aircraft. Viking uses only top quality material that allows the body to breathe for comfort during extended wear. The Viking suit is tailored fit to an individual and provides at least six hours of protection from hypothermia in cold water.

Viking has extensive experience in supplying specialized pilot suits, and custom designs to suit exacting requirements. Zips are placed differently depending on the aircraft type and the position of the safety straps. Pockets are strategically placed for easy access and can include map and pencil pockets.

The Viking PS4177 Pilot suit provides top level Waterproof breathable protection using NOMEXIII Gore-Tex® material. This suit provides watertight wrist and neck seals for watertight performance.

There are currently no standards for Pilot survival suits established by either the FAA, or Transport Canada. They are a product which has been developed out of necessity over decades of work with Airforce and private aircraft operators based on the unique requirements of each.

Designs follow common industry practices, but there is not a standard performance criterion for such immersion suits at this time.

**2. Pilot Lifevest**

**CAR's Regulation 602.62 (1)**

***Life Preservers and Flotation Devices***

**602.62 (1)** No person shall conduct a take-off or a landing on water in an aircraft or operate an aircraft over water beyond a point where the aircraft could reach shore in the event of an engine failure, unless a life preserver, individual flotation device or personal flotation device is carried for each person on board.

**602.62 (2)** No person shall operate a land aeroplane, gyroplane, helicopter or airship at more than 50 nautical miles from shore unless a life preserver is carried for each person on board.

**CAR's Regulation 201.10 (1)**

***Appliance Identification***

**201.10 (1)** The manufacturer of an appliance for which there is an airworthiness standard in the *Airworthiness Manual* shall place thereon, in accordance with subsection 201.05(2), the identification information referred to in subsection (2).

Cougar utilizes the Switlik Special Operations, Helicopter Crew Vest that meets all Transport Canada and FAA requirements.

# Offshore Helicopter Safety Inquiry

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### 3. Personal Locator Beacon (PLB)

Although there is no regulatory requirement for aircrew to wear these devices, Cougar has mandated that all aircrew be in possession of the AEROFIX 406 PLB during over land and over water flying operations.

At present, these units are considered "best in industry" beacons and like all company lifesaving equipment, are tracked for inspection and maintenance cycles through Cougar's Lifesaving Equipment Tracking System.

The AEROFIX 406 PLB features an Internal GPS, Fast ACQ GPS technology and an external GPS optical interface. The LAT/LON are transmitted, providing rescue agencies the exact position to within 110 yards. At a mere 3.03"L, 1.74"W, 5.71"H and weight of only 12 oz. this is the smallest and lightest PLB in the world. The device Transmits on 406 MHz via the COSPAS-SARSAT satellite system with a registered unique, digitally coded distress signal and 121.5 MHz (SAR homing frequency). The device incorporates a full functional self test of internal circuitry and battery power. It incorporates a flat, stainless steel antenna which wraps compactly around the unit for easy storage and is ready for rapid deployment.

The unit Floats to avoid loss if dropped in water. The unit GPS interface (GPS interface NMER 0183) allows the downloading of GPS coordinates prior to activation; once activated, the LAT/LON transmits on first burst insuring that the distress message reaches search and rescue virtually instantaneously. The units GPS acquires LAT/LON when the unit is activated, the LAT/LON are transmitted as soon as acquired providing the units exact position to the within 100 meters (110 yards within 3 minutes of satellite reception).

4. **Helicopter Emergence Egress Device (HEED 3)**

Although there is no regulatory requirement for aircrew to carry these devices, Cougar Helicopters Inc. has mandated the use of the HEED 3 for all over water flight activity. The HEED 3 is an updated version of the original HEED. A compact, lightweight and reliable self-contained breathing apparatus, the HEED 3 is designed to increase the survivability of military and commercial personnel in short-term out-of-air emergencies.

5. **Protective Footwear**

The Cougar Helicopter Inc. Safety Management System, Chapter 8.30 provides in part:

Foot Protection: Approved safety footwear in the form of boots or toe caps must be worn by all employees and contractors in work areas where a foot injury hazard exists. Foot protection is mandatory equipment for pilots flying offshore and ramp staff working on a daily basis.

6. **Helmet/Headsets**

There is presently no regulatory requirement for aircrew to wear protective helmets. Cougar Helicopters Inc. has put in place a cost sharing assistance program for aircrew to purchase an ALPHA helicopter pilot helmet with the company paying one half of the total cost.

To date Cougar has transitioned from a mere 28% to a very significant 64% of the company aircrew wearing protective helmets during flying operations and is confident that the number will rise in the future. All Cougar SAR aircrew use protective helmets. Those aircrew not utilizing protective helmets utilize the Davie Clarke Aviation Headset.

# Offshore Helicopter Safety Inquiry

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## Summary

Cougar is committed to employee compliance with Transport Canada's and its own Personal Protective Equipment criteria and directives. The safety department in conjunction with Cougar's General Manager have in fact developed and implemented an independent company PPE Discipline Policy reminding all employees of senior management's regard for safety considerations.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #14**

**Issue:**

**ARE CHANGES NEEDED TO MAXIMIZE WORKER AND PILOT PARTICIPATION IN THE DEVELOPMENT, IMPLEMENTATION AND MONITORING OF HELICOPTER SAFETY INITIATIVES AND ACTIVITIES?**

**Cougar Submission to Issue #14**

It is Cougar's position that no changes are necessary to maximize pilot participation in the development/implementation/monitoring of helicopter safety/initiatives/activities. Participation in Cougar's Safety Management System program is regarded as the responsibility of all employees and is considered an inherent element of the employment contract.

All Cougar Standard Operating Procedures instruct flight crews to contribute and assist in the development of better software and safety processes. Cougar's Safety Reporting System provides feedback on issues that require adjustment for enhanced safety. Cougar's Helicopter Flight Data Monitoring System provides feedback on flight crew compliance and allows the flight crew training department to proactively adjust processes and procedures. Cougar's Safety Management System Committee meets once a month and the committee composition includes aircrew representation.

Cougar does not treat its Safety Management System as a static item. At Cougar, aircrew involvement in improvements and enhancements to safety is encouraged and fostered.

# Offshore Helicopter Safety Inquiry

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #15

### Issue:

SHOULD OFFSHORE WORKERS HAVE A LEVEL OF PERSONAL ACCOUNTABILITY FOR THEIR OWN SAFETY IN HELICOPTER TRANSPORT? (NOTE: FOR EXAMPLE, CLOTHING TO BE WORN UNDER THE SUIT, FITNESS TRAINING AND REPORTING.)

### Cougar Submission to Issue #15

While Cougar, oil operators and Transport Canada have mandated various safety equipment and measures, helicopter transportation safety is enhanced when all passengers take some personal accountability for their own safety and the safety of others. Such personal accountability might include taking an enthusiastic role in training programs, making the appropriate selection of undergarments during flights, maintaining a reasonable level of personal fitness, and for non-swimmers, perhaps enrolling in swimming lessons to increase their comfort level and confidence in a water environment.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #16**

**Issue:**

**DOES THE C-NLOPB EXERCISE SUFFICIENT OVERSIGHT OF THE OIL OPERATORS, AVIATION CONTRACTORS AND SUBCONTRACTORS TO ENSURE THAT THE RISK TO WORKERS FROM HELICOPTER TRANSPORT IS AS LOW AS REASONABLY PRACTICABLE?**

**Cougar Submission to Issue #16**

As previously indicated Cougar's position is that oversight of aviation contractors is and should be, primarily, a role for Transport Canada and the oil operators.

# Offshore Helicopter Safety Inquiry

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #17

### Issue:

**SHOULD THE C-NLOPB AND OIL OPERATORS' SAFETY AVIATION AUDITS INCLUDE REVIEWS OF PAST RESPONSES TO DECLARED EMERGENCIES AND EMERGENCY PREPAREDNESS EXERCISES?**

### Cougar Submission to Issue #17

Cougar considers the responsibility for aviation safety audits to be the responsibility of Transport Canada and the oil operators. Again, C-NLOPB's assumption of such a role would presumably necessitate the engagement of aviation experts and would be considered by Cougar to be an unnecessary additional audit layer.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #18**

**Issue:**

**WHAT INFORMATION FROM THE HELICOPTER OPERATOR ABOUT FLIGHT OPERATIONS SHOULD THE C-NLOPB REQUIRE THE OIL OPERATORS TO PROVIDE TO OFFSHORE WORKERS? (NOTE: FOR EXAMPLE, ALERT SERVICE BULLETINS, AIRWORTHINESS DIRECTIONS, INCIDENTS REPORTS, INFORMATION REGARDING DEPARTURES FROM NORMAL FLIGHT TIMES, ROUTINES AND THE REASONS.)**

**Cougar Submission to Issue #18**

This issue raises complex implications. Alert service bulletins, airworthiness directives, incident reports and the like are generally, by their nature, highly technical document. The publication and dissemination of such technically detailed material to offshore workers, who generally would have no aviation expertise to realistically assess such information, is really of very limited value and may serve to unduly alarm passengers and unnecessarily raise anxiety levels. More emphatically, any requirement that places any pre-flight obligation on aircrew to meet with and brief passengers on such issues and potentially allowing for passenger interaction with flight crew could place unnecessary strain on flight crew in their pre-flight preparation and review and would be strongly discouraged.

Dissemination or publication of such information, if it is to occur, should at the very least, be limited to delivery of such information by Cougar to the specific logistics personnel with each of the oil operators who, by virtue of their respective positions and experience would have a greater appreciation for the implications of such bulletins, directives and reports.

# Offshore Helicopter Safety Inquiry

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## OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #19

Issue:

DOES THE C-NLOPB HAVE SUFFICIENT RESOURCES AND EXPERTISE, INCLUDING ACCESS TO INDEPENDENT AVIATION EXPERTISE, TO EVALUATE WHETHER A PROPOSAL OR PLAN FOR HELICOPTER TRANSPORT FROM INDUSTRY ENSURES THAT THE RISKS OF HELICOPTER TRANSPORT ARE AS LOW AS REASONABLY PRACTICABLE?

Cougar Submission to Issue #19

Except to the extent that C-NLOPB aviation expertise is addressed in respect to other issues, Cougar makes no submission on this issue.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #20**

**Issue:**

**SHOULD THE C-NLOPB MORE DIRECTLY INVOLVE ITSELF IN STUDIES AND RESEARCH IN NEWFOUNDLAND AND LABRADOR, AND IN OTHER JURISDICTIONS, TO IMPOROVE SAFETY WHERE OFFSHORE OIL INDUSTRY USES HELICOPTER TRANSPORT? (NOTE: FOR EXAMPLE, NORTH SEAR STUDIES ON PREVENTING INVERSION OF DITCHED HELICOPTERS AND ENHANCEMENT OF PASSENGERS' ABILITY TO ESCAPE.)**

**Cougar Submission to Issue #20**

Cougar makes no submission on this issue.

# **Offshore Helicopter Safety Inquiry**

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## **OFFSHORE HELICOPTER SAFETY INQUIRY RESPONSE TO ISSUE #21**

### **Issue:**

**SHOULD THERE BE SAFETY CONFERENCES FOR ALL PARTIES INVOLVED IN OFFSHORE HELICOPTER TRANSPORT, AND IF SO, HOW OFTEN SHOULD THEY BE HELD?**

### **Cougar Submission to Issue #21**

Cougar makes no submission on this issue.

**OFFSHORE HELICOPTER SAFETY INQUIRY  
RESPONSE TO ISSUE #22**

**Issue:**

**HOW OFTEN SHOULD THE C-NLOPB REVIEW ITS REGULATIONS,  
GUIDELINES AND STANDARDS WITH RESPECT TO OFFSHORE  
HELICOPTER TRANSPORT?**

**Cougar Submission to Issue #22**

Cougar makes no submission on this issue.

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## Appendix "A" -- Response to Issue #2

"OHSI-2 Are the risk management systems of oil operators and helicopter operator sufficient and adequate to ensure the risks of helicopter transport are as low as reasonably practicable in the Newfoundland and Labrador offshore?"

### Cougar Response:

Risk Management Systems are in place within Cougar Helicopter's Integrated Safety Management System utilizing specially designed tools to ensure flight operations and ground operations are reduced to ALARP (as low as reasonably practicable).

These Risk Management tools used by Cougar include, but are not limited to:

1. Safety Case Studies – Helicopter Operations
2. Cougar Helicopters Inc. Aviation Safety Risk Assessments
3. Aircrew Daily Risk Assessment Program
4. Third Party Risk Assessments
5. MOC - Management of Change Process
6. Audit and Inspection Program
7. Investigation and Event Management
8. Pre-Employment and Random Drug and Alcohol Screening
9. Emergency Preparedness and Response
10. Safety Management System Measurement and Improvement

The following material provides further explanation on each of the processes listed above.

### **1. Safety Case Studies – Helicopter Operations**

#### **Scope**

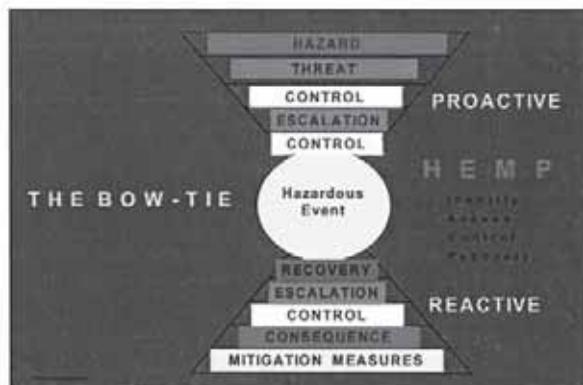
Helicopter aviation requires the management of many variables and, for this reason, hazards and risks are ever present. Hazards can be triggered by situations or can be preexisting and if they are not controlled, they could cause harm to people or equipment. The manifestation of a hazard is known as an event. Risk is an expression of the impact of an undesired event in terms of event severity and event likelihood.

**Purpose**

Cougar Helicopters Inc. (“CHI”) is continually striving to achieve the best possible safety culture. This document describes in a summary manner some of the measures which have been implemented for safe Helicopter Flight Operations through the use of a comprehensive Hazard and Risk Analysis. It is arranged as a hazard register and contains limitations and operating rules to which all employees shall adhere, in order to mitigate against each of the individual hazards.

**Aim**

The Hazard and Risk Analysis is crucial to all aviation operations. Therefore, the main objective of this process is to methodically identify all hazards, risks and safety issues associated with flight operations and associated ground operations. The analysis will not only identify those hazards and risks, but also rate the consequence of each to ensure the mitigation levels are rated as low as reasonably practicable (ALARP). Once this is accomplished a Bow-Tie mitigation sequence is applied.

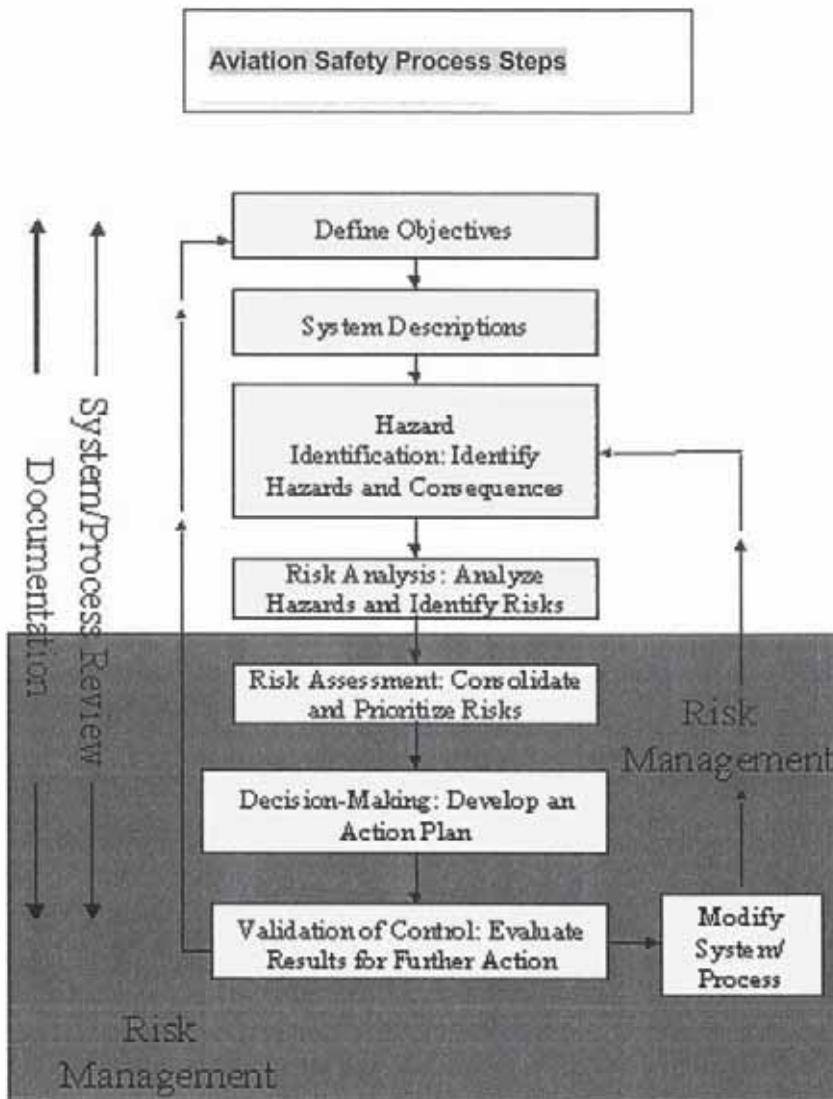


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Hazards are identified, and risks are analyzed, prioritized and assessed for within the decision making process. This process provides for validation of decisions and evaluation for desired results and/or the need for further action by CHI.

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## Safety Case Risk Assessment Matrix (RAM)

The purpose of the Risk Assessment Matrix within the Safety Case Study is to properly prioritize those hazards and risks requiring the highest degree of attention.

The following two matrices both describe the type of event that may/could occur during flight operations on a scale from "Catastrophic" to "Minor", against the probability of that event occurring on a scale from "Frequent" to "Improbable".

The risk levels contained in the table are on a scale from "No action required" to "Action must be taken", and these risk levels are included in the Hazard Log.

A full description of the terms used is listed at the end of the table.

As a general rule, if the effects of an event are relatively minor, and it is improbable that such an event would occur in any case, then it may not be necessary to guard against such an event. Conversely, action is required to mitigate against any event that could have catastrophic consequences no matter how improbable such an event may be.

### COUGAR - SMS RISK ASSESSMENT MATRIX

POTENTIAL CONSEQUENCE OF OCCURRENCE					INCREASING LIKELIHOOD >				
	PEOPLE	ASSETS	ENV'MENT	REPUTATION	A Improbable	B Known within Industry	C Happened before in Company	D Reported > 3X / YR in Comp	E Reported > 3X / YR in Location
0	No Injury	Zero Damage	Zero Effect	No Impact	0	0	0	0	0
1	First Aid Injury	Slight Damage	Slight Effect Not Reportable to External Agency	Slight Impact Specific Party	1	2	3	4	5
2	Medical Treatment Injury	Component Level Replace/ Repair	Minor Effect Reportable Cleanup Required	Limited Impact Localized to Area of Occurrence	2	4	6	8	10
3	Lost Time Injury (< 7 days)	Unit Level Damage Involving Multiple Major Components	Localized Effect External Agencies Involved On Site	Provincial Impact Multiple Customer Groups	3	6	9	12	15
4	Long Term Disability Single Fatality	Major Damage Repairable	Major Effect	National Impact	4	8	12	16	20
5	Multiple Fatalities	Extensive Damage Complete Loss	Massive Effect	International Impact	5	10	15	20	25

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### Severity and Likelihood Definitions:

Severity Scale Definitions	
<b>Catastrophic</b>	Results in fatalities and/or loss of the system.
<b>Critical</b>	Severe injury and/or major system damage.
<b>Marginal</b>	Minor injury and/or minor system damage.
<b>Negligible</b>	Less than minor injury and/or less than minor system damage.

Likelihood Scale Definitions		
<b>Frequent</b>	Individual	Likely to occur often.
	Fleet	Continuously experienced.
<b>Probable</b>	Individual	Will occur several times.
	Fleet	Will occur often.
<b>Occasional</b>	Individual	Likely to occur sometime.
	Fleet	Will occur several times.
<b>Remote</b>	Individual	Unlikely to occur, but possible.
	Fleet	Unlikely but can reasonably be expected to occur.
<b>Improbable</b>	Individual	So unlikely, it can be assumed it will not occur.
	Fleet	Unlikely to occur, but possible

## **2. Cougar Helicopters Inc. Aviation Safety Risk Assessments**

The SMS Aviation Safety Risk Assessment is performed in much the same format and methodology as a Safety Case using the RAM function, but is initiated for new operations especially in unfamiliar environments or geographical locations. The Aviation Safety Risk Assessment is utilized in conjunction with the Management of Change process. This undertaking proves highly desirable in identifying potential hazards and evaluates risks against the company's present operating procedures.

## **3. Aircrew Daily Risk Assessment Program**

The Aircrew Daily Risk Assessment Matrix (RAM) has been developed to identify the factors crews should be aware of for each offshore flight. It is an initiative to quantify the 'relative risk' associated with each and every flight prior to being given formal dispatch release.

A matrix has been developed as a tool to help improve crew awareness of the listed factors and how they could influence the flight. It is to be completed by individual crews on the form provided and will highlight the areas where risk may be reduced or mitigated prior to flight. The completed table is normally handed to dispatch before the flight.

Pilots will be required to complete the RAM prior to each flight and advise either the Chief Pilot or Director of Flight Operations of any score of 8 and over.

The system is in no way designed as a GO, NO GO tool or to undermine the PIC's role in the decision to fly or not to fly. Instead, the system assists the PIC to help him/her to quantify the various factors which may influence the safe outcome of each flight, and to address these factors prior to dispatch.

**IF AT ANYTIME A CREW IS CONCERNED WITH A FLIGHT'S STATUS OR EXECUTION THEN CLARIFICATION IS TO BE SOUGHT FROM THE CHIEF PILOT OR DIRECTOR OF FLIGHT OPERATIONS— REGARDLESS OF THE RAM SCORE.**

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## 4. Third Party Risk Assessments

Periodically, Cougar Helicopters Inc. is requested by a customer to attend and participate in a Third Party Risk Assessment.

Participants from Cougar normally include the General Manager, Director of Flight Operations, Director of Safety, Director of Maintenance but Cougar's participation is not necessarily limited to these individuals, depending on topics and risks to be assessed.

Cougar representatives provide critical input and foster discussion. Their aviation expertise provides assistance within the parameters set by the individual customer requesting the assessment. All actions raised by the group are acted upon swiftly to ensure that risk and hazards presented are reduced to acceptable levels or ALARP.

## 5. MOC - Management of Change Process

This procedure provides a systematic method of responding to change in operations and the workplace that could be detrimental to the health and safety of affected personnel, or contribute to environmental or damage to equipment.

### Responsibility

The responsibility for implementing this procedure rests with the manager or supervisor in charge of the department affected by the change.

### Scope

In this context, a change is defined as any alteration in business operation that will have an effect on the established or planned control of risk.

New hazards and risks can be introduced into the workplace at any time due to changes in equipment, materials, personnel and processes. Management of Change is employed to ensure that any such new conditions are evaluated as they occur, so that hazards and risks can be identified and then eliminated or minimized.

### Recognition of Change

The first step in the Management of Change is to anticipate and recognize changes in the operation or workplace that could potentially increase hazards and risks. This must be done before the changes are implemented to allow any hazards and risks to be identified and mitigated. Examples are listed below:

- Facility reconfiguration
- Flight Operations
- Changes in local safety laws and regulations
- Introduction of a new process into the workplace (permanent or temporary)
- Introduction of new equipment, materials, chemicals in the workplace (permanent or temporary)

#### **Evaluation of Change**

Temporary changes may result in a significant increase in risk because limited time is available to initiate appropriate controls. The following should be considered:

- Do supervision and training arrangements need to be changed?
- Are procedures in place to return the process to normal operation once the temporary change is complete?
- Is the change within the original scope of work or is there an additional requirement for authorization?

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## Control Measures

Recommendations must be made to eliminate or reduce potential hazards and risks, with responsibilities assigned and completion dates documented. Also, the following controls should be used:

- Incorporate warning devices
- Issue personal protective equipment
- Design for minimum risk
- Employ procedures and training
- Incorporate engineered safety devices

It is critical that controls are implemented before the change takes effect, including the training and awareness of personnel working in a changed area of operations that is affected.

## 6. Internal Audit and Inspection Program

Audits and inspections are conducted to determine:

- Whether the operation or facility is being managed in accordance with the departmental processes and regulations.
- Whether the work activities comply with the documented safety procedures.
- Whether the documented procedures are implemented effectively.
- Whether the procedures are suitable to achieve the objectives.
- To ensure a safe and healthy work environment to facilitate all staff.

### **Types of Audits**

There are three different types of auditing conducted at Cougar Helicopters Inc.

- Internal Departmental (Flight Op's, SMS, Quality Assurance, Finance etc.)
- Regulatory Third Party (Transport Canada, AOSH, OSHA, QMI - ISO )
- Customer Third Party ( All Cougar Customers)

The Q5 Systems Auditing Program is the central database of all audit checklists, findings and corrective actions. This simplified approach enables the user to review all departmental and third party audits in a central location. Outstanding items are recognizable throughout all departments to ensure we do not lose sight of pending corrective actions that must take place.

### **Responsibility**

Departmental appointed auditors are selected to represent departmental activities. Internal audits are conducted by a single auditor or an audit team comprised from the department. An audit schedule is developed and must be followed to ensure completion on an annual basis.

## **7. Investigation and Event Management**

All accidents, incidents and events reported will be investigated and analyzed, regardless of their severity.

The investigation shall begin as soon as possible following the accident, incident or event. The severity of the accident/incident will obviously determine the persons to be involved in the investigating team and the time required to conduct a thorough and effective investigation.

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Choosing the investigation team and assigning the severity categories is the responsibility of the DSMS.

## Accident/Incident Severity Categories

- **Major Incident (Level 1):** Incident involving loss of life, major injuries (e.g., amputations, serious eye and head injuries, injuries requiring admission to hospital.).  
*Extensive aircraft, property or equipment damage in excess of \$50,000.*  
*Explosions, fires handled by emergency services.*
- **Serious Incident (Level 2):** All lost time accidents (LTA).  
Aircraft, property or equipment damage in the range of \$10,000 to \$50,000.  
Fires handled by staff.
- **Minor Incident (Level 3):** Personal injuries requiring first aid/medical treatment only.  
Minor property damage (e.g., broken glass, broken minor parts to equipment, etc.)

## Investigation Level Breakdown

### Level 1 Investigation (Major)

All accidents, incidents and events in this category shall be investigated by a team comprised of the following personnel:

- Managers from two levels above the department supervisor
- The Director of Safety Management System
- Department Supervisor
- Others as deemed necessary by DSMS

All Level 1 investigations shall be completed and documented through Cougar Helicopters formal investigation process outside of the Safety Event Database. Distribution of completed report to Senior Management is mandatory.

#### **Level 2 Investigation (Serious)**

All accidents, incidents and events in this category shall be investigated by a team comprised of the following personnel:

- Manager one level above the department supervisor
- The Director of Safety Management System
- Department supervisor
- Others deemed necessary

All Level 2 investigations shall be completed and documented through Cougar Helicopters formal investigation process outside of the Safety Event Database. Distribution of completed report to Senior Management is mandatory.

#### **Level 3 Investigation (Minor)**

All accidents, incidents and events in this category shall be investigated by a team comprised of the following personnel:

- Manager one level above the department supervisor
- The Director of Safety Management System
- Department supervisor
- Others deemed necessary

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All Level 3 investigations shall be completed and documented through the Safety Event Database. Distribution of completed report is available to all employees on the database as closed events, both Aviation and HSE.

## 7.3 Investigation Analysis

Once the investigation ensues, the root cause of the event is identified by the Director of Safety System and his investigation team. Determining the root cause of an event assists in preventing a recurrence in future operations. There could be more than one cause, which is normally the case. Cougar Helicopters follows the SHELL approach.

- S- *Software* - includes written items such as maps, SOPs, checklists, etc.
- H- *Hardware* - physical aspects of the aircraft and associated handling equipment.
- E- *Environment* - weather, NAV aids, company culture.
- L- *Liveware* - other people. People who interact with the Pilot, or AME.
- L- *Liveware* - Pilot or AME or individual at the center of the Event. Training, experience, stress, etc.

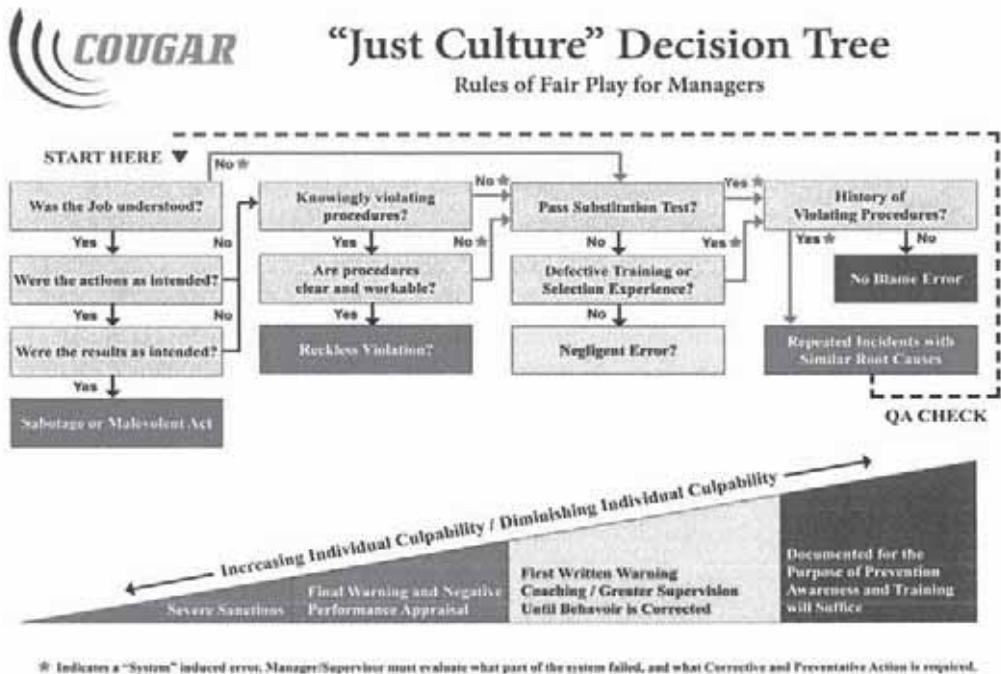
The DSMS will identify the above items that correspond to the deficiencies identified during the investigation. They are documented into the electronic event database for closing action and subsequent tracking/trending analysis.

The standard procedure provides that all accidents will be investigated and, generally, significant incidents will be subject to the same approach. At a minimum, the responsible Manager will review and understand what the primary and underlying causal factors were, with a view to improving working systems where possible.

If there is more than one investigator on the team, a member will be nominated as the lead investigator and will co-ordinate the investigation, manage the evidence gathered, and oversee the production of the subsequent report.

**7.4 Just Culture Decision Tree**

The culture in Cougar Helicopters supports a just and learning approach that does not seek to apportion blame as its primary purpose. It is recognized that human error can occur. When this happens it often results from a quest for expediency. In such cases, blame and subsequent punishment will not be delivered as the resolution to the problem, but this will not absolve all those involved, directly or indirectly, from accepting the responsibility for their actions. However, where appropriate, in cases of gross negligence or deliberate violation, appropriate disciplinary action will be taken.



**Just Culture Decision Process**

The purpose of the Just Culture Decision Tree tool is to ensure the consistent, objective, fair treatment of all staff, and to assist senior managers in decision making related to employee discipline.

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When management is consistent, predictable and transparent, it promotes an objective response to incidents that involve staff. Cougar believes honest and open reporting will be the result. Though Cougar presently has a strong reporting culture, a guarantee of fair treatment promotes the safety culture because it:

- a. Increases reporting by involving all Cougar Helicopters employees
- b. Produces better informed management teams
- c. Facilitates improvements in the safety system and processes
- d. Increases staff confidence, which in turn improves Cougar's safety culture

The process described above promotes continuous, sustainable improvement of the management systems by creating a safe working environment for all staff. A sustained stream of remedial actions to prevent a recurrence will result, and feedback will be provided on the outcome of these actions, reinforcing the confidence in the staff, encouraging them to participate in the Safety Management System.

The Cougar Just Culture management decision aid is a tool that senior management can use to decide what post incident disciplinary action, if any is appropriate when considering the actions of employees involved in a particular incident.

The Just Culture Decision Tree is not a product of the blame culture model, but equally, it is not a product of a blameless culture model. It is essential that individuals fully appreciate they are responsible for their actions, and that disciplinary procedures may be implemented as a consequence of an intentional or grossly delinquent error. The General Manager has made a commitment that a just culture will prevail, and every employee will be treated fairly in all situations.

After an incident has been fully reviewed, and senior management is confident they have all pertinent information, they begin the process by at the first step of the flow chart.

Management must review each case in isolation, and focus solely on the incident giving rise to the analysis. This is important to ensure fairness and as much objectivity as possible. If there is a history of previous incidents involving the same individual, management will deal with the related incidents later in the flow chart.

Managers simply move from box to box answering the questions (yes or no), and follow the arrows until they arrive at the bottom of one of the four columns. The bottom of the column will indicate the appropriate level of action to be taken in response to the event (increasing/decreasing culpability).

Use the following guidelines to interpret the boxes:

*1. Was the job understood?*

Managers must identify whether the employees involved in the incident were fully aware of the task assigned, the hazards involved and the procedures that were to be followed.

*2. Were the actions as intended?*

The difficult task of identifying whether the actions were intended by the employee concerned rests with management. This should never be done in isolation, but should be decided by the General Manager of the division and, where possible, in consultation with the entire senior management team.

*3. Were the results as intended?*

This task, identifying whether the results were intended by the employee, rests with management. This should never be done in isolation, but should be decided by the Manager of the division and where possible in consultation with the entire senior management team.

*4. Sabotage or malevolent act?*

If the answer to the above box, "Were the results intended?" is yes, severe sanctions (usually including termination), are required to ensure the event is never repeated.

*5. Knowingly violating procedures?*

A decision must be made as to whether the employee knew the procedure, but knowingly did not comply with it. If management arrives at this box, they have already assumed sabotage is not a consideration. They are not to critically review the procedure at this point. The question at this stage of the analysis is simply whether the employee "knowingly" violated the procedure.

Situations in which the subject knowingly violated the procedure could include instances of alcohol or drug abuse, or filling a role within the company when a medical condition disqualifies the subject from occupying a specified position (regulatory requirements not met).

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#### 6. *Are procedures clear and workable?*

At this point management shall critically review the procedure that was violated, and determine whether the reason for the failure can be attributed to the lack of clarity, workability or logical flow to the written procedure.

Consideration must be given to the phenomenon where it is accepted practice to violate a certain procedure due to practicality. There may be a good reason for the procedure, but an equally good reason why staff ignore it and line management does not enforce it, such as "We've always done it this way". Amendments to the procedure should first be considered (ideally with the involvement of the offending employee) before disciplinary action is decided upon.

#### 7. *Reckless violation?*

If the analysis leads to this box, it implies the employee was reckless in their behaviour. The assumption made in order to arrive at this box imply, a) though they did not intend for the negative outcome to happen, they did b) fully understand a clear directive from the company, and c) consciously violated the known procedure. The action was intended.

In this case the actions of senior management will require the involvement of Human Resources (accurate employee performance appraisal), the employee's direct supervisor (greater supervision), and the training department (awareness training).

#### 8. *Pass substitution test?*

If management arrives at this box, they have determined that the employee had acted in good faith. They must now separate reasonable actions from unreasonable actions.

The substitution test is simply an exercise where the individuals evaluating the events ask themselves, "If I were under the same stress, with the same level of training and experience, given the same circumstances, would I have made the same (or similar) mistake?"

When considering the substitution test, management must consider all contributing factors including (but not limited to) language barrier, clarity of procedure, stress, fatigue, experience, training, family pressure, health or personal conflict with other employees or supervisor.

The goal is to demonstrate fairness, not to excuse the behavior.

If any of the behavioral influences mentioned above (and any others that are identified through the review) are present, then they need to be appropriately recorded for action to be taken to prevent a recurrence.

*Note:*

Consideration should also be given at this point for whether the person who is involved in the investigation is the one who reported it. Credit (i.e. immunity from consequences) should be given for having the integrity to "self-report" an occurrence.

*9. Defective training or selection experience?*

If management arrives at this box after completing the flowchart, it should be evident that the employee involved did not act in a way that would be expected from a reasonable person. However, management must remember that it was previously determined that malicious intent was not a factor.

Therefore, by default, the problem must be a selection or a training issue.

The Human Resources department is then required to identify a solution.

*10. Negligent error?*

This box indicates simple negligence. By this point in the process it has been established that malice is not a factor. However, reaching this box indicates the employee was negligent in some way, and that negligence contributed to the incident or accident.

In this case, the actions of senior management will require the involvement of Human Resources and the employee's direct supervisor (greater supervision, coaching and training) and the training department (awareness training).

*11. History of violating procedures?*

In order to prevent abuse of this system, a QA check has been implemented.

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The philosophy of the QA check is to ensure fair, objective decisions. This obligates management to review each incident in isolation. However, later in the review process, consideration is given to repeat offenders. This is necessary to identify employees who are developing a pattern of behaviour, and have been involved with previous incidents tracked back to the same causal factor,

Senior Management will not only be alerted through this process, but they will also be able to tailor the response appropriately.

If the answer to this box is yes, management must proceed to the QA box titled "Repeated incidents with similar root causes", and review all similar incidents involving the employee.

## *12. No blame error?*

This should not be misunderstood to mean Cougar has a culture of never assigning blame or making people accountable for their actions. Rather, if the review of the incident leads to this box it simply implies that the employee simply suffered an incident that was beyond their present capacity to control.

Responsibility lies with management for allowing this situation to develop and corrective action will be taken to prevent a recurrence.

In instances of this nature, individual culpability is very low due to the circumstances leading to the incident.

## *13. Repeated incidents with similar root causes?*

If management's review leads to this box, the individual involved with the incident has been involved with other similar incidents or accidents. In order to prevent recurrence, or abuse of this system, a QA check has been implemented which requires the analysis to be redone from the beginning of the process.

The basis for the reassessment is that after an incident has been reviewed in isolation, consideration is given to repeated behaviors, and if applicable those repeated behaviors are reviewed as a whole (no longer in isolation).

For example, consider an employee who is involved with their third incident involving violation of the same procedure. The independent review of each of the two previous cases (in isolation) may lead management to determine the employee did not know or understand the procedure.

However, when reviewed as a group, management will be able to determine more accurately if the employee did or did not intentionally violate procedures.

At the discretion of the General Manager, each repeated offence would constitute a response from management equal to the previous column.

For example, as the above box is found in the fourth column, a second similar incident involving the same employee would imply "Training, coaching and greater supervision" is appropriate.

Logically, the third offence would warrant "Training, coaching, greater supervision" and a "Written warning and negative performance appraisal". A fourth similar incident involving the same employee may warrant "Serious sanctions".

The management of Cougar Helicopters takes repeated failures very seriously. To avoid misunderstanding over repeated events (and a possible inappropriately harsh response) it is important that the user of this tool remember that in order to end up at this box you must have first found that the employee was *not* malicious, reckless or even negligent with reference to this single event. Having said that, if there is a pattern forming it will very likely be indicative of a future performance as well. Therefore, when a pattern has been identified, action must be taken before the next incident might occur.

The goal is and always will be prevention! This management tool provides guidance for to formulate an appropriate management response for the purpose of encouraging reporting and ultimately prevention of future losses. It is not meant to be a "shield" to protect clever or delinquent employees.

The actions to be taken are cumulative. Therefore if you end up at the bottom of the second column ("Reckless violation"), not only is a written warning and negative performance appraisal appropriate, but actions from columns 3 and 4 ("Coaching and greater supervision" and "Training and awareness") are also required.

The Just Culture Decision Tree clearly indicates increasing or decreasing personal culpability as applicable along the bottom of the flowchart. The management response listed in colour coded boxes along the bottom are based on four levels of intent on the part of the employee. These are represented in the four vertical columns, from left to right, across the Just Culture Decision Tree flowchart.

In brief, the four levels of culpability as shown at the bottom of the four columns are:

- "Severe sanction" in response to sabotage or malevolent acts.
  
- "Written warning and negative performance appraisal" for loss (or possible loss) caused by a reckless (intended) violation of company policy and procedure.

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- "Greater supervision, training and coaching until behavior is corrected" for negligent errors.
- "Training and awareness" for incidents that were beyond employee control or systemic errors.

The Director of Safety Management System and Manager of Human Resources provides leadership to the SMS Review committee and/or the senior management team in the use of the Just Culture Decision Tree to determine appropriate actions to prevent a recurrence.

## 8. Pre-Employment and Random Drug and Alcohol Screening

### General Policy Statement

Cougar Helicopters Inc. is committed to the safety and productivity of all operations on behalf of employees, contractors, customers and the communities in which we operate. We recognize the high level of skills and fitness for duty required for safe operation and that the use of illicit drugs and the inappropriate use of alcohol, medication or other substances can have serious adverse effects on these skills, and ultimately on the safety and well-being of employees, contractors, customers, the public or the environment.

This Policy is intended to outline the standards and guidelines associated with alcohol and drug use and possession. Contractors will be expected to enforce these requirements for their contract workers when working on Cougar Helicopters Inc. business or premises.

### Pre-Employment

Pilots will be subjected to pre-employment alcohol and drug screening in accordance with CHI's "Letter of Offer" for employment.

### Mandatory Disclosure

Pilots, because of their safety sensitive position, must disclose current substance abuse problems, as well past problems or dependency issues with alcohol or drugs within the last six years. An employee who requests assistance for an alcohol or drug dependency problem will not be disciplined for seeking help. However, if justified, the employee may be temporarily removed from a safety sensitive position until an assessment is made by a Substance Abuse Professional (SAP).

### **Random Testing**

All Safety Sensitive positions will be subject to random drug and alcohol testing requested by Cougar Helicopters Inc. on a monthly basis. Further, all CHI employees along with contract workers working at Customer designated safety sensitive work sites (e.g. heliport, aircraft, or vessel) may be subject to random alcohol/drug testing, conducted by Customer personnel or agent, when they report for duty.

## **9. Emergency Preparedness and Response**

Cougar Helicopters Inc. develops individual Emergency Response Manuals (ERM) for each operation. These manuals contain all the necessary contact information for each location, Response Team contact information and Response Team duties. Further, the ERM's from all bases are distributed at the base level with company Dispatch located at headquarters, Operational Control Center holding copies of each for rapid advisement and action in an emergency situation. (See a general table of contents below for a representative sample of the contents of a typical ERM).

### **ERM Table of Contents**

1. First Call - Gathering Initial Information
  
2. Transportation Safety Board
  - A - Occurrence Types
  
  - B - Definitions & Categories
  
  - C - Information Required by NTSB / TSB

*Tab A- Accident Report*

*Tab B- NTSB Aircraft Accident Report / In-flight Emergency*

*Tab C- Overdue/Missing Aircraft*

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*Tab D- Hijacking*

*Tab E- Bomb Threat*

- 3. A - Command Center Leader Duties
- B - Corporate Staff Responsibilities

Emergency Telephone Directory

- 4. Forms

A - Activity/Communication Record & Log

B - Emergency Team & Assigned Responsibilities

C - Serious Injury Report

D - Deceased Person Report

- 5. A) Accident Investigation Team
- B) Care & Comfort Field Team

C) Media Response Team

- 6. Operational Debriefings

- 7. Emotional Health Service

- 8. General Rules of Conduct for all Employees

- 9. Aircraft Data Sheets

- 10. Dangerous Goods Shipping Occurrence

- 11. Family Response Center

(Employee's Families)

Media Response Center

**Emergency Response Exercises**

Emergency Response exercises will be carried out periodically to test our effectiveness at responding to an emergency. Three types of exercises are held:

1. Pre-planned exercise. Everyone is informed before the exercise is planned.
2. Pre-planned, simulated. Only the top managers are aware of the exercise. The scenario is identified clearly as an exercise to employees.
3. Pre-planned actual. Only the top managers are aware of the exercise. The scenario is not identified as an exercise to the employees.

Only by believing we are responding to an actual emergency will we be able to fully test our system and eliminate any deficiencies.

Following all exercises, an operational debriefing will be held. Shortfalls or findings will be identified and corrected as soon as reasonably practical.

All exercises are normally coordinated and planned by the DSMS, Safety Coordinator and BASO.

The goal is to conduct at least one exercise per year at all Cougar operations, including start-up operations. After each exercise, the accident response plan is revised as necessary by the DSMS, Safety Coordinator and BASO on the advice and agreement of the management team.

## **10 Safety Management System Measurement and Improvement**

Continual improvement and exemplary service to our customers is a core value. We must all strive for improvement.

Cougar Helicopters Inc. Safety Management System is a living set of processes that must be monitored, measured and improved on an on-going basis. The DSMS will ensure the materials contained in the system are both audited and improved where applicable to ensure its effectiveness for the company.

### **SMS Measurement**

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Safety performance must be measured in order to be managed. Cougar will utilize Key Performance Indicators (KPI), Leading Indicators, surveys, safety statistics and any other methods that can provide quantitative and qualitative improvements to safety.

### **Key Performance Indicators**

It is the company's intention to expand and develop Key Performance Indicators ("KPI's") that will amongst other criteria measure and report processing times, the frequency and regularity of safety meetings, the documented analysis of our own accidents and incidents, as well as those of other operators.

KPI's and targets are established and will be used as initial benchmarks upon which to gauge performance. Key initiatives will be sought out at all times and implemented into the SMS to proactively improve the system.

These indicators include the requirement of reporting as well as the timely investigation of occurrences, the frequency of Safety Meetings, both from a base and managerial perspective, and the process for distributing the findings and recommendations.

### **Monitoring Safety Performance**

The monitoring of safety performance is a line management responsibility. As part of providing care for its staff and customers and pursuant to the managerial responsibilities specified within the SMS, the routine monitoring of the respective workplace is undertaken constantly. Safety audits are essential components of the Safety Management Plan. They review systems, identify safety issues, prioritize safety issues, must involve all personnel, and enhance the safety of operations.

Within Flight Operations, Quality Assurance is attained through the use of company Check Pilots who audit pilot practice versus published procedures as well as internal flight operation audits conducted by the Director of Flight Operations and Chief Pilot.

Our Quality Assurance Department (Maintenance) has a very thorough set of standards and audit protocols to ensure the monitoring of processes and practices within engineering, and they can be referenced within the Company's approved Maintenance Control, Policy and Procedures Manual.

Safety Audits are also carried out by the Safety department to ensure each location or base receives an annual inspection.

It is accepted that all levels of management must fully support the continued development of a just culture within the organization, and that this will stem from sound leadership and from motivation of staff.

Data will be drawn from the company Event Reporting Database, in order to show trends both positive and negative with regard to various classifications contained therein, and to help establish targets in areas of concern.

Tasks which Cougar undertakes to assist in measuring and improving the Safety Management System include:

- Conducting an annual review of the SMS and implement change as appropriate.
- Reviewing the Safety Policy and implement improvements/changes where necessary.
- Reviewing the Safety Plan and Strategic Objectives for outstanding items that require further attention or resources.
- Reviewing the Audits Internal / External to ensure follow-up action and completion.
- Reviewing the Key Performance Indicators established by itself to determine if organizational targets are being met.
- Monitoring safety performance to generate feedback needed to improve the system.

We must also understand that the responsibility to improve the SMS lies with every employee of the company.

By using the SMART approach (Specific, Measurable, Achievable, Results orientated and Timely action) the SMS will foster and grow in a generative direction to ensure the safe operation of our entire company.

If at anytime you have a question, concern or improvement to make regarding safety please don't hesitate to contact the DSMS.

Thank you

**Richard Banks**  
Director of Safety Management System  
Cougar Helicopters Inc  
709.690.0208

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**SUBMISSION TO OFFSHORE HELICOPTER SAFETY INQUIRY**  
**(FAMILIES OF DECEASED PASSENGERS)**

**To: Commissioner Wells**  
Offshore Helicopter Safety Inquiry  
31 Peet Street, Suite 213  
P. O. Box 8037  
St. John's, NL A1B 3M7

**From: Roebathan McKay Marshall**  
70 Brookfield Road  
P. O. Box 5236  
St. John's, NL A1C 5W1

**Attn: Jamie Martin**

**Date: July 30, 2010**

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The lives of passengers on Cougar 491 changed dramatically on March 12, 2009. Several family members presented to the Commission of Inquiry on Helicopter Safety on February 10, 2010. Sharon Pike, referred to her late husband, Paul, as dying in a very "public way". Marilyn Nash, indicated that "all of our lives are changed forever". Lori Chynn, describes learning of her husband's situation and referred to the devastation that followed as indescribable. She added:

"To call it a nightmare is an understatement. You wake up from a nightmare. My whole world as I knew it was decimated."

- Transcript Evidence, February 10, 2010 p. 21

Ms. Chynn referred to the considerable publicity to which the families were subjected as further compounding a difficult situation. A copy of the transcript of the February 10<sup>th</sup> proceedings is attached as Schedule "A".

The offshore oil industry makes a considerable contribution to the economy of Newfoundland and Labrador and indeed the country. Highly skilled individuals have acquired employment, consistent with their training and these opportunities have provided good remuneration. There has always been an expectation that all stakeholders including the regulator(s), Government and industry will provide a safe working environment.

The families of deceased passengers do not profess to be technical experts. They do not have the specialized or technical knowledge to comment on many of the issues that have been identified before this Commission, including among others, suit size, the adequacy of underwater breathing devices, the location of search and rescue facilities, and the problems of flying at night as opposed to day. They do however share the experiences of their loved ones, some of whom complained about their suit size, and their aversion to flying. The anecdotal evidence provided to the Commission should assist Commissioner Wells in his deliberations.

Families of the deceased passengers acknowledge and appreciate the efforts of the CNOLPB ("Board") in setting up the Inquiry. They also commend Commissioner Wells for his compassion and understanding of their individual circumstances and his willingness to consider the issues that are of importance to them.

### **Terms of Reference**

Commissioner Wells terms of reference require him to report on a number of issues. They specifically direct the Commissioner to inquire into, report, on and make recommendation in respect of:

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- (a) Safety plan requirements for operators and the role that operators play in ensuring that their safety plans, as represented to and approved by the Board are maintained by helicopter operators;
  
- (b) Search and rescue obligations of helicopter operators by way of contractual undertakings or regulatory requirements;
  
- (c) The role of the CNLOPB and other regulators in ensuring compliance with legislative requirements in respect of worker safety.

Commissioner Wells will be assisted in his deliberations by the team of experts he retained to look at several issues, in particular those dealing with size of suits, location of search and rescue, training and governance issues associated with the regulation of the offshore oil industry. Commissioner Wells will also be assisted by the evidence presented to him in over 37 days of public hearings, including the presentations made by several of the family members on February 10<sup>th</sup>. At the conclusion of the February 10<sup>th</sup> evidence, Commissioner Wells referred to it as being a "moving experience" and he felt it was important for people to "speak from the heart".

While the family members cannot change their individual circumstances, they wish to provide input in order to ensure that the offshore oil industry operates in a

safe environment and to the extent possible, that the events surrounding Cougar 491 will never happen again.

**Governance Issues**

Throughout the public hearing phase of the Inquiry, counsel for the families of the deceased passengers, the families of deceased pilots, and the union representing workers in offshore Newfoundland and Labrador, asked several questions of the CNLOPB as it affects the regulation of offshore helicopter transportation.

At the conclusion of the public hearing process Commissioner Wells identified several "over arching" issues for his consideration, a copy of which is attached as Schedule "B". One of these issues is whether there should be a degree of separation within the CNLOPB between offshore helicopter regulation and other offshore industry regulation.

At the inquiry, there were proponents of a complete separation of responsibility for offshore safety as between the Board and an independent regulator. Most notable among these proponents were the Federation of Labour and Lorraine Michael, leader of the provincial New Democratic Party.

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Kimberly Turner, CEO of Aerosafe Risk Management presented a paper on jurisdictional issues entitled "Review of Selected Offshore Petroleum Regulatory Regimes". That report examined the regulatory regime in several countries including the United States, Australia, Norway, the United Kingdom and offshore Nova Scotia.

As part of her analysis, Ms. Turner considered the need to implement a governance model that considered, among other things, the size of the industry, and the location of oil fields. It was felt these factors, among others, have to be considered in order to determine the overall effectiveness of making changes to the existing system. While stakeholders have to be mindful of costs, this should not be the only determining factor. The families of deceased passengers wish to ensure that a regulatory regime exists that fulfills the needs of industry and at the same time ensures a safe working environment for workers. At the conclusion of her presentation, Ms. Turner was asked by Commissioner Wells to further explore the regulatory regime in New Zealand given the closeness in the size of that industry, as compared to Newfoundland and Labrador. We look forward to the outcome of that investigation.

### **Specific Issues**

#### **Passenger Survey**

As part of the Commission's deliberations, Aerosafe Risk Management was retained to undertake a passenger survey report. That survey was completed in May, 2010. The response rate was considered good by industry standards. One of the positive messages emanating from that survey is that 65% of Respondents have noticed changes in safety procedures to helicopter transportation since Cougar 491 (question 10, p. 20 of survey). There are however still a significant number of people who do not feel safe travelling in a helicopter to and from the rig/platform (question 8, p. 19).

### **Information Sharing**

A relatively large number of individuals in the survey expressed concern about the provision of information to them from helicopter operators (question 21, p. 21). We also refer to question 34, where 40% were satisfied with the level of information provided. In question No. 36, p. 37 which was essentially an identification of areas for improvement, some 122 respondents identified the need to:

"Improved communication frequency/level/amount between Cougar and operators to passengers regarding all aspects of helicopter operations (including flight line)."

In terms of specific changes observed, some 60 individuals surveyed have noticed post accident, that there has been better communications/information sharing (question 10, p. 21). Representatives of the deceased families provided

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information to the Commission that their loved ones had an aversion to flying, and had fears about the training provided. Lori Chynn in particular felt strongly about the need for companies to provide passengers with information on alert service bulletins pertaining to the helicopters that transport workers to the offshore. Ms. Chynn noted that:

"Workers have the right to be provided with pertinent information so they themselves can assess the risk and make informed decisions on managing their own risk."

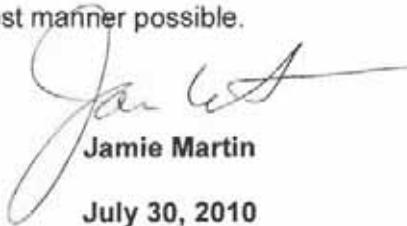
- Transcript evidence, February 10, 2010 at p. 24

In response to the survey, six (6) individuals identified the need for industry to act on client service bulletins/air worthiness directives immediately (see question 36, p. 38). While improvements had been made, the expectations of the families of deceased passengers is that changes should be ongoing. These changes should be reflected, to the extent possible, in the legislative and regulatory framework governing the offshore oil industry in Newfoundland and Labrador.

### **Conclusions**

The overriding message which families of deceased passengers conveyed to Commissioner Wells is the need to ensure that regulators are responsive and the regulators in conjunction with industry facilitates a safety culture that responds to the particular needs of workers. The ultimate goal of the Commission is to ensure a safer offshore Newfoundland and Labrador. It is the desire of the

families of deceased passengers to ensure this becomes a reality and that all individuals who currently work in the industry and those that follow, will be transported to their workplace in the safest manner possible.

  
**Jamie Martin**  
**July 30, 2010**

Enclosures:

Schedule "A" – Transcript of Offshore Helicopter Safety Inquiry, February 10, 2010

Schedule "B" – Issues of Consideration, Offshore Helicopter Safety Inquiry

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Schedule "A"

## OFFSHORE HELICOPTER SAFETY INQUIRY

*February 10, 2010*

*Tara Place, Suite 213, 31 Peet Street*

*St. John's, NL*

February 10, 2010

**PRESENT:**

John F. Roil, Q.C./  
Anne Fagan.....Inquiry Counsel

Amy Crosbie..... Canada-Newfoundland and Labrador Offshore  
..... Petroleum Board (C-NLOPB)

Cecily Strickland/Ian Wallace..... Hibernia Management and  
..... Development Company (HMDC)

Denis Mahoney/D. Blair Pritchett..... Suncor (Petro-Canada)

Alexander C. MacDonald, Q.C./  
Stephanie Hickman..... Husky Oil Operations Ltd.

Paul Barnes..... Canadian Association of Petroleum Producers (CAPP)  
(without counsel)

Jennifer Berlin.....Government of Newfoundland and Labrador

Jack Harris, Q.C..... Member of Parliament

Norman J. Whalen, Q.C..... Cougar Helicopters Inc.

Glen Roebothan, Q.C./ Stephen Marshall, Q.C./ ..... Families of Deceased Passengers  
Jamie Martin

Kate O'Brien.....Davis Estate (Pilot) and  
..... agent on behalf of Douglas A. Latto for Lanouette Estate (Co-pilot)

V. Randell J. Earle, Q.C. .... Communications, Energy and Paperworkers Union  
..... Local 2121

David F. Hurley, Q.C. .... Offshore Safety and Survival Centre, Marine Institute

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Families of Deceased Passengers

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<p>1 February 10, 2010</p> <p>2 COMMISSIONER:</p> <p>3 Q. Good morning, ladies and gentlemen. We have</p> <p>4 this morning, as you know, and Ms. Fagan will</p> <p>5 explain matters and lead them through it, but</p> <p>6 we have Ms. Sharon Pike, accompanied by her</p> <p>7 daughter, Andrea, and son Stephen. We have</p> <p>8 Ms. Marilyn Nash and family members with her,</p> <p>9 and Ms. Lori Chynn, and all of them are going</p> <p>10 to make statements, as Ms. Fagan has explained</p> <p>11 to you. So are you ready, Ms. Fagan? We'll</p> <p>12 begin now.</p> <p>13 MS. FAGAN:</p> <p>14 Q. Thank you, Commissioner. The first presenter</p> <p>15 this morning is Sharon Pike. Mrs. Pike is the</p> <p>16 widow of Paul Pike, one of the passengers that</p> <p>17 died in the crash of Flight 491 on March 12th.</p> <p>18 Mrs. Pike is accompanied by her two children,</p> <p>19 Andrea and Stephen. Stephen has travelled</p> <p>20 here from Quebec to be with his mother today.</p> <p>21 First of all, I would like to pass on my</p> <p>22 deepest sympathies for the loss of your</p> <p>23 husband, and Andrea and Stephen, for the loss</p> <p>24 of your father. On behalf of the Inquiry, I'd</p> <p>25 like to thank you for coming here today to</p>	<p>1 nephew, cousin, and friend. He was a loving</p> <p>2 and caring man who touched many lives. He was</p> <p>3 concerned for the wellbeing of family and</p> <p>4 friends and was always there when needed. He</p> <p>5 had a warm smile and a good word for everyone.</p> <p>6 If you had the privilege to know Paul, you</p> <p>7 would be proud to call him friend. He</p> <p>8 dedicated his entire being to family. We were</p> <p>9 his world, and he was our world. Andrea and</p> <p>10 Stephen were the most important things in his</p> <p>11 life and he will always live on in them.</p> <p>12 Words can never express the devastation and</p> <p>13 loss my family feels. Andrea, Stephen, and I,</p> <p>14 are thankful for every precious moment we had</p> <p>15 with him. We love you, Paul, and we will miss</p> <p>16 you forever. On the helicopter with Paul that</p> <p>17 morning were 16 other people, who also lost</p> <p>18 their lives; Thomas Anyll, Peter Breen, Gary</p> <p>19 Corbett, Matthew Davis, Wade Drake, Wade</p> <p>20 Duggan, Corey Eddy, Keith Escott, Colin</p> <p>21 Henley, Timothy Lanouette, Allison Maher, Ken</p> <p>22 MacRae, Gregory Morris, Derrick Mallowney,</p> <p>23 Burch Nash, and John Pelley, and one survivor,</p> <p>24 Robert Decker. Robert, my family wishes you a</p> <p>25 happy, prosperous, and above all, peaceful</p>
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<p>1 speak, and I understand you have some speaking</p> <p>2 notes, so when you're ready you can begin,</p> <p>3 okay.</p> <p>4 PRESENTATION BY MRS. SHARON PIKE:</p> <p>5 A. Okay, thank you. Honourable Commissioner,</p> <p>6 Judge Wells, Inquiry Counsel, and staff, thank</p> <p>7 you for allowing us this opportunity to</p> <p>8 address the Offshore Helicopter Safety</p> <p>9 Inquiry. My name is Sharon Pike, this is my</p> <p>10 daughter, Andrea, and my son, Stephen. We're</p> <p>11 speaking today of Paul Randy Pike. His life,</p> <p>12 along with 16 other lives, tragically ended on</p> <p>13 the morning of Thursday, March 12th, 2009, as</p> <p>14 he travelled to his place of work on the Sea</p> <p>15 Rose FPSO via Flight 491. Paul was a very</p> <p>16 private man who died in a very public way. I</p> <p>17 would like the public to remember him for the</p> <p>18 remarkable man that he was, and not just as a</p> <p>19 man who was killed in a helicopter crash of</p> <p>20 Flight 491. Paul was 49 years old and resided</p> <p>21 in Shearstown, Newfoundland. He is my husband</p> <p>22 and the father of our two wonderful children;</p> <p>23 our daughter, Andrea, and our son, Stephen.</p> <p>24 He was an amazing husband, father, brother,</p> <p>25 brother-in-law, son, son-in-law, uncle,</p>	<p>1 future filled with all the pleasant things</p> <p>2 life has to offer. To the families, our world</p> <p>3 was unbearably shattered on the morning of</p> <p>4 Thursday, March 12th, 2009. Our lives will</p> <p>5 never be the same, but it is the hope of my</p> <p>6 family that we can all comes to terms with</p> <p>7 this tragedy that has been thrust upon us and</p> <p>8 continue on, cherishing each wonderful memory</p> <p>9 we have of our loved ones. To the families,</p> <p>10 especially the children of Captain Matthew</p> <p>11 Davis, and First Officer, Timothy Lanouette,</p> <p>12 we know that they did everything humanly</p> <p>13 possibly to bring all passengers on Flight 491</p> <p>14 home safely. Please know that my family truly</p> <p>15 appreciates the heroic efforts of these two</p> <p>16 fine men. We would like to express our</p> <p>17 appreciation and deep gratitude to each person</p> <p>18 who was instrumental in bringing Paul back to</p> <p>19 us. To all those individuals and</p> <p>20 organizations that supported us in our time of</p> <p>21 need, thank you. We would like to thank</p> <p>22 Paul's employer, Crosbie Salamis Limited, for</p> <p>23 all your support over the years, especially</p> <p>24 during this last year. Thank you to all</p> <p>25 Newfoundlanders and Paul's offshore family for</p>

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<p>1 keeping us in your thoughts and prayers. The                  2 concern of all Canadians and people around the                  3 world is truly appreciated and will forever be                  4 remembered. Commissioner Wells, I realize                  5 that it is not in the mandate of this Inquiry                  6 to determine the cause of the crash or to lay                  7 blame. However, I feel that I must say what                  8 is in my heart and what my husband, Paul,                  9 would want me to say. Paul would want me to                  10 say to the manufacturer of the helicopter, to                  11 the operator of the helicopter, and to the oil                  12 companies, that he did not have to lose his                  13 life on the morning of Thursday, March 12th,                  14 2009. He did not have to lose his life, he                  15 did not have to die in such a horrific way.                  16 If these companies had acted upon the warning                  17 they had when the helicopter was forced to                  18 land in Australia in July, 2008, and fixed the                  19 problem with the gearbox immediately rather                  20 than allowing for a time frame of one year or                  21 1250 flying hours, Paul would be with his                  22 children and me today. Someone in one of                  23 these companies should have taken this                  24 situation more seriously. Someone should have                  25 said, hey, let's make sure we fix this</p>	<p>1 Q. Thank you.                  2 MS. FAGAN:                  3 Q. Thank you, Mrs. Pike, for your presentation                  4 and we appreciate your efforts in coming here                  5 today, and I'd also like to thank your                  6 children for supporting you today in this                  7 difficult time.                  8 MRS. PIKE:                  9 A. Thank you.                  10 MS. FAGAN:                  11 Q. Commissioner, the second presenter this                  12 morning is Marilyn Nash. Marilyn Nash is the                  13 widow of Burch Nash, who is another passenger                  14 that died on March 12th when Flight 491                  15 crashed. Marilyn and Burch Nash have three                  16 children; Alicia, Alexandria, and Allison.                  17 Alicia and Alexandria are with her today at                  18 the table, and Allison is also here to support                  19 her mother in the room. I would also like to                  20 pass on my condolences on my own behalf and on                  21 behalf of the Inquiry. I know this process is                  22 very intimidating and I appreciate your                  23 efforts in coming to speak to us today. I                  24 understand you also have some speaking notes                  25 and that your daughters are here to help you,</p>
<p>1 dangerous situation sooner than later and make                  2 all passengers and crew as safe as humanly                  3 possible, but no one did that. The first                  4 thought should have been for safety.                  5 Commissioner Wells, this Inquiry is about                  6 safety. We can talk about safety and we can                  7 plan for safety, but it's more than talking,                  8 it's more than planning, it's about choice.                  9 So whatever the reason, the wrong choice was                  10 made. To all the companies, please make the                  11 right choices in the future and to not allow                  12 another family to endure the tragedy and the                  13 heartache that we have endured and continue to                  14 endure. Paul would want me to say that there                  15 is a lesson to be learned, and he would hope                  16 that the parties involved have learned that                  17 lesson. Finally, my family's thoughts and                  18 prayers will be with each and every person                  19 travelling offshore to the Sea Rose FPSO, the                  20 Terra Nova FPSO, the Hibernia Platform, the                  21 Henry Goodrich, the GST Grand Banks Glomar,                  22 and the Stena Carron. Nothing, absolutely                  23 nothing, is more important than your safety.                  24 Thank you.                  25 COMMISSIONER:</p>	<p>1 and I believe Alicia has some speaking notes                  2 as well, and Alex may step in to help if need                  3 be. So when you're ready, you can begin,                  4 okay.                  5 PRESENTATION BY MRS. MARILYN NASH:                  6 A. Commissioner Judge Wells, Inquiry Counsel, and                  7 staff, than you for giving us this opportunity                  8 to speak at the Offshore Helicopter Safety                  9 Inquiry. My name is Marilyn Nash. My                  10 husband, Burch, was on Cougar Flight 491 on                  11 March 12th, the day all of our lives changed                  12 forever. My husband worked with Canship                  13 Uglund and Husky Energy. We have three                  14 beautiful daughters who should not have to                  15 have their graduations and their wedding days                  16 without their dad. I feel that each and every                  17 family has been robbed of our happiness.                  18 Getting the call that dreadful morning was the                  19 most difficult thing we have ever had to face.                  20 Telling your children that their dad will not                  21 be coming home was absolutely heartbreaking.                  22 Just to see the look in their eyes tore my                  23 heart out. I dropped my husband off that                  24 morning and I told him, as I always did when                  25 he left for work, that I loved him, hoped the</p>

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1 flight was good, and call me as soon as you  
 2 arrive. I didn't get the call that day. I  
 3 will never in my life forget seeing him  
 4 smiling at me and calling out things that I  
 5 needed to do. He kept coming back to the  
 6 truck reminding me of things. When I left, I  
 7 told him to go to work and tell me what he  
 8 wanted to tell me tonight when you call. Every  
 9 day I think about telling him to go to work,  
 10 and I should have told him to stay home. It  
 11 breaks my heart knowing I will never hear,  
 12 see, or be with him ever again. No one should  
 13 have to go through this. There were a few  
 14 times when Burch arrived home from the  
 15 offshore that he told me he felt that he was  
 16 very lucky to get home that day. The last  
 17 eight to ten months of my husband's life, he  
 18 began to have reoccurring dreams almost every  
 19 night. He would never tell me what it was, he  
 20 just said it was foolishness, and a few nights  
 21 after the funeral I was at our friend's home  
 22 and there were several people there, and I  
 23 just said now I'll never know Burch's dream,  
 24 and all my friend's eyes dropped and they knew  
 25 what his dream was because a few months before

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1 we were all together, and I had to leave the  
 2 room, and Burch made a comment that he  
 3 couldn't stay out all night because he had to  
 4 go to church so he could get in with the Lord,  
 5 and one of his friends laughed at him, and he  
 6 said, well, I have this reoccurring dream and  
 7 he told his friends the dream was he was  
 8 crashing in a helicopter and drowning, and he  
 9 wanted to make sure that he would be brought  
 10 home. My heart broke even more that that was  
 11 even possible. All I could think was how he  
 12 had to feel every single time that he stepped  
 13 on that chopper. He had to wonder if today  
 14 was the day. I truly believe the minute they  
 15 turned around that Burch knew this was it,  
 16 this is the end. I cannot even begin to  
 17 imagine feeling that way. The fear must have  
 18 been unbearable. My husband was a very brave  
 19 man, but I know that he had to be very scared  
 20 that morning. How could this happen, why did  
 21 our husbands and our daughter have to die;  
 22 they all died because some people decided that  
 23 they seen this inexpensive part could wait,  
 24 and they didn't even bother to inspect those  
 25 bolts before they left for the offshore.

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1 Wouldn't you think that knowing there was a  
 2 problem with the bolts in the gearbox, that it  
 3 would make a point of checking to make sure  
 4 everything was okay. All 17 people who lost  
 5 their lives that morning should be here. My  
 6 life ended on March 12th with my husband's  
 7 life. Recently the companies in question  
 8 moved the fuel tanks from one side to the  
 9 other and made the seats double up. Doesn't  
 10 this still make it very difficult for every  
 11 person to get out if they had to ditch. Why  
 12 couldn't they just put the fuel tank along the  
 13 back wall and give all passengers window  
 14 seats. I also believe if they're going to  
 15 give oxygen, they're going to need more than  
 16 two minutes. If they have to ditch in the  
 17 water, two minutes would still not be enough  
 18 time for them to get out safely, and they also  
 19 should have a choice whether they want to fly  
 20 offshore or go by boat. Every man and woman  
 21 should also be given their very own survival  
 22 suits custom made just to fit them and only  
 23 them. The training needed to work offshore  
 24 should be more realistic and use helicopters  
 25 identical to the S-92. I would like to thank

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1 Mr. Decker for telling us his story. Each and  
 2 every word was so hard to hear, but I hope he  
 3 can continue to live a long and happy life.  
 4 This was an accident that did not need to  
 5 happen, it could have been prevented, and I  
 6 hope and pray every single day this doesn't  
 7 happen again. However, having said that, all  
 8 the problems that have surfaced since March  
 9 12th, 2009, I would not be shocked if this did  
 10 happen to someone else again someday, but I  
 11 pray to God that I'm wrong. Thank you.

12 COMMISSIONER:  
 13 Q. Thank you.

14 PRESENTATION BY MS. ALICIA NASH:  
 15 A. Hi, everyone. I came here today to share with  
 16 you a story of great heartache. On March  
 17 12th, 2009, I lost my supporter, my protector,  
 18 and my best friend. It's been over 10 months  
 19 since I lost my father, Burch Nash. It feels  
 20 like only yesterday he came into my room to  
 21 give me a good-bye hug and told me to make him  
 22 proud. Little did I know those would be the  
 23 last words I'd hear him say. Let me just fill  
 24 you in. Me and my dad was as close as a  
 25 father and daughter could be, daddy's little

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<p>1 girl. Everything I did in life was to make 2 him proud, from sports I competed in to the 3 grades I got in school. Going into the career 4 I chose to do for the rest of my life, I'm 5 currently a Marine Engineering and Design 6 student at the Marine Institute of Memorial 7 University. I finish my program this June, 8 and to know my father will not be there to 9 witness this accomplishment breaks my heart. 10 My dad helped me with this career decision. At 11 first I wasn't sure if I made the right 12 choice, and it wasn't until he came home one 13 day and he told me -- I told him what I was 14 after learning, and he looked at me and said, 15 wow, sis - yeah, that's what he called me, 16 sis, I'm so proud of you, and I didn't have a 17 second thought after that about my career 18 choice until March 12th, my life was over. 19 The one person I looked up to the most, and 20 the one person who gave me all the advice I 21 needed, the one person I called my hero was 22 gone. 23 On March 17th, I began to plan my 24 father's funeral. I couldn't get the words he 25 said to me that morning out of my head, "make</p>	<p>1 during the Ocean Ranger disaster that St. 2 John's, Newfoundland should require a full- 3 time search and rescue dedicated helicopter 4 provided by the government or industry, fully 5 equipped to search and rescue standards. So 6 now after losing another 17 lives at sea, will 7 something along these lines finally be done? 8 Thank you. 9 COMMISSIONER: 10 Q. Thank you. 11 MS. FAGAN: 12 Q. Thank you, Mrs. Nash for coming here to speak 13 to us today and we appreciate your views on 14 the safety improvements that we should 15 consider and Alicia, as well, I'd like to 16 thank you for giving us some insight as to how 17 this disaster has impacted you and the 18 families, and as well your suggestions as to 19 what we should be considering. I know how 20 difficult this has been and we really 21 appreciate your efforts. Thank you. 22 Commissioner, Lori Chynn is the final 23 presenter today. Lori is the widow of John 24 Pelley who lost his life on March 12th in the 25 crash of Flight 491. Lori and John were</p>
<p>1 me proud." I felt like putting together my 2 father's funeral would be just one more item I 3 could add to my list of things I did to make 4 my father proud. However, a girl my age 5 shouldn't have to bury her father, and he was 6 so young and in such great health should have 7 still been here with us. The same goes for 8 all 17 passengers of Flight 491. As much as I 9 try to think that things will get easier in 10 time, I don't believe it will. I will always 11 see my grandparents hurt, my mother hurt and 12 my sisters hurt every day. For the times that 13 are supposed to be happy in our lives, such as 14 graduations, weddings and our first born will 15 now be only an upsetting occasion because my 16 father is not there to share the happiness 17 with us. Not a day goes by that I don't think 18 of him, how amazing he was, and how much we 19 were alike. 20 I just want to end this with a few 21 thoughts I think about frequently. What good 22 is going to come from this? Will there 23 finally be a solution to such a problem so 24 that no more lives are lost at sea? It was 25 mentioned before when we lost 84 lives at sea</p>	<p>1 married on August 13th, 1994 and I would also 2 like to pass on my condolences to you for the 3 loss of your husband. Although Lori lives in 4 Deer Lake, she has been present for most of 5 the proceedings and Lori's father, George, has 6 also travelled from Deer Lake today to be here 7 to support his daughter. Lori has some 8 speaking notes and when she's ready, you can 9 begin. 10 PRESENTATION BY MS. LORI CHYNN 11 MS. CHYNN: 12 A. Good morning, Commissioner Wells, Inquiry 13 counsel and staff. I would like to thank you 14 for the opportunity to make this presentation 15 to the Inquiry today. As Anne stated, my name 16 is Lori Chynn and my husband, John Pelley, was 17 aboard Cougar Flight 491 on March 12th, 2009. 18 John was the offshore health advisor or 19 what's commonly known as the medic or nurse on 20 board of the SeaRose FP50. He was 41 years 21 old and we were married for 14 and a half 22 years. John and I started dating in 1983. We 23 were high school sweethearts. 24 Although John and I lived a very private 25 life in Deer Lake, I decided that it was</p>

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1 important to present today on my husband's  
 2 behalf. I felt that it was imperative to give  
 3 John a voice. You see my husband, a very  
 4 proud, intelligent and articulate man, was  
 5 known for speaking up for what he believed in.  
 6 John gives me the strength to be here today.  
 7 John was no stranger to dealing with  
 8 tragedy. He lost his own father to a motor  
 9 vehicle accident when he was only 15 years  
 10 old.  
 11 John was committed to his job offshore  
 12 and was dedicated to providing optimal health  
 13 care, as well as promoting safety in the  
 14 workplace.  
 15 Ironically, John began his offshore  
 16 career in 2002 on the GFS Grand Banks. In  
 17 2005, he transferred to the SeaRose at its  
 18 inception at Marystown. John was attracted to  
 19 offshore nursing for a number of reasons. The  
 20 position provides a good income and is highly  
 21 regarded among nursing professions. John was  
 22 also intrigued with the challenges regarding  
 23 the level of emergency response and trauma  
 24 care associated with the position. My husband  
 25 was an exceptional and well-respected nurse.

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1 John's medical background is emergency  
 2 trauma response. He began as a paramedic in  
 3 1989 and then graduated from Western Memorial  
 4 Regional School of Nursing in 1997 where he  
 5 started working in the emergency and ICU  
 6 departments at Western. Between 1998 and  
 7 2000, John was employed as a trauma nurse at  
 8 Central Maine Medical Centre in the United  
 9 States. Responding to trauma and saving lives  
 10 were John's specialties.  
 11 Although John was not fond of being away  
 12 from home for three weeks, he did enjoy his  
 13 three weeks off, which he filled with his many  
 14 hobbies and home projects. He was passionate  
 15 about life and was a true outdoorsman. John  
 16 was an avid salmon fisherman who prided  
 17 himself on his knowledge of the rivers on the  
 18 west coast of the island. He also enjoyed  
 19 troutting, the recreational cod fishery, bird,  
 20 caribou and moose hunting and snowmobiling.  
 21 He did it all. John was also an amateur  
 22 carpenter who loved taking on home projects  
 23 with the help of family and friends. He  
 24 helped build our home in Deer Lake, which  
 25 coincidentally is on the Humber River.

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1 Music was an important part of John's  
 2 life. He played guitar, mandolin and banjo  
 3 and loved to sing. John enjoyed getting  
 4 together with others on the SeaRose to jam.  
 5 One of the greatest moments of his life was  
 6 Christmas 2008 on the SeaRose when he got to  
 7 play with one of his heroes, Fergus O'Byrne.  
 8 I would also like to take this opportunity to  
 9 publicly thank one of John's musician friends  
 10 on the SeaRose, Mr. Mark Frost, for his  
 11 beautiful song "Fall into the Ocean". Thank  
 12 you, Mark.  
 13 John also loved sports, especially  
 14 football and hockey. He faithfully followed  
 15 the San Diego Chargers, his number one NFL  
 16 team. When it came to hockey, he was a die-  
 17 hard Toronto Maple Leaf fan and was a proud  
 18 member of the popular Hot Stoves Satellite  
 19 edition on the SeaRose. John also was a big  
 20 supporter of our local Deer Lake Red Wings  
 21 team.  
 22 One aspect of working offshore that John  
 23 was not enthused about was the flight to the  
 24 platform. I have been aware of his aversion  
 25 to flying since we met over 25 years ago.

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1 John did fly when necessary, but only when he  
 2 had to. As an emergency nurse at Western, he  
 3 willingly accepted air ambulance transfers.  
 4 With regard to the discussion of offshore  
 5 flying, that was not a topic of conversation  
 6 in our home, but he did make it clear that he  
 7 preferred the 16 to 18-hour boat ride. Since  
 8 March 12th, family and friends have recounted  
 9 conversations with John regarding his concerns  
 10 about flying by helicopter to the offshore.  
 11 On March 12th, 2009, around 12 noon, I  
 12 received a call at my place of employment from  
 13 Atlantic Offshore Medical Services reporting  
 14 that John's helicopter had gone down, but with  
 15 no other details. It certainly was a shock to  
 16 hear that my husband's chopper had gone down,  
 17 but given the fact that an airplane had  
 18 recently gone down in the Hudson River where  
 19 everyone walked away, along with John's  
 20 training in trauma response, his extensive  
 21 medical background, as well as his determined  
 22 personality, my only mental image was John  
 23 going into crisis response mode and helping  
 24 everyone into the life rafts.  
 25 After the call, I flew directly to St.

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<p>1 John's, accompanied by my father. When I 2 arrived at the airport, I was expecting to be 3 escorted to the Health Sciences Centre where I 4 would meet my husband. I thought that he 5 would have to be assessed and maybe have to 6 stay in for a few days of observation. This 7 was not to be. I was met at the airport by 8 AOMS employees and brought to the Comfort Inn 9 and then to the Capital Hotel. Even with news 10 that the lifeboats were empty, I believed with 11 all my heart, given John's determination, that 12 he was still alive.</p> <p>13 I spent two days expecting my husband to 14 be found alive. The devastation that followed 15 is indescribable. To call it a nightmare is 16 an understatement. You wake up from a 17 nightmare. My whole world as I knew it was 18 decimated.</p> <p>19 To compound this terrible loss is the 20 considerable publicity that the families have 21 been subjected to. John and I lived a very 22 private and low-key lifestyle. The past 11 23 months, our families have continuously been 24 reminded of our tragedy on a daily basis 25 because it is newsworthy. I understand this,</p>	<p>1 like to thank those people whom I've met 2 during the Inquiry and for making me feel 3 welcome. I would also like to thank, to 4 personally thank Mr. Robert Decker for sharing 5 his story. His courage and humility are to be 6 commended. His compelling account of March 7 12th, 2009 and his perspective on helicopter 8 safety speaks volumes and must be heard. I 9 wish Mr. Decker a happy and healthy life, God 10 speed.</p> <p>11 I have learned so much from the detailed 12 and comprehensive presentations. I trust that 13 this Inquiry will bring improvements in 14 helicopter safety. Yes, the helicopters need 15 to stay in the air, but other safety measures 16 that have been noted such as immersion suits, 17 breathing apparatus and search and rescue are 18 also vital to the workers' safety. I also 19 believe that communication between the 20 stakeholders involved in the offshore industry 21 is also key. As Ms. Lorraine Michael stated, 22 there needs to be a proactive approach, not a 23 reactive one. In my opinion, the decision to 24 fly the helicopters before waiting to replace 25 the studs was a reactive tactic, not a</p>
<p>1 but it is very difficult to deal with on a 2 personal level.</p> <p>3 Our families appreciate the support and 4 condolences of those people in our hometown of 5 Deer Lake and from the Province and beyond. 6 Our family would also like to thank those who 7 helped bring John home, especially the staff 8 on the Osprey, Dr. Simon Avis, Air Labrador, 9 Cauts, as well as Parsons Funeral Homes.</p> <p>10 Safety in the workplace was a very 11 important component to my husband's position 12 as offshore medic. I, myself, am not a 13 medical professional, engineer or technical 14 person, but believe that priority must be 15 given to offshore helicopter safety. Our 16 province is reaping great financial benefit 17 from offshore resources and because of this, 18 the men and women who work in the industry 19 rightly deserve, as Commissioner Wells has 20 stated, first class safety insurance. For the 21 workers to arrive safely to their offshore 22 destinations, as Mr. Decker so eloquently put 23 it, the helicopters need to stay in the air.</p> <p>24 Like Ms. Fagan has said, I have attended 25 many of the sessions since October and would</p>	<p>1 proactive stance. I'm sure we are all aware 2 that with knowledge comes responsibility.</p> <p>3 I have also heard phrases such as risk 4 assessment and safety culture used throughout 5 the Inquiry. I have to question though why 6 aren't the passengers flying offshore not 7 provided with alert service bulletins 8 pertaining to the helicopters that transport 9 workers to the offshore. I believe that 10 workers have the right to be provided with 11 pertinent information so they themselves can 12 assess the risk and make informed decisions on 13 managing their own risk.</p> <p>14 Given John's aversion for flying, I 15 strongly feel that if he was provided with the 16 information regarding the problems with the 17 helicopter studs, he would have opted not to 18 fly on Flight 491 on March 12th 2009.</p> <p>19 Today is Wednesday, February 10th, 20 John's schedule would have him flying out 21 tomorrow which meant he would have left our 22 home in Deer Lake today, just like he did on 23 Wednesday, March 11th, 2009, the last time I 24 saw my husband.</p> <p>25 John and I had many hopes and dreams that</p>

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<p style="text-align: right;">Page 25</p> <p>1 will not be fulfilled. We had a wonderful 2 life. I miss and love my husband very much, 3 as do our families. I have lost a wonderful 4 and caring husband and John's mother has lost 5 her precious son. We all have been robbed. I 6 feel in my heart that this tragedy was 7 preventable. 8 Even though John was a brave and strong 9 man, I fear of what his last moments of that 10 fateful flight were. You see, my husband 11 possessed incredible instincts. I'm sure that 12 he knew what his fate was to be. I just hope 13 and pray that he did not suffer and that his 14 death, along with the deaths of his friends 15 and colleagues, will not be in vain. I hope 16 that the legacy of those lives lost on March 17 12th 2009 will be significant improvements in 18 helicopter safety. Such a tragedy must not 19 happen again. 20 As I was preparing my presentation, I 21 could not help but recall the numerous times 22 when I relied on John's help in preparing 23 public presentations. You see, he was always 24 there to help edit and provide more 25 sophisticated language for me. He always set</p>	<p style="text-align: right;">Page 27</p> <p>1 the heart. Thank you. 2 MS. FAGAN: 3 Q. I'd just like to thank Lori for her 4 presentation as well, and Lori has been here 5 and I understand she's going to leave this 6 afternoon. So we'll miss her next week and we 7 appreciate your summary of the issues we 8 should consider. It's quite clear that you 9 have taken in what we've heard and I think 10 you've eloquently stated some of the issues 11 that we should look at, and I wish you all the 12 best in travelling home later today. 13 MS. CHYNN: 14 A. Thank you. 15 MS. FAGAN: 16 Q. Thank you. That's it for today. 17 COMMISSIONER: 18 Q. Okay. Now before we adjourn, we'd better 19 speak about tomorrow. It's tomorrow at 2:00, 20 2 p.m. 21 MS. FAGAN: 22 Q. 2:00. 23 COMMISSIONER: 24 Q. To resume, yes. 25 MS. FAGAN:</p>
<p style="text-align: right;">Page 26</p> <p>1 high standards in everything he did. I only 2 hope that while I sit here today that I have 3 made him proud. I love you, John. 4 Commissioner Wells, I would like to thank 5 you once again for this opportunity and I 6 would also like to thank my family, John's 7 family and all our wonderful friends for their 8 amazing support. 9 COMMISSIONER: 10 Q. Thank you. Ladies and gentlemen, this has 11 been quite a moving experience, I guess for 12 all of us. I'm glad that what seems like many 13 months ago now, before we had this Inquiry 14 process set up, that I wrote the family 15 members with the help and cooperation of their 16 own solicitors and invited them to come and 17 speak, if they wished to, when the Inquiry 18 started, and I'm so pleased, and I say this to 19 all of you who are family members who have 20 come here this morning, that you did come and 21 give your perspective on what -- well, on what 22 the tragedy meant to all of you, and I would 23 only say this in conclusion. In an Inquiry 24 like this, and perhaps in other procedures, 25 there is a time to hear people who speak from</p>	<p style="text-align: right;">Page 28</p> <p>1 Q. 2 p.m. tomorrow. 2 COMMISSIONER: 3 Q. All right then. Thank you very much.</p>

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1 CERTIFICATE  
2 We, the undersigned, do hereby certify that  
3 the foregoing is a true and correct transcript of a  
4 hearing heard on the 10th day of February, 2010 at  
5 Tara Place, 31 Peet Street, Suite 213, St. John's  
6 Newfoundland and Labrador and was transcribed by us  
7 to the best of our ability by means of a sound  
8 apparatus.  
9 Dated at St. John's, NL, this  
10 10th day of February, 2010  
11 Cindy Sooley  
12 Discoveries Unlimited Inc.  
13 Judy Moss  
14 Discoveries Unlimited Inc.

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Newfoundland and Labrador • Canada

Schedule "B"

## ISSUES FOR CONSIDERATION

### TERMS OF REFERENCE (excerpt)

#### *Purpose*

*The purpose of this Inquiry is to determine what improvements can be made so that the Board [Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB)] can determine that the risks of helicopter transportation of offshore workers is as low as is reasonably practicable in the Newfoundland and Labrador Offshore Area.*

#### *General Mandate*

*The Commissioner's mandate will be to inquire into, report on and make recommendations in respect of matters relating to the safety of offshore workers in the context of Operators' accountability for escape, evacuation and rescue procedures while traveling by helicopter over water to installations in the Newfoundland and Labrador Offshore Area, in compliance with occupational health and safety principles and best industry practices.*

#### *Specific Mandate*

*Specifically the Commissioner shall inquire into, report on, and make recommendations in respect of:*

- (a) safety plan requirements for Operators and the role that Operators play in ensuring that their safety plans, as represented to and approved by the Board are maintained by helicopter operators,*
- (b) search and rescue obligations of helicopter operators by way of contractual undertakings or legislative or regulatory requirements,*
- (c) the role of the C-NLOPB and other regulators in ensuring compliance with legislative requirements in respect of worker safety.*

## OVERARCHING ISSUES

1. Should there be a degree of separation within the C-NLOPB between offshore helicopter regulation and other offshore industry regulation?
2. Are the risk management systems of oil operators and helicopter operator sufficient and adequate to ensure the risks of helicopter transport are as low as reasonably practicable in the Newfoundland and Labrador offshore?
3. What is the role of organizational safety culture in offshore helicopter transport?
4. What are the most appropriate practices, standards and forms of interaction between the C-NLOPB and the following:
  - (a) industry (including suppliers and providers);
  - (b) industry associations;
  - (c) regulators of associated services;
  - (d) other domestic and foreign oil and gas regulators; and
  - (e) worker representatives;

and are these interactions sufficient to ensure requirements that are understood, timely, achievable and enforceable?

5. Does the C-NLOPB use best practices in relation to its regulatory role in helicopter transport safety?

## SPECIFIC ISSUES

6. What is the appropriate standard of first response search and rescue that the C-NLOPB should require of all operators in the Newfoundland and Labrador offshore?
7. Are there circumstances, other than declared emergencies, when a rescue helicopter should be dispatched to assist a transport helicopter?

8. Should there be a more formal protocol regarding the roles of the Department of National Defence and the helicopter operator regarding first response?
9. Are operational limitations on helicopter transport, in addition to those dictated by Transport Canada, required to ensure the standard of first response search and rescue is able to be maintained at all times? (*Note: For example, operational sea states, night flight and low visibility.*)
10. Should the C-NLOPB impose additional operational requirements on operators to ensure that the risk from helicopter travel in the Newfoundland and Labrador offshore is as low as is reasonably practicable? (*Note: For example, safety systems, auxiliary fuel tanks, location of and restrictions on seating, safety screening, etc.*)
11. Can helicopter transport safety be affected by the capacity of the helicopter transport fleet and, if so, what role should the C-NLOPB play in the determination of fleet capacity?
12. What are the appropriate standards of offshore helicopter safety training to ensure that the risk to passengers is as low as is reasonably practicable, both during training and helicopter transport?
13. What personal protective equipment and clothing is necessary for helicopter passengers and pilots; what are the standards, and should the C-NLOPB require guidelines to ensure such equipment and clothing is properly fitted?
14. Are changes needed to maximize worker and pilot participation in the development, implementation and monitoring of helicopter safety initiatives and activities?
15. Should offshore workers have a level of personal accountability for their own safety in helicopter transport? (*Note: For example, clothing to be worn under the suit, fitness training and reporting.*)
16. Does the C-NLOPB exercise sufficient oversight of the oil operators, aviation contractors and subcontractors to ensure that the risk to workers from helicopter transport is as low as reasonably practicable?
17. Should the C-NLOPB and oil operators' safety aviation audits include reviews of past responses to declared emergencies and emergency preparedness exercises?

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18. What information from the helicopter operator about flight operations should the C-NLOPB require the oil operators to provide to offshore workers? *(Note: For example, alert service bulletins, airworthiness directions, incident reports, information regarding departures from normal flight times, routines and the reasons.)*
19. Does the C-NLOPB have sufficient resources and expertise, including access to independent aviation expertise, to evaluate whether a proposal or plan for helicopter transport from industry ensures that the risks of helicopter transport are as low as reasonably practicable?
20. Should the C-NLOPB more directly involve itself in studies and research in Newfoundland and Labrador, and in other jurisdictions, to improve safety where offshore oil industry uses helicopter transport? *(Note: For example, North Sea studies on preventing inversion of ditched helicopters and enhancement of passengers' ability to escape.)*
21. Should there be safety conferences for all parties involved in offshore helicopter transport, and if so, how often should they be held?
22. How often should the C-NLOPB review its regulations, guidelines and standards with respect to offshore helicopter transport?

## NOTE

**N.B.** It should be understood by the parties that the choice of the foregoing topics as issues does not imply that the Commissioner will necessarily make recommendations in respect of all or any particular issues.

Recommendations will be made at the sole discretion of the Commissioner after investigation as required by the Terms of Reference and the receipt of submissions from the parties.

**IN THE MATTER OF the Commission of Inquiry into matters respecting Helicopter Passenger Safety for Workers in the Newfoundland and Labrador Offshore Area established pursuant to s. 165 of the Federal Accord Act (s. 161 of the Provincial Act) by order dated May 25, 2009**

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**WRITTEN SUBMISSION  
ON BEHALF OF THE ESTATES AND FAMILIES OF THE FLIGHT CREW OF  
COUGAR HELICOPTER SIKORSKY S92-A FLIGHT 491**

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**BY:**  
**KATE O'BRIEN**  
**O'BRIEN & ANTHONY**  
Counsel for the Estates and Families  
of Matthew Davis and Timothy  
Lanouette (as agent).

279 Duckworth Street  
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**TO:**  
**COMMISSIONER ROBERT WELLS, Q.C.**  
**OFFSHORE HELICOPTER SAFETY**  
**INQUIRY**

Suite 213, 31 Peet Street  
St. John's, NL A1B 3M7

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## 1.0 Introduction

The Commissioner's general mandate for this Inquiry is as follows:

*[T]o inquire into, report on and make recommendations in respect of matters relating to the safety of offshore workers in the context of Operators' accountability for escape, evacuation and rescue procedures while traveling by helicopter over water to installations in the Newfoundland and Labrador Offshore Area, in compliance with occupational health and safety principles and best industry practices.*

It is important that "offshore worker" be defined to include the flight crews who fly the helicopters to and from the installations. Although these captains and first officers are a small group compared to the approximately 1600 men and women who work on the installations, two seats on every helicopter flight are occupied by flight crew and so they represent, at the very least, over 10% of each flight. No consideration of helicopter safety could be complete without giving their interests due attention. Moreover, the safety of flight crew and the safety of passengers are connected. In an emergency, pilots are trained to assist and lead their passengers and obviously injury or loss of motor control due to cold exposure will compromise a pilot's ability to do this.

Newfoundland and Labrador offshore workers fly in one of the harshest environments in the world. Industry practices, rules and, even, regulations that adequately protect workers in other geographic locations may not be enough in the cold waters, gale-force winds and low visibility conditions that are regularly found off this coast. The C-NLOPB, as regulator of the Newfoundland and Labrador offshore, has the ability to set the standard that oil operators, and by extension helicopter operators, must meet to best ensure the safety of their workers. The standards they set for issuing authorizations can be higher than regulatory standards. In an environment such as this, to ensure that risks are as low as reasonably practicable more than the legislated minimums must be required.

Guided by these principles, what follows are our submissions with respect to the follow two specific issues defined by the Commissioner for consideration:

**Issue 13.** What personal protective equipment and clothing is necessary for helicopter passengers and pilots; what are the standards, and should the C-NLOPB require guidelines to ensure such equipment and clothing is properly fitted?

**Issue 14.** Are changes needed to maximize worker and pilot participation in the development, implementation and monitoring of helicopter safety initiatives and activities?

## 2.0 Issue 13: Protective equipment and clothing for pilots

### 2.1 General

During the course of hearings, representatives of all of the companies who testified spoke of their strong commitment to safety, their safety management systems, and their commitment to risk assessment processes. Yet in the area of protective equipment and clothing for pilots, closer examination reveals that very little has been done to ensure that in the case of a crash or a ditching into the North Atlantic that the pilots will be adequately protected.

There is no doubt that the outfitting of flight crew must be considered distinctly from that of helicopter passengers. As we have heard, the cockpit environment and the tasks that flight crew must perform there make considerations such as heat stress, the "Christmas tree effect", and reflection in the cockpit, paramount. But these unique considerations should not relieve the oil and air operators from undertaking full and proper risk evaluations. In response to questioning on why current equipment and clothing was chosen, responses from the witnesses were heavily weighted with opinion and testaments of personal feeling and experience. No empirical evidence was presented to support the status quo. In some instances, it was admitted that formal risk assessments or testing on equipment was not done. Surely, in an industry as well established as this one, important decisions about safety should not be undertaken based on "gut feelings" or personal opinion. From our understanding of Ms. Kimberly Turner's testimony, one of the essential features of good risk management is systemizing and objectivising assessment.

We should be very cautious of accepting the word of pilots and their managers that the current protection is adequate. Reluctance of end users to accept changes to mandatory protective wear or voluntarily adopt new equipment is well known. A recent example from this province is the mandatory booster seat legislation for children between the ages of four and eight. Many parents and children accustomed to the freedom and ease of strapping these kids into regular seatbelts find the new law inconvenient and question its necessity. Yet studies show a properly installed and appropriately used booster seat can reduce the risk of injury to a child by 70 per cent and reduce the risk of death by 90 per cent. If the risk had never been studied, if there was no empirical data to support the law, it is unlikely the law would have been passed.

### 2.2 Helmets

According to Colonel Drover, Director of Air Force Readiness, Chief of Air Staff, pilots with the Department of National Defence wear helmets. According to Rick Burt, General Manager of Cougar Helicopters Inc., helmet use is currently left to the individual discretion of Cougar's pilots. When asked if it is safer to wear a helmet than not to wear a helmet, Mr. Burt responded as follows:

MS. O'BRIEN:

8 Q. From a safety point of view, is it safer to  
9 wear a helmet than to not wear a helmet?

10 MR. BURT:

11 A. I think a helmet would protect, you know, your  
12 head and your face more than a headset would,  
13 yes.

14 MS. O'BRIEN:

15 Q. Okay. So you know, if it's safer to wear a  
16 helmet than to not wear a helmet, if the issue  
17 is comfort, isn't safety more important?

18 MR. BURT:

19 A. Well, again, it has to do with levels of risk.  
20 What is an acceptable level of risk? **I would**  
21 **not necessarily say that the other crew**  
22 **members had to wear a helmet, because I**  
23 **believe that that is an acceptable level of**  
24 **risk** and I say that for myself. But again,  
25 ask -- we have to ask the question about the  
entire aircraft. I'm not fighting against  
2 helmets because I'm the one who made the  
3 decision to bring them in. So I don't know if  
4 I really adequately answered your question.  
5 It was a tough one for me. [emphasis added]

Despite the fact that Mr. Burt was aware that helmets are safer, and understood that an assessment of risk is key to making such a safety decision, he conceded that Cougar had never undertaken a full risk assessment of helmet use. Cougar's decision to make helmets optional safety equipment seems to have been based on the personal opinions or feelings of its employees. We were surprised by this. So, too, was Howard Pike, Chief Safety Officer for the C-NLOPB:

MS. O'BRIEN

1 [...] [W]ere you  
2 surprised that Cougar had, to this date, not  
3 done a risk assessment on sort of a  
4 fundamental piece of safety equipment?

5 MR. PIKE:

6 A. That's, again, I think if you go back through  
7 some of these audits, you'll notice that that  
8 safety management and culture has been  
9 evolving at Cougar. In one of the audits, we  
10 actually identify that they didn't have a  
11 fully developed safety management system.  
12 They were essentially relying on the  
13 regulatory structure within which they were.  
14 So it is in some regards somewhat surprising,  
15 yes, because they seem to be an innovative  
16 company. When people were raising some of  
17 these things that would increase the safety of  
18 how they operated, they seemed to be embracing

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19 them. So it was somewhat surprising that they  
20 hadn't taken the initiative to take a look at  
21 helmets. So in some respects, it seemed a  
22 little bit out of the character that I  
23 understood Cougar to be operating under. They  
24 seem to be a very innovative company,  
25 embracing some of the initiatives to improve  
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1 safety. So the fact that they hadn't done  
2 that, yeah, that was somewhat surprising..

Encouragingly, once the issue of a risk assessment on helmets was raised at the Inquiry, Mr. Burt was quick to embrace it as a very good idea. He went further and committed on the Inquiry record that Cougar would do such an assessment, because "it's just pure goodness to do so". We do not know if Cougar has undertaken this assessment to date.

On March 12, 2009, when flight 491 crashed neither of the flight crew were wearing a helmet. Although their investigation of the crash is not yet complete, the Transportation Safety Board was concerned enough by the lack of helmet use to issue an Aviation Safety Advisory. The complete text of the Aviation Safety Advisory is attached as a schedule to this report. In part, it reads:

On March 12, 2009, a Sikorsky S-92A helicopter with 16 passengers and 2 flight crew on board was en route from St. John's, N.L., to the Hibernia oil production platform when, 20 min after departure from St. John's, the flight crew noticed an indication of low oil pressure to the main gearbox. The crew declared an emergency and diverted the flight back to St. John's. Approximately 30 NM from St. John's, the helicopter impacted the water and sank in 178 m of water. There was one survivor and 17 fatalities. **Although not fatally injured during the impact sequence, both pilots received severe injuries due in part to striking their heads/faces against the instrument panel.** Neither pilot on the occurrence flight was wearing head protection.<sup>1</sup> The TSB investigation into this occurrence (A09A0016) is ongoing.

While the *Canadian Aviation Regulations* (CARs) do not require that helicopter pilots wear head protection, **approximately 10 percent of the operator's pilots were routinely wearing head protection at the time of the occurrence.** Whether or not this percentage represents an industry-wide norm for head protection usage is unknown. **However, the majority of pilots surveyed during the A09A0016 investigation cited discomfort as the reason they did not wear head protection. In addition, very few pilots had fully considered that partial incapacitation due to a head or face injury could compromise their ability to help their passengers after an accident. On May 8, 2009, the operator implemented a cost-sharing program aimed at increasing the use of head protection. Management agreed to cover a portion of the cost for any pilot wishing to purchase a prescribed make and model of head protection.** The operator stated that approximately 50 percent of its pilots have participated thus far, and it anticipates 75 percent participation. [Emphasis added]

We are pleased that Cougar has committed to doing more on the issue of helmets. But why are they only covering a portion of the cost? Even if they do not become mandatory equipment, we submit that Cougar should be required to cover the full costs of helmets for pilots who want them. In his extremely informative article entitled "*Helicopter Safety Helmets – a Hard S(h)ell*"<sup>1</sup>, Rob Freeman, Program Manger, Rotorcraft Standards, Operational Standards, Standards, Civilian Aviation, Transport Canada, cites cost as one of the reasons pilots do not wear helmets. A well-equipped helmet can cost more than \$3000. Other reasons cited by Mr. Freeman include: peer pressure, company pressure, and comfort.

We do not know what the Cougar helmet assessment will conclude, but Mr. Freeman's conclusion is this:

The fact is, all helicopter pilots should be wearing helmets—with visors installed and selected down, whenever possible. The numbers speak for themselves.

## 2.2 Flight Suits

Despite the fact that the Canadian General Standards Board (CGSB) has published detailed and comprehensive standards for Immersion Suits (CAN/CGSB 65.16- 2005) and Helicopter Passenger Transportation Suits (CAN/CGSB 65.17-99), there is no standard in Canada for suits worn by flight crew. This is surprising. According to Rick Burt of Cougar, the only mandate for flight suits is Transport Canada's requirement that the suits provide "suitable protection against hypothermia".

Passenger suits seem to get all the attention. The Helicopter Passenger Transportation Suit standard is currently under review by an industry-funded, CGSB-lead initiative. From comments made by Mr. Mark Collins, Operations Manager with Helly Hansen Canada, who is involved in the process, the review will likely result in changes to the standard, particularly to the testing requirements so that they will better mimic the real world environment.

In addition to the CGSB standards testing that has been done on the suits currently worn by helicopter passengers in the Newfoundland Labrador Offshore, the Canadian Association of Petroleum Producers (CAPP) recently funded the CORD Group to do further, more stringent testing on the suits. The CORD Group test conditions were for longer periods of time than the CGSB testing and in more realistic, wave water conditions. The results of the passenger suit tests were very positive and no doubt have brought a large measure of comfort to those wearing them.

Compare this to the current situation for the flight crew suits. The Inquiry has not been presented with any evidence of testing done on these suits. Do they protect against hypothermia in the North Atlantic? We don't know. We have no data before us to help predict how these suits will work once immersed in frigid, rough water conditions.

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<sup>1</sup> <http://www.tc.gc.ca/eng/civilaviation/publications/tp185-2-10-flightops-3719.htm#helmets>

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During questioning at the Inquiry, Cougar undertook to provide to the Commissioner the specifications for the flight suits worn by its pilots. They ultimately did provide information but it was largely a qualitative description of the suits without any quantification of thermal rating (measured in Clo), water ingress rate, or buoyancy specifications. This data is critical for any risk assessment of the flight suits.

In his report for the Inquiry, Micheal Taber cited research by Brooks (Transport Canada, 2003), that air crew should be thermally protected by a suit ranging from 0.25 to 0.75 Clo. One would reasonably infer that in the frigid waters off our coast, a Clo rating to the high end of this range would be best. We know from the information provided by DND that their SAR helicopter pilots working in the Newfoundland Offshore area wear a dry suit with an immersed Clo of 0.847 plus a liner made of Nomex and closed cell PVC foam. It would be interesting to know how this suit rates in comparison to the suit used by Cougar. Unfortunately, we don't know because no testing has been done and no specs have been provided.

This information is critical for pilots to make informed decisions:

24 MS. O'BRIEN:

25 Q. So wouldn't you think that when you have a

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1 range when a standard, you know, albeit a

2 European standard because we don't have a

3 Canadian one -

4 MR. GERBER:

5 A. No, we don't.

6 MS. O'BRIEN:

7 Q. - is giving an appropriate range, wouldn't

8 you, as a pilot, take some comfort in knowing

9 that you're wearing a suit within the

10 recommended range?

11 MR. GERBER:

12 A. Yes, I would.

13 MS. O'BRIEN:

14 Q. Wouldn't you want to know what that range was?

15 MR. GERBER:

16 A. Yeah, I would, yeah.

17 MS. O'BRIEN:

18 Q. To make that decision. And to make that

19 decision wouldn't you have to know what the

20 Clo rating of the equipment that you've been

21 provided is?

22 MR. GERBER:

23 A. And to make the comparison, yes, but we don't

24 have that information now.

From the research that was presented to the Commissioner by Michael Taber, we know that water ingress to a suit has a drastic effect on a body's ability to stave off hypothermia in cold water conditions. Again, no water ingress testing has been done on the flight crew suits so we do not know how they will perform when exposed to rough water.

There may also be an issue with the colour of the flight suits, which for Cougar is navy blue. At page 42 of his expert report to the Commissioner, Michael Taber wrote:

For example, in a safety recommendation from the Australian Aviation Investigation Bureau (AAIB) (2008), **It is recommended "that the European Aviation Safety Agency (EASA) investigate methods to increase the conspicuity of immersion suits worn by the flight crew, in order to improve the location of incapacitated survivors of a helicopter ditching.** The yellow immersion suits worn by the passengers were noticeably more conspicuous in the dark than the blue immersion suits worn by the pilots when illuminated by a helicopter's searchlight" (Safety Recommendation 2008-036 AAIB). And the CAA suggests, "the choice of suit colour may vary to minimise the risk of the suit reflecting on surfaces within the flight deck" (p. 4). [emphasis added]

In her testimony, Dr. Coleshaw commented on a recent report from the Accident Investigation Branch in the United Kingdom on a crash in the Irish Sea where it was noted that it was much easier to spot the passengers in the yellow suits than the pilots in their dark suits. She considered suit visibility to be a "major issue".

Captain Jakobus Johannes Gerber, Director of Flight Operations with Cougar, gave us more information. He confirmed that the navy suits were used to reduce reflection in the cockpit. He felt that the loss of visibility from the suits was adequately compensated for by other measures: safety systems to prevent ditching and crashing into water, reflector tape on the life vests, reflector tape on the suits and personal locator beacons.

Are the mitigating measures described by Captain Gerber enough to make the risk of not being seen in the water as low as practicably possible? Could more measures be taken? A personal locator will help if the searcher has the necessary receiver equipment on board, but what if the first responders are fishing boats or fellow passengers in a life raft? Clearly, some experts in the area feel that conspicuousness of flight suits is an issue. Has Cougar adequately addressed the problem? We do not know but we submit that this issue should be considered in a full risk assessment of the suit.

There is a European Standard for flight crew suits: EASA (2006) European Technical Standard Order, ETSO-2C503, for helicopter crew and passenger immersion suits for operations to or from helidecks located in an hostile sea area. An assessment of the Cougar flight suit against this standard would be informative. In any event, a lack of a Canadian flight crew suit standard is not justification for no assessment of the suits at all.

### 2.3 Spray Hoods

In her testimony, Dr. Susan Coleshaw, identified spray hoods as an important piece of safety equipment to prevent drowning in rough water:

DR. COLESHAW:  
12 A. All right. Well, in terms of protection from  
13 drowning, there are two sort of issues. Yeah,  
14 one is obviously if the head is underwater,  
15 you're highly -- at high risk from drowning.

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16 So that's where you're looking for buoyancy to  
17 support the head, but once you're floating on  
18 your back with the head well supported, then  
19 you're still at high risk, particularly from  
20 breaking waves. So any water splashing over  
21 the face puts your airways at risk of  
22 ingesting water. Now if you're conscious, you  
23 can look for wave, particularly if you're  
24 facing the waves, you can see a wave coming  
25 towards you and in that case, you'd make sure  
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1 your mouth was closed and take a breath as  
2 that's washed over. Of course, that becomes a  
3 problem if you're losing consciousness and  
4 you're no longer able to protect yourself in  
5 that way. So spray hoods then become a very  
6 important part of protecting yourself from  
7 this water splash over the face.

8 MS. O'BRIEN:

9 Q. Would spray hoods be more important in higher  
10 sea states?

11 DR. COLESHAW:

12 A. Yes.

Dr. Coleshaw testified that's she was 99% sure that flight crew in the United Kingdom have spray hoods as part of their kit. She later confirmed to the writer that spray hoods were required by the EASA standard. When advised that the pilots in this area do not have spray hoods, she responded:

4 DR. COLESHAW:

5 A. I wasn't aware of that.

6 MS. O'BRIEN:

7 Q. Does that surprise you?

8 DR. COLESHAW:

9 A. Yes.

The conclusion of Dr. Coleshaw's testimony on this topic was as follows:

MS. O'BRIEN:

6 Q. Okay, it's of interest to me because knowing  
7 that you're either [sic] telling us that the pilots  
8 on the other side have spray hoods as part of  
9 their equipment, but hearing that it's an  
10 important piece of safety equipment or hearing  
11 it's particularly important in higher sea  
12 states which we know in this jurisdiction we  
13 get high sea states and we also know that our  
14 pilots don't have those spray hoods, so it  
15 seems to me an issue that might be begging for  
16 a little further research.

17 DR. COLESHAW:  
18 A. Uh-hm.  
19 MS. O'BRIEN:  
20 Q. To find out if we do have the best practice  
21 here.  
22 DR. COLESHAW:  
23 A. **Yes, I mean, I'll certainly recommend that**  
24 **spray hoods would be of great benefit.**

We agree with this recommendation.

## **2.4 Emergency Breathing Systems**

At the time Cougar employees gave testimony at the inquiry, Cougar pilots were scheduled to begin using an Emergency Breathing System, similar to the helicopter underwater escape breathing apparatus (HUEBA) devices used by passengers but referred to as Helicopter Emergency Egress Devices (HEEDs), within a few days.

Notwithstanding that these devices are presumably now in use and there to assist pilots when needed, we believe it is worth mentioning the time that was taken to implement the device by Cougar as we believe it was too long. We do not intend to belabour the point but we hope that it will be recognized by Cougar and others that the company's implementation of this equipment was not "proactive".

Similar devices have been used by military pilots for some 15 years. The C-NLOPB requested that the devices be investigated for passengers in 2000. We already know that the nine year delay in implementing the system for passengers was unacceptable. We have also been advised that it was largely caused by concern over the risk associated with training personnel of various ages and fitness levels. Certainly, the health profile of pilots is not the same as that for passengers. Pilots are, almost by definition, healthy and fit. The training concern simply could not be anywhere near as problematic for this group. Yet Cougar, it seems, did not start looking at Emergency Breathing Systems for its pilots until after the passengers' systems were introduced, according to Richard Banks, the Director of Safety Management for Cougar:

MR. BANKS:  
3 A. Okay, yes, originally I was on the HUEBA Task  
4 Force, myself from Cougar, and another member  
5 from CHC in Halifax, their safety officer, and  
6 as we progressed and assisted in that program,  
7 **we fundamentally agreed that our air crew**  
8 **needed such a bottle, such air supply, and**  
9 **from past history of our company with our**  
10 **rescue specialists wearing the same type of**  
11 **HEEDs in the back for a number of years, it**  
12 **was decided in our eyes that that could be an**  
13 **opportunity for us. After exploring and doing**  
14 **risk assessments, after the introduction to**  
15 **passengers, we started looking into the HEEDS**

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16 versus HUEBA, that when that came to light  
17 that it was more desirable for us for the  
18 HEEDS bottle, ... [emphasis added]

If military pilots had been using these systems for 15 years, if Cougar's own rescue specialists had been using the systems for a "number of years", if the C-NLOPB had identified these systems worthy of investigating for passengers 10 years before, we believe a 2010 introduction of emergency breathing systems for the pilots is best described, at best, as reactive, not proactive.

### 3.0 Maximizing pilot participation in safety initiatives

As stated above, we believe that pilots are, and must be considered as, "offshore workers" in the context of helicopter transportation. Helicopter safety can only be maximized if pilots have full ability to participate in safety initiatives and activities. A good example is the safety survey by Aerosafe Risk Management. The original survey was only distributed to helicopter passengers. When questioned about this decision Kimberly Turner readily conceded that there would be great value in surveying the pilots and staff at Cougar. We understand that the work is currently underway to provide the survey to this group. We are pleased with this development. If flight crew and passengers, or air operators and oil operators, are always placed in separate boxes and treated as completely distinct groups, we will never bring the risk of helicopter transportation as low as reasonably practicable.

During the course of hearings, we have seen a few ideas surface that may improve pilot participation and communication. One would be communication between the occupational health and safety committees of the oil operators and air operators. Currently there is none. While many of the issues facing these different committees would be unrelated, there would be overlap on helicopter transportation issues. A regular joint meeting may help both groups deal with common issues more effectively.

Another idea raised by Kimberley Turner is Crew Resource Management or Team Resource Management training. From what we understood from Ms. Turner's testimony, this type of training focuses on training passengers around the risks and hazards of helicopter travel. Presumably, flight crew and other air operator employees would be heavily involved in this training. The goal, as we understood it, was to give passengers more information and confidence so that they can be effectively involved in early reporting of possible hazards or risks. Increased communication between flight crew and passengers of this kind can both mitigate risk and add to the passengers' sense of security.

There will be lots of opportunity for participation and communication, if the parties involved keep their eyes open for it. The greatest challenge will be to shift mindsets away from the "separate box" type of thinking that we submit currently exists, to some extent, between: air and oil regulators, air and oil operators, and flight crew and passengers.

#### 4.0 Conclusion

No doubt the first objection to many of the suggestions made in this brief will be that the C-NLOPB does not regulate air operators and has no jurisdiction over the regulation of that industry. This is true, but does it make this road a dead end? We believe not.

Rob Freeman<sup>2</sup> addresses this problem in the context of pilot helmets:

Should TC introduce regulations for mandatory helmet usage? Under the current government's Cabinet Directive on Streamlining Regulations, TC may consider regulatory action only when absolutely necessary. **Other alternatives must be considered first.**

In our case, there are other alternatives. Through their contract with the air operator, the oil operators have a great deal of control over that company. In turn, the C-NLOPB has a great deal of control over the operators. These bodies could, and should, require assurance from Cougar, or whatever air operators they use in the future, that:

- (a) All safety equipment and clothing, including helmets, suits, and spray hoods, undergo a full risk assessment. This should require that the air operator be able to demonstrate the ability of the clothing and equipment chosen to adequately protect flight crew in the conditions of the Newfoundland and Labrador Offshore. It should also include a comparison with equipment and clothing used by DND pilots operating in the North Atlantic.
- (b) These risk assessments or evaluations are updated or repeated regularly as new technologies and safety equipment emerge.
- (c) All approved safety equipment for flight crew, whether mandatory or not, is fully funded by the air operator.
- (d) The air operator has a continuing education program in place for flight crew that includes information on safety equipment and clothing and the risks associated with not using it.

Regulatory requirements must be viewed as minimums. In the weather and water conditions faced by the men and women flying to the offshore installations of Newfoundland and Labrador, it is just common sense that more will frequently be required to keep our workers safe. Moreover, a "that's not my responsibility" approach can only serve to hurt the interests of all involved. Communication, collaboration and secondary controls are the best ways to ensure that this industry is as safe as it can be.

All of which is respectfully submitted this 31<sup>st</sup> day of July, 2010.



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<sup>2</sup> Ibid.

### APPENDIX A

#### Low Usage of Head Protection by Helicopter Pilots

*The following is an Aviation Safety Advisory from the Transportation Safety Board of Canada (TSB).*

On March 12, 2009, a Sikorsky S-92A helicopter with 16 passengers and 2 flight crew on board was en route from St. John's, N.L., to the Hibernia oil production platform when, 20 min after departure from St. John's, the flight crew noticed an indication of low oil pressure to the main gearbox. The crew declared an emergency and diverted the flight back to St. John's. Approximately 30 NM from St. John's, the helicopter impacted the water and sank in 178 m of water. There was one survivor and 17 fatalities. Although not fatally injured during the impact sequence, both pilots received severe injuries due in part to striking their heads/faces against the instrument panel. Neither pilot on the occurrence flight was wearing head protection.<sup>1</sup> The TSB investigation into this occurrence (A09A0016) is ongoing.

While the *Canadian Aviation Regulations* (CARs) do not require that helicopter pilots wear head protection, approximately 10 percent of the operator's pilots were routinely wearing head protection at the time of the occurrence. Whether or not this percentage represents an industry-wide norm for head protection usage is unknown. However, the majority of pilots surveyed during the A09A0016 investigation cited discomfort as the reason they did not wear head protection. In addition, very few pilots had fully considered that partial incapacitation due to a head or face injury could compromise their ability to help their passengers after an accident. On May 8, 2009, the operator implemented a cost-sharing program aimed at increasing the use of head protection. Management agreed to cover a portion of the cost for any pilot wishing to purchase a prescribed make and model of head protection. The operator stated that approximately 50 percent of its pilots have participated thus far, and it anticipates 75 percent participation.

According to U.S. military research<sup>2</sup>, the risk of fatal head injuries can be as high as six times greater for helicopter occupants not wearing head protection. In addition, the second most frequently injured body region in survivable crashes is the head.<sup>3</sup> The effects of non-fatal head injuries range from momentary confusion and inability to concentrate, to a full loss of consciousness<sup>4</sup>; these outcomes can effectively incapacitate pilots. Incapacitation can compromise a pilot's ability to quickly escape from a helicopter and assist passengers in an emergency evacuation.

The U.S. National Transportation Safety Board (NTSB) has acknowledged that the use of head protection can reduce the risk of injury and death. A review of 59 emergency medical services accidents that occurred between May 11, 1978, and December 3, 1986, was completed in 1988. This review resulted in recommendations to the Federal Aviation Administration (FAA) (# A-88-009) and to the American Society of Hospital-Based Emergency Aeromedical Services (# A-88-014) to require and encourage, respectively, that crew members and medical personnel wear protective helmets to reduce the risk of injury and death.

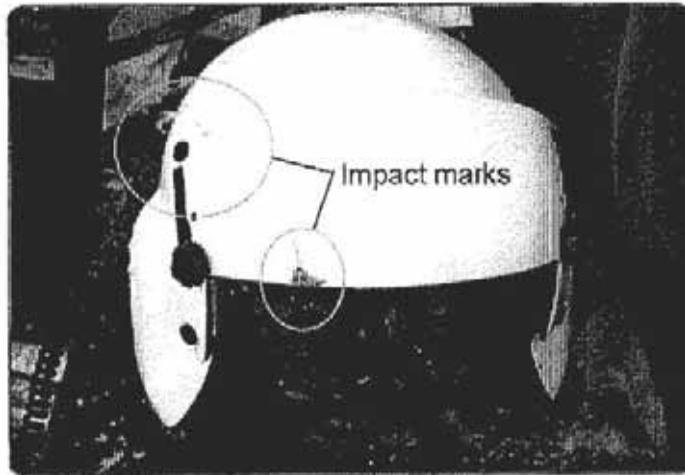
Transport Canada (TC) also acknowledged the safety benefits of head protection use in its 1998 Safety of Air Taxi Operations Task Force (SATOPS) report<sup>5</sup>, in which it committed to implementing the following recommendation:

- That TC continue to promote in the *Aviation Safety Vortex* newsletter the safety benefits of helicopter pilots wearing helmets, especially in aerial work operations,

and promote flight training units (FTU) to encourage student pilots to wear helmets.

In addition, SATOPS directed the following recommendation to air operators:

- That helicopter air operators, especially aerial work operators, encourage their pilots to wear helmets, that commercial helicopter pilots wear helmets, and that FTU encourage student helicopter pilots to wear helmets.



*This helmet was retrieved from an AS350 accident in Atlantic Region (TSB File A07A0007). The other pilot was not wearing his helmet and suffered serious head injuries.*

The TSB has documented a number of occurrences where the use of head protection likely would have reduced or prevented the injuries sustained by the pilot. Similarly, the TSB has documented occurrences in which the use of head protection reduced or prevented injuries sustained by the pilot. Despite the well-documented safety benefits of head protection, the majority of helicopter pilots continue to fly without it. Likewise, most Canadian helicopter operators do not actively promote head protection use amongst their pilots. The low frequency of head protection use within the helicopter industry is perplexing, given the nature of helicopter flying and the known benefits of head protection.

As shown in this occurrence, without ongoing and accurate communication of the benefits of head protection usage, helicopter pilots will continue to operate without head protection, thereby increasing the risk of head injury to the pilot and consequent inability to provide necessary assistance to crew or passengers. Therefore, TC and the Helicopter Association of Canada (HAC) may wish to consider creating an advocacy program designed to substantially increase head protection use amongst helicopter pilots. Such a program could include, but is not limited to, initiatives that: ensure that helicopter pilot training curricula highlight head protection use, promote the advantages of cost-sharing programs between operators and pilots, and encourage informed debate by publishing articles that promote head protection use in publications such as the *TC Aviation Safety Letter (ASL)* and HAC newsletters.

<sup>1</sup> TSB defines head protection as the use of an approved helmet, complete with visor.

<sup>2</sup> Crowley, J.S. (1991) "Should Helicopter Frequent Flyers Wear Head Protection? A Study

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of Helmet Effectiveness." *Journal of Occupational and Environmental Medicine*, 33(7), 766-769.

<sup>3</sup> Shanahan, D., Shanahan, M. (1989) "Injury in U.S. Army Helicopter Crashes October 1979–September 1985." *The Journal of Trauma*, 29(4), 415-423.

<sup>4</sup> Retrieved on 31 August 2009 from [www.braininjury.com/injured.html](http://www.braininjury.com/injured.html).

<sup>5</sup> Transport Canada publication, TP 13158.

**Newfoundland and Labrador  
Offshore Helicopter Safety Inquiry**

**Phase 1c – Investigation Phase**

**Submission of the  
Canadian Association of Petroleum Producers**

**July 30, 2010**

# Offshore Helicopter Safety Inquiry

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## Newfoundland and Labrador Offshore Helicopter Safety Inquiry Phase 1c – Investigation Phase

### Submission of the Canadian Association of Petroleum Producers July 2010

#### Introduction

##### Background

The Canadian Association of Petroleum Producers (CAPP) represents companies, large and small, that explore for, develop and produce natural gas and crude oil throughout Canada. CAPP's member companies produce about 90 per cent of Canada's natural gas and crude oil. CAPP's associate members provide a wide range of services that support the upstream crude oil and natural gas industry. Together CAPP's members and associate members are an important part of a \$110-billion-a-year national industry that provides essential energy products. CAPP has offices in Calgary, AB and St. John's, NL. CAPP's mission is to enhance the economic sustainability of the Canadian upstream petroleum industry in a safe and environmentally and socially responsible manner, through constructive engagement and communication with governments, the public and stakeholders in the communities in which we operate.

This Inquiry arises from the crash of Helicopter Flight 491 with a terrible loss of lives and suffering to the sole survivor, families and friends. While the cause of the crash of Helicopter Flight 491 will not be known with certainty until the Transportation Safety Board (TSB) completes its investigation, this Inquiry has provided the opportunity to examine safety issues related to the transportation of workers to and from offshore facilities and explore the roles of the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) and the offshore petroleum industry in relation to safety. The upstream petroleum industry is committed to continuous improvement. The regulatory structure for offshore Newfoundland and Labrador oil and gas regulation is fundamentally sound. In regard to the purpose of this Inquiry, any improvements can and should be made within the existing regulatory structure.

The purpose of this Inquiry, as set out in its Terms of Reference, is to determine what improvements can be made so that the C-NLOPB can determine that the risks of helicopter transportation of offshore workers are as low as is reasonably practicable in the Newfoundland and Labrador Offshore Area. Specifically the Inquiry Commissioner will inquire into, report on, and make recommendations in respect of: safety plan requirements for operators and the role that operators play in ensuring that their safety plans, as represented to the C-NLOPB, are maintained by helicopter operators; search and rescue obligations of helicopter operators by way of contractual undertakings or

legislative or regulatory requirements; and the role of the C-NLOPB and other regulators in ensuring compliance with legislative requirements in respect of worker safety.<sup>1</sup>

CAPP is a party with standing in the Inquiry. CAPP participated in Phase 1a, the issue identification phase, and Inquiry counsel directed CAPP to give evidence on the following matters in that phase:

1. **HUEBA:** Helicopter Underwater Emergency Breathing Apparatus (HUEBA) is a new piece of safety equipment carried by all offshore workforce personnel on flights to and from offshore installations in Atlantic Canada. This is a compressed air device which was implemented in late April 2009 in Nova Scotia and May 2009 in Newfoundland and Labrador.
2. **Survival Suits:** CAPP's role in survival suits has been: review of the immersion suit standard in 1999 and 2005 (information sharing primarily), review of the helicopter passenger transportation suit system (2008-present), and coordination of operator response to regulator questions related to the E-452 and E-452 leakage testing (2009) (note: the E-452 was the suit worn by all offshore personnel during helicopter travel at the time CAPP's evidence was presented to the inquiry).
3. **Escape Evacuation and Rescue (EER):** CAPP has been engaged with various parties since 1999 in the development of guidance for industry operators to meet their duties in respect of marine escape, evacuation and rescue (emergency response) for the Atlantic Canada offshore. (Note: involvement of helicopters is noted in the rescue/emergency response component of the guide). The EER Guide has now been completed. It has been widely distributed by CAPP<sup>2</sup> and filed with the Inquiry.
4. **CAPP participation in U.K. Helicopter Task Group:** *Oil and Gas UK*, the association representing offshore oil and gas companies and major service companies in the U.K., created a Helicopter Task Group following an offshore petroleum industry helicopter crash off the north-east coast of Scotland on April 1, 2009. The task group was assembled to address cross industry issues around helicopter safety. Learnings from their incidents as well as from Atlantic Canada have been and will continue to be shared.

The Issues for Consideration in this phase of the Inquiry were posted to the Inquiry website at the end of March 2010. The Inquiry then progressed to Phase 1c, the 'investigation' phase. Phase 1c has involved investigating the issues, consulting with any person or party the Commissioner deems appropriate and retaining consultants to prepare written reports on any of the issues identified. Six reports by four sets of consultants were provided to parties. The consultants presented their reports orally June 28-30, 2010.

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<sup>1</sup> Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/Terms%20of%20Reference%20amended%202010-02-11.pdf>

<sup>2</sup> In addition to the those such as the Atlantic Canada industry and regulators most closely interested in the EER Guide, CAPP has posted the EER Guide on its both its public website [www.capp.ca](http://www.capp.ca) and member only website and made its general membership aware of the EER Guide through email distribution.

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Phase 1c also provides the opportunity for parties to make written submissions related to any or all issues. Written submissions are due no later than July 30, 2010. Oral submissions expanding on the written submissions can also be made. Oral submissions are to take place at public hearings on Sept 8 to 10, 2010. The Commissioner will then proceed to write his report containing his findings and recommendations.

The Commissioner has advised that the Inquiry will not be ‘forensic’ in nature, will not assess blame, and will be forward looking with a view to improvement.

We are providing this submission on issues of particular interest to CAPP with a view to assisting the Commissioner with the investigation. The fact that this submission is selective and does not address all issues on the Inquiry issues list does not mean that CAPP is not interested in those issues.

## Helicopter Passenger Safety Issues Addressed in this Submission

The Inquiry is focused on workplace safety specifically as it relates to the transport of workers offshore by helicopter. The Commissioner has identified the following issues that CAPP wishes to address in this submission:

*Issue 1: Should there be a degree of separation within the C-NLOPB between offshore helicopter regulation and other offshore industry regulation?*

*Issue 4: What are the most appropriate practices, standards and forms of interaction between the C-NLOPB and:*

- a. ..
- b. industry associations
- c. ..
- d. ..
- e. ..

*and are these interactions sufficient to ensure requirements that are understood, timely, achievable and enforceable?*

*Issue 12: What are the appropriate standards of offshore helicopter safety training to ensure that the risk to passengers is as low as is reasonably practicable, both during training and helicopter transport?*

*Issue 13: What personal protective equipment (PPE) and clothing is necessary for helicopter passengers and pilots; what are the standards, and should the C-NLOPB require guidelines to ensure such equipment and clothing is properly fitted?*

*Issue 19: Does the C-NLOPB have sufficient resources and expertise, including access to independent aviation expertise, to evaluate whether a proposal or plan*

*for helicopter transport from industry ensures that the risks of helicopter transport are as low as reasonably practicable?*

While the issues list sets out the issues in a formal manner, there are some regulatory issues of a more general nature, some of which have been touched on over the course of the Inquiry, and that may, depending perspective taken on broader issues, affect the specific.

CAPP will begin this submission with a general discussion of the purpose of regulation, the attributes of the regulator, the role of industry in relation to the regulator, and the role of other stakeholders as well as some other of the more general questions that have come up during the Inquiry. CAPP will then address the issues noted above as set out on the issues list.

### **General Discussion**

#### **Purpose of Workplace Safety Regulation**

Put in its simplest form regulation exists to ensure that private activity conforms to social standards. All human activity is subject to social standards.<sup>3</sup> Social standards flow from a shared acceptance that our behaviour should conform to the standards. Regulation is effective – and also tolerable -- because that shared acceptance in itself leads to conformity to the standards. Corporations -- no less than individuals -- share the acceptance of social standards and support social standards with their own corporate policies and their actions.

As such, when we focus on the regulatory model, the starting point should be on how regulation can most effectively and efficiently reinforce beliefs and behaviours that are already well-developed, how to ensure clarity of expectations, how best to approach enforcement, and how to instill public confidence that behaviours do conform to accepted norms.

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<sup>3</sup> The Backgrounder to a 2005 Government of Canada report on progress on regulatory renewal describes the pervasiveness of regulation, as well as the interdependence of social, environmental, and economic objectives as follows:

*“Regulation, in its broadest sense, is a principle, rule, or condition that governs the behaviour of citizens and enterprises. Regulation is used by governments, in combination with other instruments, such as voluntary standards and taxation, to achieve public policy objectives. Regulation protects our health, safety and the environment and it plays a role in virtually every aspect of our lives: the products and services we use, the medication we consume, and the food we eat.”*

*“Smart Regulation is aimed at improving the Government of Canada’s regulatory system so that it can keep pace with today’s realities and our evolving needs. This means building a regulatory system that is more effective in safeguarding the health and safety of all Canadians, ensuring a clean and sustainable environment, and creating the conditions for an innovative and competitive economy. In meeting these goals, Smart Regulation recognizes the interdependence of social, environmental, and economic objectives. It strives for a better coordinated system that remains forward-thinking, progressive and accountable to the citizens it serves.”*

Shortcut to: <http://www.tbs-sct.gc.ca/media/nr-cp/2005/1028-eng.asp>

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Worker safety is the focus of this Inquiry. Canada stands among the world leaders in worker safety. Protection of worker safety is a powerful Canadian social value<sup>4</sup>, rests on strong social acceptance<sup>5</sup>, is reflected as a core value in the Canadian offshore legislative scheme<sup>6</sup>, is supported by laws of general application<sup>7</sup>, and is the top priority for those doing business in the Newfoundland and Labrador offshore<sup>8</sup>. CAPP itself has a committee dedicated to managing safety matters of common concern to industry in the Atlantic Canada offshore areas, the CAPP Atlantic Canada Safety Committee, which reports directly to and is under the direction of the CAPP Atlantic Canada Executive Policy Group (AC EPG)<sup>9</sup>.

The reports and evidence of the Inquiry consultants clearly demonstrate that the regulatory regime in Canada has led to levels of safety that are on a par with global peers. While Aerosafe notes that there are some 20 different regulatory regimes with significant differences existing between different countries<sup>10</sup> and while Aerosafe seems to have its preferences<sup>11</sup>, the fact as reported by Taber is that: “*Based on the information presented in this report, offshore helicopter travel in Canada is at or above safety levels in other regions around the world.*”<sup>12</sup>

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<sup>4</sup> Legislative changes beginning in the 19<sup>th</sup> century and continuing throughout the 20<sup>th</sup> century fundamentally altered the legal and regulatory framework for worker safety that had existed under judge made common law. Both the federal and provincial governments have Ministers responsible for worker safety in accordance with policies that recognize the right of workers to healthy and safe workplaces. See, for example, shortcut to: [http://www.hrsdc.gc.ca/eng/labour/health\\_safety/index.shtml](http://www.hrsdc.gc.ca/eng/labour/health_safety/index.shtml) and shortcut to: <http://www.gs.gov.nl.ca/ohs/index.html>

<sup>5</sup> Canada has participated in the work of the International Labour Organization since its creation. The ILO, created in 1919 by the Treaty of Versailles ending the World War, placed “*Protection of the worker against sickness, disease and injury arising out of his employment*” as among the priorities identified in the Preamble to its Constitution and these words still remain in the ILO Constitution. The Declaration of Philadelphia adopted during the Second World War makes “*adequate protection for the life and health of workers in all occupations*” a solemn obligation and the Declaration was made a part of the ILO Constitution. The ILO was made part of the United Nations in 1946 and was its first specialized agency. Shortcut to: [http://www.ilo.org/global/About\\_the\\_ILO/Origins\\_and\\_history/lang--en/index.htm](http://www.ilo.org/global/About_the_ILO/Origins_and_history/lang--en/index.htm). All jurisdictions in Canada have made worker safety a priority and have enacted legislation and created regulation to achieve this. Shortcut to:

[http://www.rhdcc.gc.ca/eng/lp/ila/Representing\\_Canada/Canada\\_participation.shtml](http://www.rhdcc.gc.ca/eng/lp/ila/Representing_Canada/Canada_participation.shtml)

<sup>6</sup> Safety is explicitly identified as a key priority in the authorization of offshore operations. Part III of the *Canada-Newfoundland Atlantic Accord Implementation Act* contains a very important purpose clause that states in section 135.1(a) “*The purpose of this part is to promote ... safety ...*” Shortcut to: <http://laws.justice.gc.ca/eng/C-7.5/>

<sup>7</sup> Laws of general application apply to offshore operations subject to inconsistency or conflict (s.4) and provincial occupational health and safety law applies within the terms established by section 152 *Canada-Newfoundland Atlantic Accord Implementation Act*. Shortcut to: <http://laws.justice.gc.ca/eng/C-7.5/>

<sup>8</sup> Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/P00116.pdf> (slide 149)

<sup>9</sup> CAPP provided the Inquiry with a description of CAPP governance in Phase 1a. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/P00059.PDF> CAPP has a well-structured organization to manage petroleum industry issues in Atlantic Canada under the auspices of the Atlantic Canada Executive Policy Group.

<sup>10</sup> Aerosafe, Review of Selected Offshore Petroleum regulatory Regimes, p.2, Introduction

<sup>11</sup> Aerosafe, Review of Selected Offshore Petroleum regulatory Regimes,, Pp 54 and 55, Conclusion, where Aerosafe appears to prefer regimes where safety is separated from operations.

<sup>12</sup> Taber, Offshore Helicopter Safety Report, p. 55, Conclusions

Safety is about risk management. Nothing in life is absolutely risk-free. For those things we do choose to undertake, the goal is to do them as safely as is reasonable and practical or, put another way, with a risk that is As Low as Reasonably Practicable (the ‘ALARP’ principle).<sup>13</sup> This is done by identifying hazards/risks and developing and implementing mitigation plans to achieve the ALARP principle.

The reports and evidence of the Inquiry consultants also make it clear that it is often the case that decisions on appropriate safety measures can involve a difficult balancing of multiple factors where different people - reasonable people who have the same concern for safety - can come to different conclusions when presented with the same issue. Coleshaw, for example, speaks of various conflicts in objectives such as the balance between thermal protection and buoyancy where the former increases the length of time a suit may protect the wearer from the cold while the latter can cause problems in underwater escape.<sup>14</sup> Taber has, likewise, emphasized that any new proposal for a safety measure should lead to an assessment of other safety measures to ensure that some new risk factor has not been inadvertently increased.<sup>15</sup> In any such balancing of factors, different people may strike the balance differently. The mere fact that someone has decided to do something one way in designing a safety model or system while another person has decided to do it a different way does not by itself imply that one decision is better than the other.

The goals of workplace safety, in broad terms, are to prevent illness, injuries, and fatalities and to promote safe practices.<sup>16</sup> These goals are addressed in the regulatory framework governing offshore petroleum exploration and development.

In the case of Newfoundland and Labrador offshore petroleum activity the goals of regulation are found in the specific governing legislation and the mandate of the regulator created by that legislation as well as laws of general application. The C-NLOPB provides a succinct statement of its mandate and role under the legislative scheme on its website. Safety is, as should be expected, paramount along with environmental protection. The mandate and role are as follows:

*“MANDATE*

*To interpret and apply the provisions of the Atlantic Accord and the Atlantic Accord Implementation Acts to all activities of operators in the Newfoundland and Labrador Offshore Area; and, to oversee operator compliance with those statutory provisions.*

*ROLE*

*In the implementation of its mandate, the role of the C-NLOPB is to facilitate the exploration for and development of the hydrocarbon resources in the*

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<sup>13</sup> This principle is identified in the Purpose clause of the Inquiry’s mandate.

<sup>14</sup> Coleshaw p.6

<sup>15</sup> Taber p.9, for example, discusses this in connection with stroking seats.

<sup>16</sup> See for example the Canadian Centre for Occupational Health and Safety. Shortcut to: <http://www.ccohs.ca/ccohs.html>

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*Newfoundland and Labrador Offshore Area in a manner that conforms to the statutory provisions for:*

- *worker safety;*
- *environmental protection and safety;*
- *effective management of land tenure;*
- *maximum hydrocarbon recovery and value; and,*
- *Canada/Newfoundland & Labrador benefits.*

*While the legislation does not prioritize these mandates, worker safety and environmental protection will be paramount in all Board decisions.*

### **OBJECTIVES**

#### **SAFETY**

- *To verify that operators have appropriate safety plans in place.*
- *To verify, through audits and inspections, that operators follow their safety plans and applicable statutory requirements.*
- *To verify, through compliance actions, that deviations from approved plans and applicable statutory requirements are corrected.*

#### **ENVIRONMENT**

- *To verify that operators assess and provide for effects of the environment on the safety of their operations.*
- *To verify that operators perform an environmental assessment pursuant to Canadian regulations, of the effects of their operations on the environment, and prepare a plan and provide for mitigation where appropriate.*
- *To verify, through compliance actions, that operators comply with their environmental plans.*

#### **RESOURCE MANAGEMENT**

- *Effective and efficient administration of land tenure.*
- *Oversight of production activities for consistency with maximum recovery, good oilfield practice, production accounting and approved plans.*
- *To build a knowledge base for the Newfoundland & Labrador Offshore Area through the acquisition and curation of data from exploration and production activity.*

#### **BENEFITS**

- *To verify operators have an approved Canada/Newfoundland & Labrador Benefits Plan that addresses their statutory obligations.*<sup>17</sup>

Safety and protection of the environment are, as stated in the above passage from the C-NLOPB, paramount values under this regulatory framework. Protection of safety and the environment do not exist as abstractions: they arise from and are integral to the management of the offshore petroleum resource. Knowledge and expertise in the one informs the others. This is reflected in the establishment of a single regulator for the Newfoundland and Labrador offshore.

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<sup>17</sup> Shortcut to: [http://www.cnlopb.nl.ca/abt\\_mandate.shtml](http://www.cnlopb.nl.ca/abt_mandate.shtml)

Having a single regulator with both safety and other operational responsibilities is not a unique arrangement. In Canada it predates the creation of the C-NLOPB and CNSOPB. The National Energy Board (NEB) has a similar model – a model that has worked successfully for 60 years. The NEB is an independent federal agency established to regulate, within Canada, international and inter-provincial aspects of the Canadian oil, gas and electric utility industries. It also has jurisdiction over oil and gas activities in offshore areas in Canada under legislation similar in a number of significant respects to that governing the C-NLOPB.<sup>18</sup> The purpose of the NEB is to promote safety and security, environmental protection and efficient energy infrastructure and markets in the Canadian public interest within the mandate set by Parliament in the regulation of pipelines, energy development and trade.<sup>19</sup> Like the C-NLOPB, safety and protection of the environment are core values which underlie the regulatory framework. Like the C-NLOPB, worker safety is a key element of a comprehensive safety focus that considers all aspects of safety of the undertakings and facilities regulated.

Safety in the Newfoundland Labrador offshore has a clear and distinct priority that is separate to a significant degree from other aspects of offshore regulation. Safety at the C-NLOPB is the direct responsibility of the Chief Safety Officer (CSO). The CSO is also Manager, Operations and Safety and reports directly to the Chair and CEO. However, the CSO holds an independent office with a clear statutory role to ensure safety in offshore oil and gas operations.<sup>20</sup> The CSO directs a team of Safety Officers who closely monitor operations and conduct inspections and safety audits. The level of scrutiny of individual operations and the industry generally is very high. Safety Officers are present on the offshore facilities for significant periods of time. In regard to worker safety this also means that the safety officers are physically present among the workforce on the facilities for significant periods of time. These are very strong features of the C-NLOPB model. The CSO has the authority to shut down unsafe practices and will do so when necessary.

Safety in the context of C-NLOPB regulation of offshore activities includes protection of workers as well as protection of the environment and vessels, installations, or aircraft from offshore operations. As such safety and operations are two sides of the same coin in that good equipment and operating practices are integral to safety. The C-NLOPB's safety objectives are: to verify that operators have appropriate safety plans in place which are part of the operator's safety management systems, to verify, through audits and inspections, that operators follow their safety plans and applicable statutory requirements, and to verify, through compliance actions, that deviations from their plans and applicable statutory requirements are corrected.<sup>21</sup>

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<sup>18</sup> In regard to its offshore jurisdiction, the NEB, like the C-NLOPB, has safety as a key purpose in the exercise of its jurisdiction to authorize offshore operations and also has a Chief Safety Officer and a Chief Conservation Officer. See *Canada Oil and Gas Operations Act*. Shortcut to: [http://www.neb-one.gc.ca/clf-nsi/rpblctn/ctsndrgltn/ct/cndldngsprtnsct-eng.html#s2\\_1](http://www.neb-one.gc.ca/clf-nsi/rpblctn/ctsndrgltn/ct/cndldngsprtnsct-eng.html#s2_1)

<sup>19</sup> Shortcut to: <http://www.neb-one.gc.ca/clf-nsi/rthnb/whwrndrgvrnnc/whwrndrgvrnnc-eng.html>

<sup>20</sup> The role of the CSO is clearly described in detail on the C-NLOPB website for all to see. Shortcut to: [http://www.cnlopb.nl.ca/safe\\_compliance.shtml](http://www.cnlopb.nl.ca/safe_compliance.shtml)

<sup>21</sup> Exhibit P-00030 Power Point Presentation of Howard Pike Slide 3 of 31

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The role and mandate of the C-NLOPB is governed by the Canada-Newfoundland Atlantic Accord Implementation Act. According to Section 138.2 of the Act, “*The Board shall, before issuing an authorization for a work or activity... consider the safety of the work or activity by reviewing, in consultation with the Chief Safety Officer, the system as a whole and its components, including the structures, facilities, equipment, operating procedures and personnel*<sup>22</sup>”.

### Attributes of a High Quality Regulator

Regulators are servants of the public. Expected attributes include:

- Commitment to the legislated policy goals of regulation and a well considered approach and organizational structure: professionalism and dedication
- Objectivity and neutrality towards all who are affected by regulation: neither favouritism nor prejudice
- Knowledgeable and well informed on the matters regulated: subject matter expertise
- Open to information and views of those affected by regulation: accessible and open to fresh ideas
- Consistency in approach and decisions: predictable
- Approach and decisions grounded on a sound appreciation of what is reasonably achievable: practical and balanced
- Even handed approach and decisions that communicate clearly rationales and expectations: fair and transparent

The C-NLOPB possesses all these attributes. There is no evidence to the contrary. This should not be surprising. It should be obvious that the design of the model of regulation has these attributes in mind.

### Role of Industry

Industry is accountable for the safety and protection of its workforce, its operations, and the environment. Industry brings enormous depth of knowledge, experience, systems, and processes. This depth of expertise comes from the fact that the industry has been operating successfully for many years, has adapted to many different operating environments, and continues to adapt as circumstances change. Developing energy resources safely is critical to success.

Given that a key goal of regulation is to make well informed decisions, it is simple common sense that the regulator should welcome the knowledge and expertise that industry can contribute to any discussion.

Indeed, sound regulatory practice dictates that regulators invest in collaborative partnerships with stakeholders.<sup>23</sup>

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<sup>22</sup> Shortcut to: <http://laws.justice.gc.ca/eng/C-7.5/>

<sup>23</sup> *The Regulatory Craft*, Malcolm K. Sparrow, Brookings Institution Press, Washington D.C., 2000, p.100.

Acceptance of an industry view is never a foregone conclusion and decisions can and do differ from what industry would propose. The positions that any party presents to the regulator must be credible and persuasive.

Industry associations like CAPP, form precisely because governments want to make well informed polices and industry associations provide a vehicle for efficient communication between industry and government on issues that affect industry generally.<sup>24</sup> Conversely, industry has an obvious stake in well informed decision making and industry associations provide industry the ability to efficiently provide an industry view. Wherever government policy and regulation affects an industry that has multiple companies, industry associations of one form or another can be found. Such associations are, and they must as a matter of law be, voluntary. In free market economies, only a limited range of things can be undertaken by industry associations and, even within that range of activity, the members of the association must be free to pursue their own point of view when they do not agree with other members. CAPP plays this role in the Atlantic Canada offshore.

CAPP has a well-structured organization to manage petroleum industry issues in Atlantic Canada under the auspices of the Atlantic Canada Executive Policy Group. CAPP's organization in Atlantic Canada was described in the evidence in Phase 1a.<sup>25</sup>

### **Stakeholder Consultation**

The C-NLOPB has the ability to consult and often does consult with various stakeholders on its various initiatives. Environmental groups, drilling contractors, the workforce, certifying authorities, and other government entities have all been invited to provide, and have provided, input to C-NLOPB initiatives. The C-NLOPB also has MOUs with other government entities to co-ordinate, co-operate and avoid duplication.<sup>26</sup>

With regard to the offshore workforce the avenues for access to the C-NLOPB are substantial and include, through worker representatives of the Occupational Health and Safety (OHS) Committees: regular meetings with safety officers, attendance at opening and closing safety audit meetings, access to audit and inspection reports, being engaged in investigation of cases of right to refuse unsafe work, and the annual C-NLOPB meeting with the OHS Committees. In addition, any worker may make a complaint directly to the Board. The frequent presence of safety officers on board facilities provides another practical means of access.

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<sup>24</sup> Counsel for CEP observed that there is merit in a single point of contact by the C-NLOPB with an industry association such as CAPP. Transcript February 18, 2010 20:23. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF18.pdf>

<sup>25</sup> Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/P00059.PDF>

<sup>26</sup> MOUs exist, for example, with Environment Canada on environmental emergencies and with Transport Canada on certain marine matters.

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## Regulation and the Public Interest

Regulation, as noted above, exists to serve the public interest. There are theories that would challenge that this is what occurs in practice. These theories are well known: they have been around for as long as regulation. Policy makers also know of these theories and have designed systems to reinforce service in the public interest. The reading list issued by the Commissioner includes readings on regulatory capture. What is 'regulatory capture'? The Economist provides a concise definition:

*“Regulatory capture*

*Gamekeeper turns poacher or, at least, helps poacher. The theory of regulatory capture was set out by Richard Posner, an economist and lawyer at the University of Chicago, who argued that “REGULATION is not about the public interest at all, but is a process, by which interest groups seek to promote their private interest ... Over time, regulatory agencies come to be dominated by the industries regulated.” Most economists are less extreme, arguing that regulation often does good but is always at RISK of being captured by the regulated firms.”<sup>27</sup>*

In short, regulatory capture is about the failure of regulation and about private organizations that are not aligned in their business principles with the public interest. Let us be clear, while regulatory capture is an interesting concept that academics have debated for a century or more, the simple question is this: what evidence is there in relation to the issue of helicopter passenger safety that the C-NLOPB does not value safety? There is none. Indeed counsel for the Communications, Energy, and Paperworkers Union, while clearly probing vigorously potential areas for improvement, said this to the C-NLOPB Chief Safety Officer when he testified in February: “People could say I’m giving you a hard time here this morning, but I don’t doubt for a moment that you’re a man who cares about the people who work out there.”<sup>28</sup>

The CSO is very aware of the need to maintain objectivity in the safety role of the C-NLOPB. It is for this reason that the CSO regularly rotates Safety Officers from one facility to another so they do not become “too familiar, as it were.”<sup>29</sup>

The size of the industry and geography conspire to put the CSO and the Safety Officers into the same communities as workers and their families. The Safety Officers when on the facilities are in contact with workers daily. If there is capture it is by the entire community and the value that the entire community places on safety. This is precisely the kind of contact that reinforces values, expectations, and performance in the service of the public interest.

Moreover, the obvious counter-balance to any fear of capture by one stakeholder is to ensure a strong voice for others. In that regard and as noted above, various structured means exist for workers to communicate any concerns about safety including through the

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<sup>27</sup> Shortcut to: <http://www.economist.com/research/Economics/alphabetic.cfm?letter=R>

<sup>28</sup> Transcript, February 18, 2010, 82:2-6 Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HEL18.pdf>

<sup>29</sup> Transcript February 17, 2010 71:3-7. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HEL17.pdf>

OHS Committees. There is also an anonymous card system in place for raising concerns at all facilities where workers are located. Likewise, the C-NLOPB has systems in place to track and address any concerns raised by anyone.

Institutional arrangements are designed to ensure objectivity in the service of the public interest. The staff of the C-NLOPB are, in common parlance, public servants.<sup>30</sup> As public servants they serve under conditions designed to preserve their independence and make them immune from influence. The CSO is a public servant and the person presently occupying the office of CSO is a long service public servant. The C-NLOPB is governed by an independent Board that is subject to public scrutiny and operating in a context of ministerial accountability. The CSO holds an independent office and as Manager, Operations and Safety, reports directly to the Chair and CEO. The CSO has always had, and continues to have, the full support of the Board in matters of safety.<sup>31</sup> The CSO and Safety Officers have statutory authority that they exercise independently.

This Inquiry was initiated by the C-NLOPB and clearly demonstrates an interest to learn from accidents and to improve worker safety. The CSO also spoke of the C-NLOPB inviting the Norwegian Petroleum Safety Authority to review C-NLOPB safety regulation.<sup>32</sup>

In the broadest sense it is society that gives the petroleum industry a social license to operate. There can also be no doubt that the C-NLOPB, which is charged with the responsibility of regulating the offshore, works hard every day in the public interest. The industry also is called on to work hard to earn the social license and meet the expectations of the C-NLOPB every day.

### **Regulatory Models**

The model of regulation employed in the Newfoundland and Labrador offshore rests on a wealth of experience.

In the 19<sup>th</sup> century, many of the things that we now assume will be addressed by a regulator were left to civil courts applying judge-made laws that had grown up by precedent over centuries. Judges would decide cases using civil procedure and rules of evidence. This judicial model was not successful: judges however well intentioned were not subject matter experts, judges were completely independent from public policy making and judge-made law could not adapt to the changes brought about by the

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<sup>30</sup> The C-NLOPB is a body corporate and a separate employer within the broad public service framework and so is not a part of the public service in the sense, for example, of being subject to public service staff relations laws and other central controls. However, the officers and employees of the C-NLOPB do retain the all important job mobility of public servants within the public service such that they can compete for positions within the public service and are not limited to career opportunities within a small organization. See section 25 *Canada-Newfoundland Atlantic Accord Implementation Act*. Shortcut to: <http://laws.justice.gc.ca/eng/C-7.5/>

<sup>31</sup> Transcript February 17, 2010 253:15. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF17.pdf>

<sup>32</sup> Transcript February 18, 2010 114-115, 169-170. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF18.pdf>

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industrial revolution, judicial adjudication was backward looking not preventative, cases were decided as they were presented with no ongoing supervisory activity, the judicial process was costly and inefficient, and overall was an ineffective tool for issues that required ongoing administrative action and oversight.<sup>33</sup>

The modern regulatory body emerged in the early part of the 20<sup>th</sup> century and many variations of the model exist. Some of these bodies have powers that are quasi-judicial while others are more akin to a branch of government albeit very specialized and subject to administrative law duties of fairness and judicial review. Common features are their specialized nature and ability to exercise regulatory oversight on an ongoing basis with a range of approval and remedial powers supported by staffs of professional public servants.

For much of the 20<sup>th</sup> century the regulatory model was highly interventionist with a command/control approach. The regulator would in effect control the business in great detail and issue inflexible commands on what should be done, how it should be done, and when it should be done. This model also came to be seen as inefficient and ineffective.

The current approach is for the regulator to set the goals, to allow industry flexibility to meet the goals, and to exercise oversight.<sup>34</sup> Goal oriented regulation is detailed and systematically addresses all issues of concern to safety. Likewise the companies subject to regulation must demonstrate to the satisfaction of the regulator that they are achieving or exceeding the required level of safety with detailed concrete programs that address all issues of concern.

All the consultants to the inquiry have reported that goal oriented regulation is the modern approach and, most important, that it is an effective approach.

The C-NLOPB is a fully modern regulator that is moving towards goal oriented regulation with an organizational design appropriate for offshore Newfoundland and Labrador.<sup>35</sup> The goal-based model is sound. The regulatory structure with a single regulator is fundamentally sound. There is no need to change the structure of regulation by introducing another regulatory body for safety in the Newfoundland Labrador offshore.

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<sup>33</sup> See e.g. the discussion in the context of economic regulation in *The Regulation of Public Utilities*, Phillips, C.F., Public Utility Reports Inc., 3<sup>rd</sup> ed., 1993, p.128-129.

<sup>34</sup> The CEO of the CNSOPB gives an example of a “prescriptive” vs “goal-oriented” regulatory requirement is a 2009 OTANS conference presentation. See Shortcut to:

<http://www.cnsopb.ns.ca/pdfs/stuart-template.pdf>

The NEB May 27-28, 2009 Forum proceedings also provide insight on the NEB’s goal oriented approach

to matters including safety. Shortcut to: <http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrnmnt/sfty/nbfrm2009/nbfrmprcdng2009/nbfrmprcdng2009-eng.html>

<sup>35</sup> See the Frontier and Offshore Regulatory Renewal Initiative (FORRI):

Shortcut to: <http://www.nrcan-rncan.gc.ca/eneene/sources/offext/iniini-eng.php>

## **Continuous Improvement**

The upstream petroleum industry is committed to continuous improvement. Innovation, adaptation, and improvement are hallmarks of this industry in an ever changing world.

Changes that are brought about through this Inquiry should be grounded on demonstrated opportunities for change and sound reason to believe the change will lead to a significant net improvement over the current situation.

### **Specific Issues Identified by the Commissioner**

Below are some comments/perspectives related to five of the key issues raised by the Commissioner for further examination in Phase 1c.

#### ***Issue 1: Should there be a degree of separation within the C-NLOPB between offshore helicopter regulation and other offshore industry regulation?***

As observed above in the general discussion, there is already a separation within the C-NLOPB of the safety role: the CSO holds an independent office and has an independent statutory role that all the evidence indicates is exercised effectively by experienced and professional public servants.

There is also already a degree of separation between offshore helicopter regulation and other offshore industry regulation as Transport Canada is the primary regulator for the aviation industry in Canada. As described by the C-NLOPB during its testimony in February 2010, there is some overlapping jurisdiction between Transport Canada and the C-NLOPB as the C-NLOPB would have an interest in offshore helicopter regulation from the perspective of safety of the offshore workforce<sup>36</sup>. While there is some overlap, the overlap between Transport Canada and the C-NLOPB works because occupational safety of the passengers is the C-NLOPB focus while operational safety of the actual aircraft is the focus of Transport Canada. At the same time, an MOU between the C-NLOPB and Transport Canada could improve clarity and solidify roles related to helicopter safety.

With regard to the question of separating the safety role from other roles within the C-NLOPB one must first consider the value of having one party regulate the “whole” rather than subdividing industry regulation amongst parties. The C-NLOPB, as noted above in the general discussion, currently has the ability to consider safety in all aspects of C-NLOPB regulation and oversight. Safety Plans are tied to work authorizations and in order to get a work authorization a company first has to present a plan to the C-NLOPB which is acceptable and meets various requirements. Fragmenting industry regulation could potentially lead to communication issues (between industry and the regulator(s) and between divisions within regulator or among regulators) and a lack of appreciation

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<sup>36</sup> Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF17.pdf> and also Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF18.pdf>

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for the big picture. Adding one more regulator or player adds one more boundary with attendant issues of delineation, potential gaps, overlap, and grey areas.<sup>37</sup>

Sound regulatory practice, therefore, militates in favour of consolidation of authority not fragmentation. By way of example, the NEB has authority over safety under its governing legislation. There is also federal safety legislation, the *Canada Labour Code, Part II*, applicable to the undertakings and facilities regulated by the NEB. To address this, NEB safety inspectors have since 1987 been authorized to enforce the *Canada Labour Code, Part II*.<sup>38</sup> For an example of how this enforcement authority is exercised, see the NEB February 2009 report on a fatality investigation.<sup>39</sup>

The issue of separating aspects of safety regulation has been raised several times during the inquiry. The Commissioner has mentioned regulatory models where there is a separate regulator for safety issues from other issues regulated. Structural questions such as whether to look at safety holistically as an aspect of regulation of the whole activity or to segregate safety are complex and go well beyond the question of the safety of transportation by helicopter of workers to offshore facilities. It is not clear how the mandate of the Inquiry in regard to helicopter passenger transport extends to such broad issues. To the extent that the focus is limited to having a safety regulator for helicopter transport distinct from other aspects of offshore oil and gas regulation, that regulator already exists: it is Transport Canada and helicopter safety is a Transport Canada responsibility. However, the fact that some jurisdictions may have chosen to adopt a separate safety regulator does not in and of itself mean that changing to this model will lead to an overall net improvement in safety regulation for helicopter passenger transport in the Newfoundland and Labrador offshore. An evaluation of the pros and cons of the current model and an alternate model is required. The issue came up briefly when the C-NLOPB Chief Safety Officer was testifying and he said he thought that changing the model could lead to a loss in effectiveness and that the current model was to be preferred.<sup>40</sup> CAPP would concur.

***Issue 4: What are the most appropriate practices, standards and forms of interaction between the C-NLOPB and... (b) industry associations... and are these interactions sufficient to ensure requirements that are understood, timely, achievable and enforceable?***

As the association representing upstream oil and gas companies, CAPP has considerable interest in part b of this issue, which focuses on the relationship between the C-NLOPB and industry associations. There are many examples of how the relationship between the C-NLOPB and CAPP has worked well in the past. One of the examples is the effort of the C-NLOPB, the CNSOPB, CAPP, drilling contractors, and regional training

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<sup>37</sup> Transcript February 17, 2010 254-256. Transcript February 18, 2010, 176-179. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF17.pdf> and Shortcut to:

<http://www.oshsi.nl.ca/userfiles/files/HELF18.pdf>

<sup>38</sup> Shortcut to: <http://www.neb-one.gc.ca/clf-nsi/rthnb/whwrndrgvrnnc/rrspsnblt-eng.html>

<sup>39</sup> Shortcut to: [http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrmmnt/sfty/rfrncmtrl/nbrdgkrrbrtppmpsttn2008\\_03\\_24-eng.pdf](http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrmmnt/sfty/rfrncmtrl/nbrdgkrrbrtppmpsttn2008_03_24-eng.pdf)

<sup>40</sup> Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF17.pdf>

institutions on the Training and Qualifications Committee (TQC). The TQC will be discussed further in response to Issue 12 relating to training standards. As a general comment, the TQC manages a document related to training entitled Atlantic Canada Offshore Petroleum Industry Standard Practice for the Training and Qualifications of Personnel (the TQSP). The TQC is an example of an open and transparent process where, as described in the TQC terms of reference, CAPP is the custodian of the TQSP while the C-NLOPB and CNSOPB are the entities who ensure compliance in the administration by operators of the TQSP through audits and inspections.

Interaction between CAPP and the C-NLOPB is as frequent as the issues may require. These may be the more formal interactions through a standing body such as the TQC or may be of an ad hoc nature by way of CAPP collecting and providing feedback from members on C-NLOPB guidelines. CAPP will also provide updates to the C-NLOPB on any issues of interest. Depending on the issue, the C-NLOPB may go directly to the operators.<sup>41</sup> These interactions reflect the open lines of communications that exist between the C-NLOPB and stakeholders. This openness to receive information from stakeholders is the norm for a modern regulatory body.<sup>42</sup> The interactions between the C-NLOPB and CAPP are essential to ensure that regulatory requirements are understood, timely, fair, achievable and enforceable. It would be counterproductive to discourage, or to place barriers to, these vital communications. It would also be counterproductive to constrain the discretion of the C-NLOPB as to the various options for seeking input and information. Indeed as noted above, good regulatory practice calls for engagement between the regulator and stakeholders. The form and nature of engagement should be dictated by the circumstances and the nature of the issue or problem not by predetermined generic prescriptions.

During CAPP's testimony, one issue of considerable interest was the implementation of the Helicopter Underwater Emergency Breathing Apparatus (HUEBA) in Atlantic Canada. Specifically, questions were raised relating to the length of time it took to implement the compressed air HUEBA offshore Atlantic Canada and the decision making and communication processes used.<sup>43</sup>

The implementation of HUEBA was a particularly complex issue involving novel aspects and requiring many levels of expertise. Following the implementation CAPP committed to undertaking a review of the lessons learned from the implementation of HUEBA. The lessons learned exercise was completed and has been submitted to the Inquiry. The purpose of the exercise was to identify continuous improvement opportunities regarding the process by which issues of joint concern to the Atlantic Canada oil and gas industry can be worked through CAPP.

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<sup>41</sup> Transcript February 17, 2010 235:4-17. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF17.pdf>

<sup>42</sup> Transcript February 18, 2010 14:1. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF18.pdf>

<sup>43</sup> The oral evidence of Dr. Coleshaw is that, while disappointing, many issues involving improvements to helicopter passenger safety in scenarios involving ditching or crashes in water are difficult and are not quickly resolved. Transcript for June 29, 2010 35:5. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELJ29.pdf>

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The lessons learned highlighted several process elements that worked well, including the rigorosity of the process, documentation of decisions and research throughout the process and the value of a joint industry approach. It was determined that the existing processes that work well for handling most issues as between the Board and CAPP and within the CAPP structure do need improvement in the case of issues as complex as HUEBA. The lessons learned exercise identified the following opportunities for improvement for particularly complex issues:

- *Stakeholder Engagement*: Stakeholder communication protocols and processes, including communication with the OHS Committees, require greater effectiveness and visibility within project management.
- *Interface between CAPP and the Regulator*: Ensuring Regulator(s) expectations for deliverables and timelines are clearly articulated requires more attention as a first step in project management. Formal reporting of progress should be provided to the Regulator(s) at regular intervals.
- *CAPP Internal Process*: Project management should be enhanced to identify an AC EPG project champion with the responsibility to monitor the project to ensure that it is progressing in accordance with expectations.
- *CAPP Member Company Engagement and Support*: Project management should be further enhanced to:
  - support member company engagement and alignment,
  - utilize a project terms of reference document that is provided to all CAPP members and committees working on the project to ensure clear communication of expectations and responsibilities throughout the duration of the project,
  - document in the project terms of reference the nature of the project, project scope, roles, responsibilities, deliverables, key milestones, timelines, reporting relationships and requirements, resources available to the project including CAPP member and external resources, and the avenues for elevating and resolving issues,
  - be monitored by committee members to ensure they are current and to facilitate succession and management of change initiatives.

These recommendations have been adopted by CAPP and apply to particularly complex issues like HUEBA. They fully address, among other things, the relationship of the C-NLOPB and CAPP.

***Issue 12: What are the appropriate standards of offshore helicopter safety training to ensure that the risk to passengers is as low as is reasonably practicable, both during training and helicopter transport?***

It is CAPP's view that the current mechanism for determining the appropriate standard, the Training and Qualifications Committee (TQC), is the appropriate mechanism for setting standards related to offshore helicopter safety training. The TQC is a collaborative effort between CAPP, the Canadian Association of Oilwell Drilling Contractors (CAODC), training institutions, and regulators. The TQC is the body responsible for the Atlantic Canada Offshore Petroleum Industry Standard Practice for the Training and

Qualifications of Personnel (the TQSP). Feedback mechanisms and annual reviews have been built into the TQSP to ensure that there are opportunities for engagement of the workforce and other stakeholders.

The Commissioner has mentioned the Atlantic Accord reference to a Training Standards Board. Specifically, Section 136.2 of the Canada-Newfoundland Atlantic Accord Implementation Act<sup>44</sup> states that the Provincial Minister may approve the establishment of such a Board by the federal Ministers, the purpose of which is outlined in Section 5.5(1) and 5.5(2) of the *Canada Oil and Gas Operations Act*<sup>45</sup>. The Act provides as follows:

*5.5 (1) The federal Ministers, with the approval of the Provincial Ministers, may establish a board, to be known as the Offshore Oil and Gas Training Standards Advisory Board, consisting of not more than nine members, each of whom has special knowledge respecting offshore oil and gas operations or respecting training for such operations.*

*(2) The Board shall inquire as to existing training standards and, where necessary, develop or encourage the development of training standards and shall recommend the adoption of training standards to the federal and Provincial Ministers and to the Boards referred to in subsection 5.4(1). (1992, c. 35, s. 12).*

This provision dates back almost 20 years, well before there was significant offshore oil and gas development in Atlantic Canada. The Board contemplated was not established. The need has been met by other means. The TQC was formed by the collaborative efforts of C-NLOPB, the CNSOPB, the CAODC, and CAPP to develop and maintain the TQSP.

The TQC has in the result fulfilled the purpose of the Training Standards Advisory Board as described in the legislation. It has done so in a very economically efficient and effective manner. The TQC has in fact moved beyond recommending and developing training standards into other functions to ensure the quality of training related to the offshore oil and gas industry remains high. The collaborative approach to training as evidenced in the TQC effectively taps into the expertise of industry and training institutions as well as the regulatory oversight of both offshore petroleum boards in Atlantic Canada. The TQC reports to the CNSOPB and the C-NLOPB as well as to the CAPP Atlantic Canada Safety Committee. CAPP is described in the TQC terms of reference as the custodian of the TQSP while the Boards are described as the entities who have an enforcement role in the administration of the TQSP. The terms of reference also specify that the TQC will consult other affected parties such as offshore workforces and other key stakeholders, as and when necessary and that every reasonable effort will be made to consult affected parties before decisions are made. For example, the TQC engages the workforce by sending proposed changes and updates, via the installation owners' OHS Committees, for review and comment. The TQC sends a Change Request summary to the OHS Committees and endeavours to do so at least 45 days prior to approval. Comments will be accepted for review by the TQC as part of the approval process.

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<sup>44</sup> Shortcut to: <http://laws.justice.gc.ca/en/C-7.5/index.html?noCookie>

<sup>45</sup> Shortcut to: <http://laws.justice.gc.ca/en/O-7/index.html?noCookie>

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The TQC has put in place an inclusive process by which stakeholders involved in offshore training, those with the expertise as well as those with the responsibility for oversight, work together to ensure that training for the offshore workforce in Atlantic Canada is the most appropriate for the offshore environment in Atlantic Canada. The process is founded on the principle of continuous improvement so the document is a living document, updated regularly with processes built in to receive feedback from key players in the offshore, including the workforce. The TQC has not only developed training and qualifications requirements but has become a vehicle through which suggested improvements to the TQSP can be tabled and discussed by experts and regulators. Further, the TQC has moved into an evaluation role of course quality for offshore training. The effectiveness of the TQC has with all due respect made the issue of a Training Standards Advisory Board moot. There is no present need that would warrant the creation of an entirely new structure for training standards or justify the significant undertaking this would represent. The development of training standards involves a great many things other than helicopter passenger safety and involves substantial considerations and implications beyond the focus of this Inquiry

The TQC is currently undergoing a course quality review to ensure that training institutions are meeting the requirements of the TQSP. The course quality review is a transparent, flexible process whereby a third party industry consultant together with industry experts review training courses and make recommendations to training institutes on areas where there is a potential for improvement. The Basic Survival Training (BST) and Basic Survival Training Recurrent (BST-R) courses at both the Marine Institute – Offshore Safety and Survival Centre in Newfoundland and Labrador and Survival Systems Training Limited in Nova Scotia were reviewed in 2009. During the quality review, the TQC identified that the nature of the high-level TQSP had resulted in the development of different approaches to training in Newfoundland and Labrador versus Nova Scotia. While the ability to adapt training to meet the needs of users which may vary depending on jurisdiction is valued, the TQC identified that the standard can be improved by the development of performance based learning objectives which would have the effect of achieving higher levels of consistency in training program delivery and has made the review of the BST/BST-R course content a priority work item for 2010. The TQC will evaluate the programs offered locally and in comparison to international jurisdictions to determine appropriate TQSP content.

The course quality review and upcoming BST and BST-R performance based standards development speak to the value of the collaborative approach to training in Atlantic Canada and the transparency and continuous improvement values built into the TQSP. In addition to this work, the TQC will also be examining the recently created “Helicopter Awareness Course” in the United Kingdom to see if such a course should be developed for the Atlantic Canada offshore area and included in the TQSP in the future.

***Issue: 13: What personal protective equipment and clothing is necessary for helicopter passengers and pilots; what are the standards, and should the C-NLOPB require guidelines to ensure such equipment and clothing is properly fitted?***

Offshore operators in Atlantic Canada evaluate on an ongoing basis types of personal protective equipment (PPE) and other safety equipment they provide to the offshore workforce. Survival suits, for example, are a current area of focus for operators. There are two Canadian General Standards Board (CGSB) standards related to survival suits in Canada: the Helicopter Passenger Transportation Suit System (CAN/CGSB 65.17-99) and the Immersion Suit System (CAN/CGSB 65.16-05). CAPP currently has a seat on the CGSB Committee responsible for the management of both standards. As discussed in previous sections of this submission, relying on the expertise brought to bear of organizations like the CGSB is common practice for regulators in Canada and in other jurisdictions.

The CGSB helicopter passenger transportation suit system standard is currently under review by a CGSB Committee. A CGSB Committee is comprised of members with an interest in the “outcome”, i.e. end users (operators & labour), regulators, producers (including manufacturers), general interest (including academic). The CGSB strives to maintain a balance among the producer, general interest, user and regulatory interests voting to approve a standard. Membership on committees is reviewed on an on-going basis. Stakeholders not wishing to become voting members are able to still participate by becoming information members. As such, the CGSB process is an inclusive process that includes representatives from a wide range of interests including representatives of workers who actually will wear the suits. CAPP is participating on the review committee for this project.

During the review period, industry has sought to improve the evaluation of water ingress in order to achieve greater knowledge about suit system performance. In June and July 2009 CAPP worked with researchers to develop new water ingress test methodology incorporating more realistic conditions (submerged helicopter egress, vital actions, survival at sea and realistic weather conditions). The new test methodology is robust and rigorous. Though the water ingress methodology is not yet part of the CGSB helicopter suit standard, support has been expressed by the CGSB Committee for inclusion in the standard following a review by a CGSB working group tasked with evaluating the proposed methodology. This is an example of the continuous improvement approach industry takes to safety.

A report by the National Research Council, Institute for Ocean Technology (NRC IOT) was prepared for the Inquiry. The NRC IOT sits on the CGSB Committee engaged in the review of this suit standard. The issues identified by NRC IOT are very much a consideration in the review of the standard.

There is currently no guideline related to proper fit of the suits. The procedures that have been adopted by operators to ensure suits fit properly before allowing workers to fly offshore in helicopters has been identified by the TSB as a recommended practice. CAPP

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will also be discussing the work of the UK Helicopter Task Force with the CAPP Atlantic Canada Safety Committee in relation to best practices related to PPE and clothing for helicopter travel. The discussion with CAPP's Safety Committee will focus on learnings from the UK to ensure that these learnings are brought forward from that jurisdiction to the Atlantic Canada offshore

***Issue 19: Does the C-NLOPB have sufficient resources and expertise, including access to independent aviation expertise, to evaluate whether a proposal or plan for helicopter transport from industry ensures that the risks of helicopter transport are as low as reasonably practicable?***

CAPP strongly supports having a regulator with the proper level of resources and expertise, as well as access to and connections to other bodies with expertise, to make regulation effective and efficient.

The resources and expertise required by the C-NLOPB are dictated by its role as regulator. The regulator oversees the operator but it is the operator that is responsible for the operation and so the regulator does not have the responsibilities of the operator.<sup>46</sup> The regulator does not need the full suite of expertise possessed by the operator. The regulator does not need to have pilots who know how to fly a helicopter, or search and rescue technicians, or tool pushers or any of a myriad of other skills that the operator will need to employ. The goal of regulation is not to populate the regulator with one of every skilled occupation involved in offshore petroleum activity. The regulator needs to have the expertise appropriate for oversight: the expertise to assess the soundness of proposals, plans, and procedures for facilities and operations in the context of offshore petroleum operations. The regulator can also retain consultants to assist it on matters that do not justify a full time staff member. The expertise of other bodies, including other government entities, can also be obtained without the need to duplicate resources.

Nor does the regulator need to re-invent the wheel. It is entirely appropriate for the regulator to rely on the expertise of others whether that is CSA standards for offshore structures, CGSB standards for survival suits, certification of vessels by credible international bodies, or any other credible source of expertise including the learning that comes from doing, namely, industry best practices. Offshore operators bring to bear significant expertise in the proposals, plans, and procedures for their operations. This is exactly what one would expect from a business culture that values safe, reliable operations. When the regulator is satisfied with the due diligence of what is proposed it is entirely appropriate to reflect that in operating authorizations.

On occasion one hears the comment that a regulator is not doing its job because not enough (or any) proposals are denied. Comments like that are ill-informed. An enormous amount of work goes into proposals and plans. It is not surprising then that outright

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<sup>46</sup> Transcript February 18, 2010 114-115 where it was noted that the Norwegian Petroleum Safety Authority's one comment about the C-NLOPB approach to safety regulation was that it was too involved in the detail and should be at a higher level. Shortcut to: <http://www.oshsi.nl.ca/userfiles/files/HELF18.pdf>

denial is rare and it is more common for discussion to focus on terms and conditions for approval.

While we consider the C-NLOPB is appropriately resourced in terms of expertise, CAPP strongly advocates for and stresses the importance of ensuring the C-NLOPB is well resourced and staffed, including at the Board of Directors level, so that it can provide the appropriate level of oversight.

**Conclusion**

In conclusion, CAPP welcomes this opportunity to assist the Inquiry. In regard to the issues addressed above, CAPP is of the view that the overall structures of regulation are appropriate and provide a sound framework within which continuous improvement in safety can be achieved.

All of which is respectfully submitted by the Canadian Association of Petroleum Producers

July 30, 2010

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Canada-Newfoundland and Labrador

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**GOVERNMENT OF NEWFOUNDLAND AND LABRADOR**  
**SUBMISSION TO THE OFFSHORE HELICOPTER**  
**SAFETY INQUIRY (PHASE 1A)**

**JANUARY 2010**

# Offshore Helicopter Safety Inquiry

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**1. PURPOSE**

The purpose of this submission is to inform the Inquiry, by way of written submission as agreed to by Counsel for the Inquiry, on the history of *The Atlantic Accord Agreement*, the *Canada-Newfoundland Atlantic Accord Implementation Act* and the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* (the Accord Acts), as well as to clarify: the roles of the various parties and the regulation-making power under that legislation; the procedure for amending the Accord Acts; a brief overview on the process involved in the current amendments to the Accord Acts; an outline of the general principles of occupational health and safety that form the basis for onshore and offshore occupational health and safety legislation; and the occupational health and safety regime that is currently in place in the offshore area.

While the Accord Acts govern occupational health and safety in the offshore area, matters related to the safety and airworthiness of helicopters used in the transportation of workers to and from the offshore area are within the exclusive jurisdiction of Transport Canada and therefore will not form part of this submission.

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## 2. HISTORY OF THE ATLANTIC ACCORD LEGISLATION

*The Atlantic Accord Agreement* (the Accord Agreement), was signed on February 11, 1985 to facilitate the orderly development of petroleum resources in the offshore area.

The purposes of the Accord Agreement were, among other things, to recognize the right of Newfoundland and Labrador to be the principal beneficiary of the offshore oil and gas resources; to recognize the equality of both governments in the management of the resources; to provide that the Government of Newfoundland and Labrador can establish and collect resource revenues; to provide for a stable and fair offshore management regime for industry; and, to promote within the system of joint management consistency with the management regimes established for other offshore areas in Canada. It was within the Accord Agreement that the two parties agreed to establish the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) to administer the relevant provisions of the Accord Acts.

For the purposes of defining the role of the C-NLOPB and each government in the Accord Agreement, decisions on offshore resources were divided into four categories, namely:

**Decisions of the Government of Canada.** Decisions made under legislation of general application not specifically related to oil and gas exploration and production, and decisions related to the application of federal taxes.

**Decisions of the Government of Newfoundland and Labrador.** The royalty regime and other provincial type revenues (e.g. provincial corporate income tax, rental and license fees); and decisions related to provincial laws of general application having effect in the offshore.

**Decisions made by the C-NLOPB.** The C-NLOPB is required to make decisions relating to the regulation and management of petroleum-related activities in the offshore area (e.g. administration of regulations respecting operational and occupational safety, declarations of discoveries, environmental protection and resource conservation).

**Fundamental Decisions and Joint Directives.** Where a fundamental decision under the Accord Act (e.g. issuance of rights, approval of development plans) is made by the C-NLOPB it shall give notice of the decision to both the federal and provincial ministers responsible for energy issues for approval before the decision becomes final. In addition to fundamental decisions, ministerial joint directives may be issued to the C-NLOPB, which the C-NLOPB shall comply with, related to, among other things, fundamental decisions and Canada-Newfoundland and Labrador benefits plans.

The Accord Agreement was implemented by the enactment of mirror (parallel) legislation, namely, the *Canada-Newfoundland Atlantic Accord Implementation Act* and

the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* to govern all petroleum operations in the offshore area. In addition, the Accord Agreement and the Accord Acts established that the C-NLOPB would be responsible for, on behalf of the Government of Newfoundland and Labrador and the Government of Canada, the joint management of petroleum resources in the offshore area.

A similar memorandum of agreement was entered into between the federal government and the Government of Nova Scotia. The *Canada-Nova Scotia Offshore Petroleum Resources Accord* was signed on August 26, 1986 and implemented by the enactment of parallel legislation.

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## **3. THE ROLE OF VARIOUS PARTIES UNDER THE ACCORD LEGISLATION**

Under the Accord Acts, the C-NLOPB has the legal powers and capacities of a corporation incorporated under the *Canada Business Corporations Act*. It can only be dissolved by the joint operation of an Act of Parliament and the Legislature of the Province. The Accord Acts establish its structure and the capacity to hire staff to perform the duties and functions of the C-NLOPB under the Accord Agreement and the Accord Acts. The C-NLOPB consists of seven members, three appointed each by the federal and provincial government with the Chairman appointed jointly.

The C-NLOPB's responsibilities include the administration of the Accord Acts and regulations, which includes operational and occupational health and safety; the issuance and administration of petroleum and exploration and development rights; administration of statutory requirements regulating offshore exploration, development and production; the approval of Canada-Newfoundland and Labrador benefits and development plans; and the mandate to administer the registration of interests and instruments in petroleum in relation to the offshore area. The C-NLOPB also has the power to attach as conditions of the authorization, terms and conditions including those related to safety or occupational health and safety.

The Government of Canada and the Government of Newfoundland and Labrador are responsible for any amendments to the Accord Acts and the making of regulations. The C-NLOPB, as administrator of the Accord Acts and regulations, plays an essential role in advising governments, due to its operational and technical expertise, on matters relating to proposed amendments to the Accord Acts or the development of regulations. The Accord Acts provide the C-NLOPB with the ability to make recommendations to both governments with respect to proposed amendments to the Accord Acts and any regulations made under the Accord Acts.

#### **4. THE REGULATION-MAKING POWER WITH RESPECT TO OCCUPATIONAL HEALTH AND SAFETY UNDER THE ACCORD ACTS**

Amendments to both the Federal Accord Acts and the Newfoundland and Labrador and Nova Scotia Accord Acts that were made in 1992 and which implemented a number of major recommendations flowing from the *Ocean Ranger Royal Commission* and the *Harrison Task Force Report* had an unforeseen impact upon the ability of governments to promulgate occupational health and safety regulations under the Accord Acts.

The provision in the Accord Acts dealing with 'social legislation' provides that the provincial occupational health and safety legislation applies in the offshore area. However, the 1992 amendments to the Accord Acts limited that application so that any content in the provincial occupational health and safety legislation would not take effect if the same subject matter could be addressed by regulations made under the Accord Acts. The regulation-making authority under the Accord Acts allows the creation of regulations with respect to safety and the result is that the power to regulate offshore occupational safety no longer rests with the Government of Newfoundland and Labrador and is instead made the subject of the joint management scheme under the Accord Acts. The wording results in rendering inapplicable in the offshore area all those provisions of the provincial *Occupational Health and Safety Act* that deal with safety. Regulations made under the joint management scheme under the current authority of the Accord Acts can only deal with safety and not occupational health and safety.

The concepts of occupational health and occupational safety are too closely intertwined to be separated in this manner. It is difficult to determine which aspects of the provincial occupational health and safety legislation relate to occupational health as opposed to occupational safety. It is equally difficult to draft regulations under the Accord Acts that relate solely to occupational safety. There was never a policy direction to arrive at this result; it was an unanticipated consequence of the amendments coming out of the *Ocean Ranger Royal Commission* and the *Harrison Task Force Report*.

Given the ambiguity regarding the ability to adopt regulations for occupational health and safety under the Accord Acts, the C-NLOPB uses terms and conditions of work authorizations as a means to ensure a comprehensive and enforceable occupational health and safety regime for offshore workers. The overall safety of individuals in the offshore area is protected under this regime. Amendments are under way to provide regulation-making authority for occupational health and safety under the Accord Acts ensuring a comprehensive legislative occupational health and safety regime for the offshore.

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## 5. MEMORANDUM OF UNDERSTANDING

In 2001, various departments of the Government of Newfoundland and Labrador, the C-NLOPB and Natural Resources Canada renewed an earlier (1989, 1994) Memorandum of Understanding (MOU) concerning the administration of legislation related to the occupational health and safety of workers in the offshore area and the consultative process to be followed by the parties to the MOU. The purpose of the MOU was to enhance the C-NLOPB's ability to carry out its responsibility for occupational health and safety (OHS) under the Accord Acts. The MOU provided that the C-NLOPB would consult with the government departments to ensure that the OHS regime implemented by the C-NLOPB was consistent to the extent relevant with the OHS regime implemented by the Province. As well, relevant government departments agreed, upon request of the C-NLOPB, to provide advice to the C-NLOPB concerning regulatory practice in the Province affecting the occupational health and safety of the workers. The C-NLOPB committed to take into account regulatory practice in the Province and in other offshore jurisdictions in formulating recommendations or establishing OHS guidelines for the offshore area and, where appropriate, to promote consistency with other offshore jurisdictions in Canada. The MOU also contains provisions relating to co-operation between parties in matters dealing with occupational health and safety committees and worker representatives, the right to refuse unsafe work and the prevention of discriminatory action against workers, in the offshore area. For those purposes, provisions are included on inspections and investigation, the training of inspectors, the designation of C-NLOPB personnel as OHS officers, records and statistics required with respect to OHS, reports of incidents and the training of offshore workers.

## **6. AMENDMENT PROCESS UNDER THE ACCORD ACTS**

In 1999, Canada, Newfoundland and Labrador and Nova Scotia embarked on a process to formulate amendments to their respective Accord Acts to provide for a comprehensive legislative occupational health and safety regime in the offshore area which would provide, among other things, an ability to make regulations relating to occupational health and safety.

Amendments to either the Federal Accord legislation or the Provincial Accord legislation have force and effect when the amendments to both the Federal Act and the Provincial Act have been passed. This means that the amendment process will always involve both the Federal and Provincial governments. Governments have agreed that consistency in the East Coast offshore regimes, of Newfoundland and Labrador and Nova Scotia, is a desired outcome as well.

The number of parties, the complexities and process involved in the subject matter of occupational health and safety as well as the realities of working within three separate government systems (Federal, Newfoundland and Labrador and Nova Scotia) has resulted in a much longer process that was envisioned when the amendment process was embarked upon. Negotiations around the amendments have involved affected groups within the three governments with each jurisdiction having representatives from the department responsible for the Accord legislation, representatives from the department responsible for occupational health and safety, and representatives from the each of the Departments of Justice. Representatives from both the C-NLOPB and the Canada-Nova Scotia Offshore Petroleum Board have also been full participants in this process. Final decisions on policy that will form part of the drafting instructions for the amendments must also be approved by the Federal Cabinet, the Newfoundland and Labrador Cabinet and the Nova Scotia Cabinet.

During 2000-01, discussions among the parties focused broadly on all aspects of the policy to be embodied in the legislative amendments, plus the administrative oversight roles of Labour and Energy ministries. Following these discussions, officials prepared a paper entitled *“Proposed Amendments to the Accord Acts to Incorporate an Occupational Health and Safety Regime – November 2002”* and held workshops in St. John’s and Halifax with stakeholders to receive feedback. Following these sessions, detailed policy discussions and legal drafting continued and a draft Bill was prepared in 2003. A further discussion paper was prepared in 2003 followed by more stakeholder workshops. These consultations sessions resulted in further policy discussions respecting an appropriate occupational health and safety regime. In 2005 an agreement was reached on a new governance model for the occupational health and safety section of the Accord Acts; Governments then proceeded to seek a mandate to draft legislation based on this new governance model. Drafting began in 2007 and officials continue to meet on issues requiring further policy clarification in an effort to conclude legal drafting.

# **Offshore Helicopter Safety Inquiry**

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Officials plan to conduct stakeholder information sessions in early 2010 on proposed amendments to the Accord Acts to incorporate the occupational health and safety regime. These amendments would be presented to each jurisdiction's respective Cabinet for approval in 2010.

The longevity of this amendment process has not affected the ongoing regulation of occupational health and safety. As noted, occupational health and safety regulations have continued to be imposed in the offshore area through the terms and conditions of work authorizations. Nor do the amendments proposed to the Accord Acts impact the safety and airworthiness of helicopters used in the transportation of workers to and from the offshore, as these matters are within the exclusive jurisdiction of Transport Canada.

## **7. GENERAL PRINCIPLES OF OCCUPATIONAL HEALTH AND SAFETY**

Occupational health and safety is a cross-disciplinary area concerned with protecting the health, safety and welfare of people engaged in work or employment. The goal of occupational health and safety is to promote and foster a safe working environment.

There are certain accepted principles that form the basis of the discipline of occupational health and safety namely that employers are responsible for working conditions and that all workers have rights; and both the employer and the worker have a duty to work together in creating a safe and healthy work environment.

In Canada, and in Newfoundland and Labrador, the occupational health and safety legislation is based on the internal responsibility (IRS) principle, with workplace parties held responsible for their own health and safety. The IRS philosophy delineates the legal responsibilities among the workplace parties, primarily employers and employees, as well as the role of government in achieving safe and healthy workplaces. The Provincial *Occupational Health and Safety Act* and regulations reflect the IRS principles and impose certain minimum standards and conditions.

OHS legislative requirements impose strict duties and outline the legal responsibilities on the various workplace parties. The duty of care placed on employers obligates that they do all that is “reasonably practicable” to provide a safe work environment. Subject to the exercise of due diligence, the employer is normally held directly accountable for the working conditions.

OHS legislation generally does not impose or prescribe specific “step by step” procedures one must take in achieving a healthy and safe workplace. Instead, it holds employers responsible for assessing the workplace and implementing the means, measures and/or mechanisms to ensure the health and safety of employees. OHS regulations, on the other hand, tend to be more prescriptive or prohibitive and address hazard specific controls in a more technical and or industry specific fashion.

From the employee perspective, there are three generally accepted “rights” which are enshrined in OHS law. These rights are referred to the “Right to Know”, the “Right to Refuse” and the “Right to Participate”. Essentially these rights translate into workers having the right to know about unsafe conditions that may exist in their workplace, having the right to participate in discussion affecting their health or safety through representation on an occupational health and safety committee, and ultimately having the right to refuse unsafe or unhealthy work. Workers have a duty to take care of their own safety and health, as well as the safety of anyone who may be affected by what they do or fail to do.

OHS principles which are also reflected in legislation are based on the philosophy where one first does what is reasonable and practical to eliminate hazards altogether and then further minimize the risk of exposure by way of control measures or other administrative processes. This is commonly referred to as the “hierarchy of controls”.

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The joint occupational health and safety (JOHS) committee, a cornerstone of the IRS and reflected in legislative frameworks, is the forum for employers and employees to work together to achieve this goal. The JOHS Committee is given its mandate and also has duties and responsibilities assigned to it in the OHS Act. Government supports this responsibility through the setting of training standards for and making resources available to committee members and by providing advice and technical information as necessary.

The management of OHS in the workplace is also facilitated by the establishment of OHS programs, which are a set of written safety related documents specific to the work environment. Employers must develop a written program in consultation with their employees. The OHS committee is the mechanism to facilitate cooperation between the employer and employees in this regard.

Government's role, through enforcement activity, is to assess how effective the workplace parties are in working together to meet their respective responsibilities. Through inspections and investigations, OHS officers assess the workplace and intervene where necessary to ensure that the required mechanisms are in place for the workplace parties to manage safety themselves on a day to day basis.

The principles of occupational health and safety that form part of the safety regime in place in the offshore area through the provisions of the Accord Acts and as part of the conditions of the authorization issued by the C-NLOPB, are consistent with the general principles of occupational health and safety. Those principles, which are consistent with the provincial *Occupation Health and Safety Act*, will be reflected in the amendments to the Accord Acts that are currently being drafted. The proposed amendments will reflect, to the extent they are applicable and practical, provincial or federal occupational health and safety legislative regimes. Where equivalent onshore provisions do not exist or do not reflect the unique nature of the relationship of operators vis a vis contractors or the remote nature of the work environment, provisions were drafted to reflect C-NLOPB practices and to be consistent with the spirit of occupational health and safety and the internal responsibility principles on land.

## **8. THE CURRENT OCCUPATIONAL HEALTH AND SAFETY REGIME IN THE OFFSHORE**

It is expected that each of the three governments will consider a Bill in 2010 that, if approved, would be placed before their respective legislatures for debate. In the interim, the draft regulations, as well as certain provisions of the provincial occupational health and safety legislation, will continue to be administered and enforced by the C-NLOPB as terms and conditions of authorizations for offshore drilling and production activities.

Under the Accord Acts no person is entitled to carry on any work or activity related to exploration or drilling of petroleum in the offshore area unless the person is the holder of an operating licence and an authorization before the commencement of operations. The authorization is subject to such approvals, or conditions, as the C-NLOPB determines.

The standard authorization issued by the C-NLOPB, referred to as an “operational authorization” contains two key conditions which together constitute a comprehensive occupational health and safety regime. First, the C-NLOPB as part of its standard conditions requires that a draft regulation entitled the “*Petroleum Occupational Safety and Health Regulations*” be complied with until the Act is amended to include occupational health and safety regulations. Another standard condition requires that Operators follow a supplementary document created by the C-NLOPB called the “*Other Requirements Respecting Health and Safety*” which includes requirements respecting employer general duties, occupational health and safety committees, and the right to refuse to work.

The Accord Acts provide for effective enforcement of these conditions. The C-NLOPB may suspend or revoke an operating license or an authorization for failure to comply with, contravention of, or default in respect of a requirement, approval, fee or deposit subject to which the license or authorization was issued. Further, the Accord Acts create an offence for every person, including a corporation, who undertakes or carries on a work or activity without an authorization under or without complying with the approvals or requirements of the authorization and provides for a penalty of up to one million dollars or imprisonment for a term of up to five years.

# Offshore Helicopter Safety Inquiry

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## 9. CONCLUSION

The protection of offshore workers is of paramount importance to all parties involved in the exploration and production of our offshore resources. Despite the slow progress on the occupational health and safety Accord Act amendments, worker safety in the offshore has not been compromised. Pursuant to the Accord Acts, the C-NLOPB, prior to authorizing a work or activity, must consider the safety of the work or activity by reviewing the system as a whole and its components, including its structures, facilities, equipment, operating procedures and personnel. In addition, the aspects respecting occupational health and safety are an integral component of the authorization process. Working in a harsh environment requires a concerted effort from all responsible and the ability to keep pace with technological advances and best practices both nationally and internationally. We are confident in the administration of this important component of offshore operations and are committed to the future advancement of offshore safety with all responsible parties.



**GOVERNMENT OF NEWFOUNDLAND AND  
LABRADOR SUBMISSION TO THE OFFSHORE  
HELICOPTER SAFETY INQUIRY (PHASE 1C)**

**30 JULY 2010**

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The Offshore Helicopter Safety Inquiry was established by the Canada-Newfoundland and Labrador Offshore Petroleum Board following the March 12, 2009 crash of Cougar helicopter flight 491 in the Newfoundland and Labrador offshore area. The causes of the accident are being investigated by the Transportation Safety Board. The Offshore Helicopter Safety Inquiry will recommend improvements to the safety regime in the Newfoundland and Labrador area to ensure the risks of offshore helicopter transportation remain as low as reasonably practicable.

Offshore helicopter safety is a shared concern for many around the world. For example, the United Kingdom and Norway, both countries with robust safety regimes, have seen 51% and 57%, respectively, of their offshore workers indicating that they feel safe travelling by helicopter.<sup>1</sup>

In Canada, matters related to the safety and airworthiness of helicopters used in the transportation of workers to and from the offshore area remains within the exclusive jurisdiction of the federal government through Transport Canada. Worker safety while travelling to and from the Newfoundland and Labrador offshore area is a subject of regulation by the Canada – Newfoundland and Labrador Offshore Petroleum Board which was established by the Atlantic Accord Agreement.

The Atlantic Accord Agreement was signed on February 11, 1985 to facilitate the orderly development of petroleum resources in the Newfoundland and Labrador offshore area. The parties to the Agreement were the Government of Newfoundland and Labrador and the Government of Canada. Under the Agreement the parties agreed to establish the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) to

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<sup>1</sup> Graham Morrison, *Offshore Technology Report 2000/089: Helicopter Safety Offshore* (United Kingdom: Health and Safety Executive, 2001) at 41, online: <<http://www.hse.gov.uk/research/otopdf/2000/oto00089.pdf>>. [*Offshore Technology Report 2000/089: Helicopter Safety Offshore*] (Tab 1) (Volume 1 - Tab 2 of Commissioner's Reading Materials). In the Workers Survey conducted in the Newfoundland and Labrador offshore area, between 36% (responded 4 or 5 on scale) and 71% of workers (responded 3, 4, or 5, on the scale) indicated that they felt safe travelling in helicopters to and from their installation. Aerosafe Risk Management, *Passenger Survey Report, May 2010* (Washington, D.C.: Aerosafe Risk Management, May 2010) at 19 (Tab 2).

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administer the relevant provisions of the Accord Acts. The Accord Acts are the federal and provincial legislation which were necessary to implement the Atlantic Accord Agreement. The C-NLOPB was thus established as the primary regulator responsible for the management of petroleum resources in the NL offshore area. The Government of Newfoundland and Labrador retained responsibility for industry promotion, the royalty regime and other provincial type revenues.

This submission explains the existing regulatory regime, discusses key reports on the regulation of the NL offshore area (Ocean Ranger Commission and Harrison Task Force), discusses the governance and regulatory regimes in place in other countries, and explains the proposed occupational health and safety amendments to the Accord Acts.

## **1. Current Provisions of the Accord Acts**

Under the Accord Acts, a C-NLOPB issued work authorization is required prior to commencing operations regarding any work or activity related to the exploration or drilling for, or production, conservation, processing or transportation of petroleum in the offshore area. The C-NLOPB may suspend or revoke an authorization for failure to comply with, contravention of, or default in respect of any condition of the authorization. Importantly, the authorization of the work or activity is flexible and provides the C-NLOPB with the ability to amend or require additional conditions related to the work or activity. This provides the C-NLOPB with a mechanism to ensure additional health and safety measures are taken if required.

The Accord Acts set out provisions which ensure that the C-NLOPB's safety officers and the Chief Safety Officer are fully empowered to make safety-based decisions. C-NLOPB safety officers ensure compliance with health and safety requirements. They have the power to order a company to cease operations if, in their opinion, the operations being conducted are likely to result in a serious safety hazard for workers. This authority is similar to the authority of provincial onshore safety officers with respect to requiring the suspension of work where there is an immediate safety or health concern.

The Accord Acts make safety a paramount consideration. For example, where there are reasonable grounds to believe an operation in relation to the exploration, drilling, production, conservation, processing or transportation of petroleum is likely to result in serious bodily injury, the Chief Safety Officer is empowered to order an operation cease. Further, an order made by a safety officer or the Chief Safety Officer prevails over an order made by a conservation officer or the Chief Conservation Officer to the extent of any inconsistency between the orders.

An important existing oversight mechanism in the Accord Acts is the requirement that, in the event of a fundamental decision, the C-NLOPB shall give notice to the federal and provincial energy ministers who shall approve or disapprove the decision within 30 days before the decision becomes final. Examples of fundamental decisions include the issuance of rights and approvals of development plans.

## **2. Ocean Ranger Commission and Harrison Task Force**

The Royal Commission on the Ocean Ranger Marine Disaster examined the February 1982 capsizing and sinking of Ocean Ranger, a mobile drilling unit, on the Grand Banks. The Commission's Report recommended ways to improve safety in the Newfoundland and Labrador offshore oil industry. The Ocean Ranger Commission undertook a detailed analysis of offshore safety issues by commissioning studies, meeting with professional experts in the field of safety from academia and industry, holding public hearings, visiting offshore rigs, training institutions and emergency facilities and participating in safety meetings with rig workers.

The Ocean Ranger Commission concluded that "the single window approach would appear to be the best institutional arrangement for regulating offshore oil operations" as long as appropriate steps such as "the establishment of a Safety Branch within the single

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regulatory agency” were taken.<sup>2</sup> The Commission noted that with a single regulatory agency “competing jurisdictions, administrative overlap and lack of co-ordinated, consistent policy were diminished.”<sup>3</sup> The C-NLOPB follows this model.

The Ocean Ranger Commission made a total of 133 recommendations. Recommendation 86 stated:

That Canada maintain the approach of a single regulatory agency, in concept and in practice, in exercising regulatory control over MODUs and the varied aspects of their drilling operations including the standby role of vessels and the rescue role of helicopters under contract to industry.<sup>4</sup>

The Ocean Ranger Commission also found that:

Canada needed a uniquely Canadian offshore safety regulatory regime [...because...] existing laws were directed primarily to onshore oil and gas operations and that a uniquely hazardous environment existed in the northwest Atlantic. Regulations and standards developed for other parts of the world were not necessarily relevant to this environment.<sup>5</sup>

While the C-NLOPB is the primary regulator in the NL offshore area, there are other regulatory agencies which play a role in regulating specific aspects of offshore safety. For example, Transport Canada regulates marine and air transportation including offshore helicopter transportation and the C-NLOPB consults closely with Transport Canada on these matters.<sup>6</sup>

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<sup>2</sup> Royal Commission on the *Ocean Ranger* Marine Disaster, *Report Two: Safety Offshore Eastern Canada*, v. 2 (Ottawa: Supply and Services Canada, 1984-1985) at 140 [Ocean Ranger Commission Report] (Tab 3). A ‘single window regulator’ involves the allocation of full regulatory control for a particular area or industry to one agency or regulator.

<sup>3</sup> Ocean Ranger Commission Report, *supra* note 2 at 152 (Tab 3).

<sup>4</sup> Ocean Ranger Commission Report, *supra* note 2 at 152 (Tab 3).

<sup>5</sup> Rob Grant, Q.C., Will Moreira, Q.C. & David Henley, “Potential for Performance-Based Regulations in the Canadian Offshore Oil and Gas Industry” (2006) 44 Alta. L. Rev. 1 at para 68 [Potential for Performance-Based Regulations] (Tab 4).

<sup>6</sup> Transport Canada is the federal government department responsible for most transportation related policies and regulations. Some of Transport Canada responsibilities include setting standards for pilot testing and licensing, testing flight crewmembers on emergency response procedures, regulating marine pleasure craft and commercial vessels, certifying commercial shipping officers and crews on Canadian ships, setting standards for new and imported automotive vehicles and equipment, investigating vehicle defects, regulating the interprovincial truck and motor coach industry, establishing safety standards and

## 2.1 Harrison Task Force

After the Ocean Ranger Commission Report was issued a ministerial task force, the Harrison Task Force, was established to make recommendations regarding the implementation of the Ocean Ranger Commission Report. In a report issued on July 31, 1986 Task Force members supported the Ocean Ranger Commission's single window regulatory model and determined that effective safety regulation could not be 'parceled out':

It is also implicit that regulatory authority must extend to all functions performed as part of offshore oil and gas activities and to all equipment used in those activities. Effective safety regulation cannot be parceled out according to whether a particular function is a marine or an industrial function, or whether a particular piece of equipment is or is not a "ship".<sup>7</sup>

The Harrison Task Force reached some key conclusions regarding the importance of a single regulatory body in ensuring safety in the offshore:

Even if it were conceptually acceptable and practically possible to divide regulatory authority with respect to safety in offshore oil and gas activities, there would be dangers in doing so. Multiple authorities necessarily raise the possibility, if not the inevitability, of overlaps and duplication. Such overlaps and duplication not only impose a cost but, even more importantly, they also raise the spectre of confusion which in turn would have the detrimental effect of undermining industry's efforts to ensure safety. Confusion about jurisdiction also results in regulatory authorities not acting when they should.<sup>8</sup> [emphasis added]

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regulations for the transportation of dangerous goods, and developing and enforcing security regulations. See Transport Canada, *Organization: What We Do*, online: <http://www.tc.gc.ca/eng/aboutus-whatwedo.htm> (Tab 5).

<sup>7</sup> Harrison Task Force, *A Report to the Minister of Energy, Mines and Resources by the Minister's Task Force on Ocean Ranger Regulatory Recommendations*, (31 July 1986) at 27 [Harrison Task Force Report] (Tab 6).

<sup>8</sup> Harrison Task Force Report, *supra* note 7 at 29-30 (Tab 6). The Harrison Task Force's terms of reference focused on the implementation of the Ocean Ranger Commission Report and precluded the Task Force from further studying or recommending alternatives to the Accord Acts or the Ocean Ranger Commission Report. Nonetheless, the Harrison Task Force emphatically endorsed the Commission's single regulator model.

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The Harrison Task Force was not only concerned with duplication and regulatory overlaps. The Task Force report also noted that:

In addition to overlaps and duplication among multiple authorities, a division of jurisdiction also raises a serious risk of gaps in the regulatory system. These may appear as gaps in the conferral of the jurisdictions of the respective authorities. They may also appear as a consequence of confusion about the extent of the jurisdiction conferred or even about the exercise of a conferred jurisdiction. For example, each of two regulatory authorities may believe that a particular matter is within the jurisdiction of the other or is being regulated by the other whereas in fact neither is regulating, notwithstanding a clear need. Such gaps may be outright dangerous.<sup>9</sup> [emphasis added]

With respect to the Ocean Ranger Commission's emphasis on the establishment of a Safety Branch within the single regulatory authority, the Harrison Task Force agreed with that recommendation:

The Hickman Commission recommended (Recommendation #88) the establishment within the single regulatory agency of a Safety Branch responsible, *inter alia*, for the development, application and monitoring of safety standards and for the analysis of safety data. Such a Branch would be precaution against the inherent risk that, in combining in one lead agency responsibility for regulating exploration, production and safety, "in the drive for energy self-sufficiency under conditions of economic stress, the price to be paid may be to compromise safety". The Task Force shares this concern and agrees that a distinct Safety Branch should be established.<sup>10</sup>

The Harrison Task Force concluded its report with a number of specific recommendations, including:

That regulatory authority with respect to oil and gas operations, including the safety of those operations, be singular and that, more specifically with respect to offshore operations, authority not be divided on the basis of distinctions between marine and industrial functions or between ships and other types of equipment.<sup>11</sup>

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<sup>9</sup> Harrison Task Force Report, *supra* note 7 at 29-30 (Tab 6).

<sup>10</sup> Harrison Task Force Report, *supra* note 7 at 70 (Tab 6).

<sup>11</sup> Harrison Task Force Report, *supra* note 7 at 88 (Tab 6).

While the Ocean Ranger Commission recommended, and the Harrison Task Force supported, a regionally based single window regulatory model, there are unique governance, geographic and regulatory considerations in other jurisdictions which have led to many different regulatory models, each designed to suit its particular offshore jurisdiction.

### **3. Regulatory Regimes in Other Jurisdictions**

The offshore oil and gas industry is regulated in many different ways in other offshore jurisdictions. As a result, it can be difficult to compare the regulatory regimes because there are substantial variations in governmental structures, industry size and geopolitical realities.

For example, while the United States has announced that it will create a separate safety entity under the Department of the Interior, the regulatory roles and activities in that jurisdiction are very different from offshore Newfoundland and Labrador. In the United States, the Gulf of Mexico offshore area is regulated by national level federal agencies. One of those agencies, the Minerals Management Service also has a royalty collection role. The CNOLPB has no comparable role. In Newfoundland and Labrador royalties are administered by the provincial Department of Natural Resources which also has responsibility for industry promotion.

Information regarding a selection of offshore jurisdictions indicates the variety of government systems and regulatory regimes in offshore areas around the world. Other countries with offshore regimes and central government systems, including the United Kingdom, Norway, New Zealand and Denmark have national level regulatory agencies. Although they are federal countries, the United States and Australia have national level offshore regulatory agencies which control the regulatory function for the entire country, no matter how unique the particular circumstances of any geographic region. In Canada, offshore oil operations occur in very disparate geographic areas, from the Arctic Ocean to

the waters off Nova Scotia and Newfoundland and Labrador. Both of the latter two regions have a regionally based regulatory agency for their offshore oil and gas industry.

### 3.1 United Kingdom

In the United Kingdom there are three primary agencies responsible for aspects of the regulation of the offshore oil and gas industry. The national Department of Energy and Climate Change is responsible for policy on the development of oil and gas resources. The national Health and Safety Executive has an offshore division with its Hazardous Installations Directorate which is responsible for the regulation of health and safety issues arising from offshore work activity. The UK's Civil Aviation Authority has a role in the regulation of aviation related aspects of the oil and gas industry.

The offshore industry in the United Kingdom, both in terms of the number of installations and persons employed, is significantly larger than the Newfoundland and Labrador offshore area. There are approximately 30,000 regular offshore workers in the UK offshore area and over 200 installations with helidecks.<sup>12</sup> There are about 100 aircraft operating in the UK area of the North Sea and about 50 in other North Sea countries. There is an enormous amount of helicopter traffic in the UK area of the North Sea. Indeed, the biggest civil heliports in the world are located in Aberdeen.<sup>13</sup>

In the United Kingdom there is not a distinct oil and gas safety regulator. Health and safety are regulated by laws of general application and these laws are administered by a national regulatory agency (Health and Safety Executive) with an offshore petroleum division. The Health and Safety Executive is responsible for the regulation of almost all risks to health and safety arising from all types of work activities. The HSE's Hazardous Installations Directorate (HID), Offshore Division carries out this mandate with respect to the offshore oil and gas industry. Responsibilities of the Offshore Division include safety case assessment, inspection, investigation, enforcement, provision of advice, guidance and information, research and development, operational policy and systems and support

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<sup>12</sup> *Offshore Technology Report 2000/089: Helicopter Safety Offshore*, *supra* note 1 at 4-5 (Tab 1).

<sup>13</sup> *Offshore Technology Report 2000/089: Helicopter Safety Offshore*, *supra* note 1 at 18 (Tab 1).

to frontline activities. Offshore visits by HSE (HID - Offshore Division) inspectors are one of the mechanisms used to carry out these responsibilities.

The Department of Energy and Climate Change (DECC) is responsible for developing and coordinating policy on the development of the oil and gas fields and for regulating the license regime. The DECC is responsible for petroleum operations and engineering, works authorizations and consents, and environmental matters such as environmental impact assessments and decommissioning of infrastructure.<sup>14</sup>

The United Kingdom is a member of the European Union and certain aspects of aviation are regulated at the European level by the European Aviation Safety Agency (EASA). EASA is responsible for the certification of specific models of aircraft, engines and/or parts.<sup>15</sup> EASA also monitors “the implementation of standards through inspections in the Member States and provides necessary technical expertise, training and research.”<sup>16</sup> However, national level authorities such as UK’s Civil Aviation Authority, continue to “carry out many operational tasks, such as certification of individual aircraft and licensing of pilots.”<sup>17</sup>

The UK’s Civil Aviation Authority’s regulation of the helicopter operators in relation to helicopter safety offshore, includes the activities at onshore heliports and when travelling in UK airspace.<sup>18</sup> In order to facilitate communication between the UK CAA and the HSE (HID – Offshore Division) there is a Memorandum of Understanding which addresses the interface of the agencies’ responsibilities.<sup>19</sup> The Helicopter Management Liaison Committee includes the CAA and North Sea operators and provides “a forum for

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<sup>14</sup> U.K. Department of Energy and Climate Change, *Oil and Gas*, online: <

[http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/oil\\_gas/oil\\_gas.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/oil_gas/oil_gas.aspx)> (Tab 7)

<sup>15</sup> European Aviation Safety Agency, *More about EASA*, online: < <http://www.easa.europa.eu/more-about-EASA.php>> [*More about EASA*] (Tab 8).

<sup>16</sup> *More about EASA*, *supra* note 15 (Tab 8).

<sup>17</sup> *More about EASA*, *supra* note 15 (Tab 8).

<sup>18</sup> *Offshore Technology Report 2000/089: Helicopter Safety Offshore*, *supra* note 1 at 42 (Tab 1).

<sup>19</sup> *Offshore Technology Report 2000/089: Helicopter Safety Offshore*, *supra* note 1 at 42 (Tab 1). Morrison notes that the regulatory regime is summarized in the joint HSE and CAA publication *How offshore helicopter travel is regulated*.

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the mutual exchange of information and advice” but does not seem to include the HSE (HID – Offshore Division) as a member.<sup>20</sup>

The existence of multiple regulators in the UK offshore area has not been problem free. An Aberdeen University report found that:

...industry perceives the marine, offshore and aviation regulators as being insufficiently equipped to deal with interfaces between legislative jurisdictions. It is evident that liaison arrangements do exist, extending in several cases to formal Memoranda of Understanding and matrix-based models of the regulatory interfaces. These arrangements are insufficiently appreciated and understood in the industry.<sup>21</sup>

The Aberdeen University Report noted that the regulatory regime’s complexity was “a problem to many in the industry”<sup>22</sup> and suggested that “the responsibilities of the organizations and individuals taking part need to be better explained so that all the people involved in helicopter operations offshore clearly understands [sic] their respective roles.”<sup>23</sup>

The separation of safety regulation from other aspects of oil and gas regulation does not necessarily, in and of itself, enhance safety. In the United Kingdom, a 2007 review [UK Offshore Public Transport Helicopter Safety Record (1977-2006)] listed a large number of the changes which had led to improved helicopter safety. The separation of safety regulation from other aspects of offshore regulation was not included in that list.<sup>24</sup>

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<sup>20</sup> Civil Aviation Authority: Safety Regulation Group, *CAP 641: Report of the Review of Helicopter Offshore Safety and Survival* (February 1995) at 47, online: <http://www.caa.co.uk/docs/33/CAP641.PDF> (Tab 9) (Volume 1 - Tab 1 of the Commissioner’s Reading Materials).

<sup>21</sup> *Offshore Technology Report 2000/089: Helicopter Safety Offshore*, *supra* note 1 at 46 (Tab 1).

<sup>22</sup> *Offshore Technology Report 2000/089: Helicopter Safety Offshore*, *supra* note 1 at 47 (Tab 1).

<sup>23</sup> *Offshore Technology Report 2000/089: Helicopter Safety Offshore*, *supra* note 1 at 61 (Tab 1). Morrison cites: AUPEC, *Evaluation of the Offshore Safety Legislative Regime*, September 1999, Aberdeen University Petroleum and Economic Consultants Ltd.

<sup>24</sup> John Burt Associates, Ltd, *UK Offshore Public Transport Helicopter Safety Record (1977-2006)*, (Oil and Gas UK, 2007) at Appendix 1: Safety Improvements and Initiatives (Tab 10) (Volume 1- Tab 10 of the Commissioner’s Reading Materials)

### 3.2 Norway

The Norwegian offshore area of the North Sea is regulated by a combination of three agencies, the Norwegian Petroleum Directorate (NPD), the Norwegian Petroleum Safety Authority (PSA) and the Norwegian Civil Aviation Authority (CAA – N). The Norwegian Petroleum Directorate is headquartered in Stavanger and reports to the national Ministry of Petroleum and Energy. The NPD has about 200 employees and is responsible for ensuring petroleum activities minimize discharges and emissions, collecting the carbon tax, conducting metering audits and collecting fees, making data and information available to the industry, the media and the general public, encouraging industry to develop solutions that benefit society at large, advising other Ministries, and creating its own regulations relating to resource management.

The Petroleum Safety Authority is located in Stavanger, with 160 staff. It is the health and safety regulator for the petroleum sector and reports to the national Ministry of Labour and Social Inclusion. The PSA assumed regulatory responsibility from the NPD for safety, emergency preparedness and the working environment in the petroleum sector. The PSA regulates technical and operational safety - including emergency preparedness - and the working environment in all phases of petroleum activity, such as planning, design, construction, operations and decommissioning. The national Ministry of Labour and Social Inclusion has delegated authority to the PSA to issue detailed regulations for safety and the working environment in the industry, and to take specific decisions in the form of permits and consents, orders, enforcement fines, halting of operations, prohibitions, dispensations and so forth. The Petroleum Safety Authority has a broad mandate over safety issues relating to all offshore oil activities and will work with the CAA-N to investigate helicopter incidents that occur within the context of the offshore oil industry.<sup>25</sup>

The Civil Aviation Authority in Norway has responsibility for the supervision of civil air traffic. The CAA-N oversees all helicopter operators in Norway. This includes oversight

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<sup>25</sup> Petroleum Safety Authority, *The PSA will Investigate Serious Helicopter Incidents*, online: <http://www.ptil.no/news/the-psa-will-investigate-serious-helicopter-incidents-article1035-79.html> (Tab 11).

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of certification, surveillance, and onboard working environment.<sup>26</sup> Essentially, in terms of offshore helicopter transportation, CAA-N's responsibility extends specifically to matters involving aviation.

Although Norway is not a member of the European Union, Norway is subject to the European Aviation Safety Agency (EASA) through the Agreement on the European Economic Area.<sup>27</sup> The 2010 Norwegian Helicopter Safety Study noted that the implementation of this new European regime has "entailed comprehensive administrative work for Norwegian aviation."<sup>28</sup>

The 2010 Norwegian Helicopter Safety Study listed the most important contributing factors to risk reduction. These factors included items such as improved flight operational procedures and improved emergency preparedness. The study did not cite the creation of a separate oil and gas safety authority as a contributing factor, even though such a separation occurred during the period studied.<sup>29</sup>

It is clear that the civil aviation authorities can have an important effect on offshore helicopter transportation safety. The 2010 Norwegian Helicopter Safety Study noted that one of the most important potential threats to safety was the "lack of helicopters competence and resources regarding offshore helicopters in the Civil Aviation Authority – Norway."<sup>30</sup>

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<sup>26</sup> Civil Aviation Authority - Norway, *Air Carriers*, online: [http://www.caa.no/oversight/air\\_carriers/](http://www.caa.no/oversight/air_carriers/) (Tab 12).

<sup>27</sup> The Agreement on the European Economic Area provides a common set of rules for trade and economic relations between the 25 countries which are members of the European Union and the non-European Union states of Norway, Iceland, Liechtenstein, and Switzerland. See Royal Norwegian Embassy in Ottawa, *Norway, the Official Site in Canada: The EEA*, online: <http://www.emb-norway.ca/aboutnorway/government-and-policy/europe/eea/> (Tab 13)

<sup>28</sup> Ivonne A. Herrera, Solfrid Håbrekke, Tony Kråkenes, et al., *Helicopter Safety Study 3 (HSS-3)* (Norway: SINTEF Technology and Society, March 2010) at 43 [Helicopter Safety Study 3, SINTEF] (Tab 14) (Volume 1- Tab 13 of Commissioner's Reading Materials).

<sup>29</sup> Helicopter Safety Study 3, SINTEF, *supra* note 28 at 9 (Tab 14).

<sup>30</sup> Helicopter Safety Study 3, SINTEF, *supra* note 28 at 11 (Tab 14).

Concerns expressed by the Ocean Ranger Commission and the Harrison Task Force regarding regulatory overlap and regulatory gaps have remained an issue even in jurisdictions with separate petroleum safety authorities. For example, in Norway:

The responsibility concerning the supervision of helidecks has long been unclear and unfortunate, and this is a major concern in the industry. It is claimed that the regulations are unclear and leave room for interpretation. The helideck represents the interface between two supervisory domains; the facility and activities there (responsibility: PSA) and the flights to and from the facility (responsibility: CAA-N).<sup>31</sup>

### 3.3 Australia

In Australia the federal government and its agencies play a significant role in the regulation of the offshore industry. The jurisdiction of the federal government over the waters outside the three-nautical mile limit was confirmed by the 1979 Offshore Constitutional Settlement.<sup>32</sup> The Australian states retained the power to legislate in respect of all waters inside the three nautical mile limit. The Australian offshore oil and gas industry has 166 facilities.<sup>33</sup>

A 2001 report for the Australian federal government recommended the nationalization of the regulation of petroleum safety for the whole of Australia. The National Offshore Petroleum Safety Authority (NOPSA) is a federal agency created in 2005 to assume responsibility for regulating safety for the entire Australian offshore industry.<sup>34</sup> Its creation also removes the division of responsibility between federal and state/territorial waters.<sup>35</sup> NOPSA has approximately 60 staff members.<sup>36</sup>

Problems identified in the Australian offshore industry included “too many regulatory instruments and directions applicable to Australian offshore petroleum activities, overlap

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<sup>31</sup> Helicopter Safety Study 3, SINTEF, *supra* note 28 at 44 (Tab 14).

<sup>32</sup> Potential for Performance-Based Regulations, *supra* note 5 at para 42 (Tab 4).

<sup>33</sup> Aerosafe Risk Management, *Review of Selected Offshore Petroleum Regulatory Regimes* (Washington, D.C., Aerosafe Risk Management, May 2010) at 28 [Review of Selected Offshore Petroleum Regulatory Regimes] (Tab 15).

<sup>34</sup> Potential for Performance-Based Regulations, *supra* note 5 at para 47 (Tab 4).

<sup>35</sup> Potential for Performance-Based Regulations, *supra* note 5 at para 47 (Tab 4).

<sup>36</sup> Review of Selected Offshore Petroleum Regulatory Regimes, *supra* note 33 at 30 (Tab 15).

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of application and jurisdiction, unnecessary prescription, inconsistent interpretation by regulators.”<sup>37</sup>

Regulatory responsibility in the Australian offshore industry is now divided between three agencies, the Department of Resources, Energy and Tourism, the National Offshore Petroleum Safety Authority and the Australian Civil Aviation Authority. Each plays a role in the various aspects of offshore regulation. The federal Department of Resources, Energy and Tourism is responsible for the *Offshore Petroleum Act*. The Offshore Petroleum Act also sets out NOPSA’s role, authority and structure. NOPSA is tasked with developing and implementing effective monitoring and enforcement strategies to ensure compliance with occupational health and safety obligations as well as investigating incidents and accidents. NOPSA also undertakes safety case assessments and verifies operator implementation of risk management commitments.

### 3.4 New Zealand

New Zealand is a non-federal state with most matters controlled by the central government and its agencies.<sup>38</sup> The Maui field has one manned platform, one unmanned platform and one Floating Production, Storage and Off-take vessel (FPSO), and Taranaki field also has one FPSO.<sup>39</sup> The Tui field consists of four drilled wells all linked to the FPSO vessel, the Umuroa.<sup>40</sup>

There has been a considerable amount of exploration into other possible oil and gas fields, as the Maui field is currently in decline. These explorations include searches

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<sup>37</sup> Potential for Performance-Based Regulations, *supra* note 5 at para 52 (Tab 4).

<sup>38</sup> John Wilson, “Government and nation - From colony to nation,” *Te Ara - the Encyclopedia of New Zealand* (3 March 2009), online: Government of New Zealand <<http://www.TeAra.govt.nz/en/government-and-nation/2>> (Tab 16).

<sup>39</sup> *New Zealand’s Petroleum Basins* (Wellington, NZ: Crown Minerals, Ministry of Economic Development, 2004) at 8 and 21, online: <<http://www.crownminerals.govt.nz/cms/pdf-library/petroleum-publications-1/new-zealands-petroleum-basins-report>> [*New Zealand’s Petroleum Basins*] (Tab 17)

<sup>40</sup> New Zealand Oil & Gas, Ltd., *Tui Area Oil Fields*, online: <http://www.nzog.net/tui> (Tab 18)

outside of the Taranaki basin extending from the Northland Basin to the Great South Basin.<sup>41</sup>

New Zealand's onshore and offshore oil and gas industry is governed by the Crown Minerals Group which is a subsidiary of the national Ministry of Economic Development. The Crown Minerals Group's role is to "advise on policy, operational regulation and promote investment in the minerals estate."<sup>42</sup> For example, the Crown Minerals Group is responsible for the issuance of permits to those wishing to mine petroleum.

Both onshore and offshore safety issues fall under the Occupational Safety and Health Service, within the Department of Labour. The Occupational Safety and Health Service administers the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999, made under the *Health and Safety in Employment Act 1992*.<sup>43</sup>

Environmental matters surrounding offshore installations are regulated by Maritime New Zealand (formerly the Maritime Safety Authority). The discharge of waste is governed by the Maritime Protection Rules made under the *Maritime Transport Act*.<sup>44</sup> Aviation safety is governed by the Civil Aviation Authority of New Zealand, an agency of the Ministry of Transport. This includes regulation of helicopters which fly to and from the offshore installations. New Zealand's Civil Aviation Authority is responsible for establishing civil aviation safety standards and monitoring adherence to the standards. The Civil Aviation Authority is also responsible for the investigation of aviation accidents and incidents.<sup>45</sup>

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<sup>41</sup> *New Zealand's Petroleum Basins*, *supra* note 39 at 10, 32, 62 (Tab 17).

<sup>42</sup> Crown Minerals (Government of New Zealand), *Business Units* (18 September 2009), online: Government of New Zealand <http://www.crownminerals.govt.nz/cms/about> (Tab 19)

<sup>43</sup> Crown Minerals (Government of New Zealand), *Legislation* (24 October 2008), online: <http://www.crownminerals.govt.nz/cms/petroleum/legislation> (Tab 20)

<sup>44</sup> Maritime New Zealand, *Requirements for vessels, installations and ports*, online: <<http://www.maritimenz.govt.nz/Environmental/Environmental-requirements/Environmental-requirements.asp>> (Tab 21)

<sup>45</sup> Civil Aviation Authority of New Zealand, *About the CAA*, online: <http://www.caa.govt.nz/> (Tab 22)

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Overall, New Zealand has a small sized industry and a number of different regulatory departments and agencies which each play a role in the regulation of the offshore oil and gas industry.

### 3.5 United States

In the United States the offshore oil and gas industry is regulated by national level agencies which report to the federal government. After the Deepwater Horizon incident in the Gulf of Mexico,<sup>46</sup> there was an announcement of further changes to the regulatory structure in the United States. The process of reforming the offshore oil and gas regulatory structure began in January 2009.<sup>47</sup> There were clear and substantial concerns which existed prior to the Deepwater Horizon incident.

The Department of the Interior's Minerals Management Service (MMS) was created in 1982 with a mandate to collect revenues from oil and gas, coal patch and renewable energy resources.<sup>48</sup> The United States Coast Guard (USCG) has responsibility to verify compliance of offshore vessels, facilities and mobile offshore drilling units however, since 2002; the MMS is "responsible for inspecting oil platforms on behalf of the Coast Guard, using Coast Guard regulations."<sup>49</sup> A recent Department of the Interior report noted that:

Since its inception, MMS has been challenged by real and perceived conflicts of interest. These challenges have been identified in critical reports issued by the Office of the Inspector General (OIG) and the Government Accountability Office (GAO)

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<sup>46</sup> On April 20, 2010 there was an explosion on the Deepwater Horizon, a semi-submersible drilling rig. The explosion killed eleven crew members and resulted in a fire which caused the Deepwater Horizon to sink on April 22, 2010. The sinking of the Deepwater Horizon caused oil to continue to spill unabated from the well on the seafloor, resulting in the largest offshore oil spill in United States history.

<sup>47</sup> United States Department of the Interior, *Salazar Divides MMS's Three Conflicting Missions* (Washington: 19 May 2010) online: <http://www.doi.gov/news/pressreleases> [*Salazar Divides MMS's Three Conflicting Missions*] (Tab 23).

<sup>48</sup> *Salazar Divides MMS's Three Conflicting Missions*, *supra* note 47 (Tab 23)

<sup>49</sup> Statement of Rear Admiral Kevin Cook, Director of Prevention Policy, United States Coast Guard, "Worker Health and Safety Standards Related to the Oil Industry, Oil Rigs and Drilling," Before the House Committee on Education and Labor, June 23, 2010. online: <http://edlabor.house.gov/documents/111/pdf/testimony/20100623AdmiralCookTestimony.pdf> (Tab 24)

describing ethical lapses, structural weaknesses in auditing, and other management issues.”<sup>50</sup>

The offshore oil and gas industry in the Gulf of Mexico is very large with about 6000 installations and 4000 helidecks.<sup>51</sup> Regarding inspections in the Gulf of Mexico region, the acting Chief of the Office of Offshore Regulatory Programs recently testified before the House of Representatives Committee on Education and Labor that since 2003 “the MMS conducted almost 4, 000 fixed platform inspections on behalf of the USCG.”<sup>52</sup> He also acknowledged that conducting annual safety checks was a challenge because there were only 56 inspectors in the Gulf which had more than 3, 500 offshore rigs.<sup>53</sup> There will be a 10% increase in the number of offshore inspectors in the 2011 budget.<sup>54</sup>

The Mineral Management Service has responsibility not only for regulating the offshore industry but also for collecting revenue and royalties from that industry. The Mineral Management Service collects approximately \$13 billion annually which represents 95% of the revenues collected by the entire Department of the Interior.<sup>55</sup> A similar structure does not exist in the Newfoundland and Labrador offshore jurisdiction.

A 2008 report by the Department of the Interior’s Office of the Inspector General said that the management reporting structure should be “seriously reconsidered” and that it was imperative to have “management oversight in immediate proximity, not some 1, 500

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<sup>50</sup> Department of the Interior, *Implementation Report: Reorganization of the Minerals Management Service*, (July 14, 2010), at 4. online:

[http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=38543%20\[Implementation Report: Reorganization of the Minerals Management Service\]](http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=38543%20[Implementation%20Report%20Reorganization%20of%20the%20Minerals%20Management%20Service]) (Tab 25).

<sup>51</sup> Review of Selected Offshore Petroleum Regulatory Regimes, *supra* note 33 at 16 and 18 (Tab 15).

<sup>52</sup> Statement of Doug Slitor, Acting Chief, Office of Offshore Regulatory Programs, Bureau of Ocean Energy Management, Regulation and Enforcement, Before the House Committee on Education and Labor, June 23, 2010, at 3, online:

<http://edlabor.house.gov/documents/111/pdf/testimony/20100623DougSlitorTestimony.pdf> (Tab 26).

<sup>53</sup> Elana Schor, “MMS Moving to Mandate Safety Standards for Rig Workers,” *The New York Times*, June 23, 2010, online: <http://www.nytimes.com/gwire/2010/06/23/23greenwire-mms-moving-to-mandate-safety-standards-for-rig-57025.html> (Tab 27)

<sup>54</sup> *Statement of Secretary Salazar before the Committee on Oversight and Government Reform on the Continuing Reform of the OCS Program*, (July 22, 2010), online:

[http://www.doi.gov/news/speeches/2010\\_07\\_22\\_testimony\\_ks.cfm](http://www.doi.gov/news/speeches/2010_07_22_testimony_ks.cfm) (Tab 28)

<sup>55</sup> *Salazar Divides MMS’s Three Conflicting Mission*, *supra* note 47 (Tab 23)

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miles away in Washington, DC.<sup>56</sup> The Government of Newfoundland and Labrador notes that it is important that the primary regulatory agency for the Newfoundland and Labrador offshore areas be based in this province.

The Office of the Inspector General also found that MMS marketing staff would arrange for amendments to bids or contracts at the request of oil company representatives. This resulted in a direct loss of government revenues with the Office of the Inspector General estimating the value of the “amendments not in favor of the government to be approximately \$4.4 million.”<sup>57</sup>

Problems were not limited to the revenue collection branch of the Mineral Management Service. A 2010 report by the Office of the Inspector General noted that MMS inspectors and supervisors in the Gulf of Mexico region had received trips, misused government computers, and falsified inspection reports. The former regional supervisor was terminated and pled guilty to making false statements.<sup>58</sup> The Office of the Inspector General’s 2010 report noted that one source provided information that:

...operating company personnel completed the inspection forms using pencils, and MMS inspectors would write on top of the pencil in ink and turn in the completed form. The investigators found that “anyone from MMS involved in the platform inspections could authorize the inspection form, and inspectors routinely signed each other’s names on the forms.”<sup>59</sup>

Problems were also not limited to regulation in the Gulf of Mexico region. A March 2010 Government Accountability Office report found that the MMS Alaska office had not followed proper information sharing policies and this practice hindered the ability of

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<sup>56</sup> Earl E. Devaney, Inspector General, “Letter re: OIG Investigations of MMS Employees” (9 September 2008), *Investigative Report: MMS Oil Marketing Group – Lakewood*, (United States Department of the Interior, Office of Inspector General, 19 August 2008) at 4, online: <http://www.doi.oig.gov/images/stories/reports/pdf/RdKInvestigation.pdf>. [*Investigative Report: MMS Oil Marketing Group – Lakewood*] (Tab 29).

<sup>57</sup> *Investigative Report: MMS Oil Marketing Group – Lakewood*, *supra* note 56 at 11 (Tab 29).

<sup>58</sup> Office of the Inspector General (United States Department of the Interior), *Investigative Report: Island Operating Company, et al.* (31 March 2010) at 1-2, online: <http://www.doi.oig.gov/images/stories/reports/pdf/IslandOperatingCo.pdf> [*Investigative Report: Island Operating Company, et al.*] (Tab 30)

<sup>59</sup> *Investigative Report: Island Operating Company, et al.*, *supra* note 58 at 7 (Tab 30).

MMS scientists to complete “sound environmental analyses.”<sup>60</sup> The Alaskan office had not developed an environmental guidance handbook as required by MMS policy and instead claimed to “rely on institutional knowledge of experienced staff” even though there had been “high staff turnover in recent years.”<sup>61</sup>

A restructuring of the Minerals Management Service was announced on May 19, 2010. Pending the implementation of that restructuring, the Minerals Management Service was renamed the Bureau of Ocean Energy Management, Regulation and Enforcement (BOE). At this time, the roles and functions of the BOE are the same as the old MMS.

Department of the Interior officials have prepared an Implementation Report regarding how to go about implementing the proposed reorganization. The Implementation Report is currently with congressional leaders for their review and comment.<sup>62</sup> The proposed reorganization will involve dividing the Bureau of Ocean Energy Management, Regulation and Enforcement into two bureaus and one office. The new entities will be named the Bureau of Ocean Energy Management, the Bureau of Safety and Environmental Enforcement and the Office of Natural Resources Revenue.

The Implementation Report indicates that the transfer of the revenue collection function to the Office of Natural Resources Revenue can occur in an accelerated manner, possibly as early as October 2010. The Implementation Report notes that creation of bureaus for resource management and safety and environmental enforcement is less clear cut:

The two Bureaus will be created from a single bureau in which functions and process are tightly interconnected, making separation complicated and demanding. For that reason, the task of separating the bureau into two new Bureaus will require a careful

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<sup>60</sup> United States Government Accountability Office, *Offshore Oil and Gas Development: Additional Guidance Would Help Strengthen the Minerals Management Service's Assessment of Environmental Impacts in the North Aleutian Basin*, March 2010, online: <http://www.gao.gov/new.items/d10276.pdf> at pp. 20-21 [Government Accountability Office Report] (Tab 31).

<sup>61</sup> Government Accountability Office Report, *supra*, note 60 at pp. 20-21 (Tab 31).

<sup>62</sup> United States Department of the Interior, *Salazar Receives Implementation Plan for Restructuring the Department's Offshore Energy Missions* (Washington: 14 July 2010) online: <http://www.doi.gov/news/pressreleases/Salazar-Receives-Implementation-Plan-for-Restructuring-the-Departments-Offshore-Energy-Missions.cfm#> (Tab 32).

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and deliberate process to clearly define how roles and responsibilities will be divided, how ongoing interactions will be managed, what administrative resources each entity will need, where and when new personnel will be added, etc. Thus, the Plan calls for 6 months of employee engagement and communication, detailed analysis, and planning to effect the creation of the new Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement, with a phased implementation beginning in January 2011 and continuing for at least the following 12 months.<sup>63</sup>

The Implementation Report also noted that “the division of various permitting processes between BOEM and BSEE will be subject to further analysis during the implementation of the reorganization.”<sup>64</sup> While the Implementation Report calls for two bureaus, both will report to the Assistant Secretary for Land and Minerals Management and will be “maintaining administration and budget functions as a substantially single unit.”<sup>65</sup> Features of this proposed regulatory structure appear to be similar to that of the CNLOPB. The Implementation Report does not call for the bureaus to be independent agencies like the Environmental Protection Agency or the National Transportation Safety Board.<sup>66</sup>

The Implementation Report does not identify how the proposed safety and environmental bureau will interact with the United States Coast Guard, the Federal Aviation Administration, the Occupational Safety and Health Administration or other regulatory agencies which may have involvement in aspects of offshore oil and gas regulation.

While the United States has recently decided to significantly alter its offshore regulatory system, it is clear that these changes were in part a result of systemic problems faced by the regulatory agencies involved. No similar problems have been identified in respect of the Newfoundland and Labrador offshore area.

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<sup>63</sup> *Implementation Report: Reorganization of the Minerals Management Service*, *supra* note 50 at 6 (Tab 25).

<sup>64</sup> *Implementation Report: Reorganization of the Minerals Management Service*, *supra* note 50 at 9, footnote 2 (Tab 25).

<sup>65</sup> *Implementation Report: Reorganization of the Minerals Management Service*, *supra* note 50 at 12 (Tab 25). The Implementation Report notes that the structure of these functions will be subject to “further analysis during implementation of the reorganization.” [page 12 at footnote 3].

<sup>66</sup> Government of the United States Organization Chart, online: [http://bensguide.gpo.gov/files/gov\\_chart.pdf](http://bensguide.gpo.gov/files/gov_chart.pdf) (Tab 33)

### 3.6 Denmark

Denmark is a non-federal state in the North Sea region. The Danish offshore area has 10 companies operating across 19 producing fields of various sizes.<sup>67</sup> Denmark's offshore oil and gas industry, including health and safety on offshore installations, is regulated by the Danish Energy Agency (DEA). The DEA was established in 1976 and reports to the Ministry of Climate and Energy.

There are a number of different types of installations in the Danish offshore area. There are about 10 platforms with accommodation facilities ranging from 5 to 98 people. There are also a number of unmanned installations with helidecks (5) and without helidecks (7) as well as a number of wellhead installations (15).<sup>68</sup> There are approximately 3,000 people who work on the offshore installations.<sup>69</sup>

The Danish Energy Agency is the issuing authority for various permits and approvals required to operate in the Danish North Sea area.<sup>70</sup> These include operation permits, manning and organization plan approvals and contingency plan approvals. Obtaining an operating permit requires "an evaluation of safety and health conditions for the installation and the operational conditions (Safety and Health Review / Safety Case)."<sup>71</sup>

The Danish Energy Agency is responsible for supervising compliance with the Danish Offshore Safety Act. The Danish Offshore Safety Act entered into force in July 2006 and

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<sup>67</sup> Danish Energy Agency, *Denmark's Oil and Gas Production and Subsoil Use, 2009*, online: <[http://www.ens.dk/Documents/Netboghandel%20-%20publikationer/2010/Denmarks\\_oil\\_and\\_gas\\_production.pdf](http://www.ens.dk/Documents/Netboghandel%20-%20publikationer/2010/Denmarks_oil_and_gas_production.pdf)> at 25 [*Denmark's Oil and Gas Production and Subsoil Use, 2009*] (Tab 34).

<sup>68</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009*, supra note 67 at 108-147 (Tab 34). These figures are a result of compiling information from *Appendix B: Producing Fields*.

<sup>69</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009*, supra note 67 at 35 (Tab 34).

<sup>70</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009*, supra note 67 at 96 (Tab 34). The Danish Energy Agency notes "Corporate income tax and hydrocarbon tax are collected by SKAT (the Danish Central Tax Administration), while the DEA administers profit sharing and the collection of royalty, the oil pipeline tariff and compensatory fee. Moreover, the DEA supervises the metering of the amounts of oil and gas produced on which the assessment of state revenue is based."

<sup>71</sup> Danish Energy Agency, *Oil and Gas: Health and Safety*, online: <[http://www.ens.dk/en-US/OilAndGas/Health\\_and\\_Safety/Sider/Forside.aspx](http://www.ens.dk/en-US/OilAndGas/Health_and_Safety/Sider/Forside.aspx)> (Tab 35).

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regulates the safety of offshore installations and employee health and safety.<sup>72</sup> This legislation requires that “the risk of accidents on offshore installations must be reduced so that it is As Low As Reasonably Practicable.”<sup>73</sup>

The Danish Energy Agency has a variety of tools that it uses to supervise compliance. These tools include unannounced inspections which currently occur at a rate of two to five per year. The Danish Energy Agency has noted that because “transport to these installations takes place by helicopter, unannounced inspections will often be known from around the time when the representatives of the DEA meet in the departure lounge at Esbjerg Airport.”<sup>74</sup>

The Danish Energy Agency is the authority responsible for health and safety on offshore installations excluding offshore wind farms. Offshore oil and gas installations in the Danish North Sea are not covered by the Danish Working Environment Authority which is responsible only for onshore regulation.<sup>75</sup> Other regulatory agencies which do play a role in respect of offshore regulation are the Danish Maritime Authority, the Danish Environmental Protection Agency, the Danish National Board of Health and the Danish Civil Aviation Administration (CAA-DK).<sup>76</sup>

The CAA-DK is responsible for helicopter safety including helidecks.<sup>77</sup> Denmark is a member of the European Union and thus is also subject to the European Aviation Safety Agency. In Denmark the CAA-DK is responsible to the Ministry of Transport and regulates by “setting standards for the flight safety of civil aviation and in supervising compliance with the standards for commercial and private operators in civil aviation.”<sup>78</sup>

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<sup>72</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67* at 35 (Tab 34).

<sup>73</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67* at 36 (Tab 34).

<sup>74</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67* at 38 (Tab 34).

<sup>75</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67* at 54 (Tab 34).

<sup>76</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67* at 54 (Tab 34).

The roles of the various other regulatory agencies are described at page 54.

<sup>77</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67* at 54 (Tab 34).

<sup>78</sup> Danish Civil Aviation Administration, *About CAA-DK*, Online: <

[http://www.slv.dk/index.php?option=com\\_content&task=view&id=258&Itemid=296](http://www.slv.dk/index.php?option=com_content&task=view&id=258&Itemid=296) (Tab 36). See also

Danish Civil Aviation Administration, *Air law & Regulation*, Online: <

[http://www.slv.dk/index.php?option=com\\_content&task=view&id=254&Itemid=292](http://www.slv.dk/index.php?option=com_content&task=view&id=254&Itemid=292) (Tab 37).

The Danish Offshore Safety Act also appoints an Offshore Safety Council to assist in the drafting of health and safety regulations, monitor technical and social developments and discuss issues covered by the legislation.<sup>79</sup> The Council meets four times per year and includes members from professional associations, labour groups, industry, and representatives of the various regulatory agencies including the CAA-DK and the DEA.<sup>80</sup>

The Danish Energy Agency is also a member of the North Sea Offshore Authorities Forum which is a forum for “the public authorities of North Sea countries that deals mainly with health and safety issues on offshore installations.”<sup>81</sup>

Safety in the offshore oil and gas industry is an important issue that is regulated in many different ways around the world. Some jurisdictions regulate through their national occupational health and safety department or agency (New Zealand and the United Kingdom), some have a separate national offshore petroleum safety agency (Australia and Norway), some have a national or regional offshore regulatory agency whose mandate includes safety regulation (Denmark and Newfoundland and Labrador/Nova Scotia), some have an evolving process that will likely result in a mixture of these (United States). Across all of these jurisdictions, it is the civil aviation regulator which has primary responsibility for offshore helicopter safety.

#### **4. Proposed Accord Act Amendments to Enhance Occupational Health and Safety**

The *Canada-Newfoundland and Labrador Accord Implementation Act* and the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* are the legal cornerstones for the management of oil and gas activity in the Newfoundland and Labrador offshore area. The Accord Acts established the Canada-

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<sup>79</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67 at 56 (Tab 34).*

<sup>80</sup> *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67 at 56 (Tab 34).*

<sup>81</sup> Other Forum member countries include The Faroe Islands, The Netherlands, Ireland, Norway, Sweden, Germany and the United Kingdom. *Denmark's Oil and Gas Production and Subsoil Use, 2009, supra note 67 at 60 (Tab 34).*

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Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) and made it responsible, on behalf of the federal government and the provincial government, for the joint management of petroleum resources in the offshore area.

The federal and provincial governments are responsible for establishing the regime for operational safety and occupational health and safety (OHS) to be administered by the C-NLOPB. Operational safety is addressed through regulations promulgated under the Accord Acts. OHS currently involves a division of responsibilities between the provincial occupational health and safety regime and the Accord Acts. As noted in the Province's Phase 1A submission, it is difficult to determine which aspects of the provincial OHS legislation relate to occupational health as opposed to occupational safety and it is equally difficult to draft regulations under the Accord Acts that relate solely to occupational safety. As a result, the C-NLOPB uses the terms and conditions of work authorizations as a means to ensure a comprehensive and enforceable OHS regime.

Under a Memorandum of Understanding (MOU) concluded between the Government of Newfoundland and Labrador, Natural Resources Canada and the C-NLOPB, the C-NLOPB is committed to take into account regulatory practice in the Province and in other offshore jurisdictions in formulating recommendations or establishing OHS guidelines for the offshore area and, where appropriate, to promote consistency with other offshore jurisdictions in Canada. The MOU also provides that the C-NLOPB will consult with government departments to ensure that the OHS regime implemented was consistent to the extent relevant with the OHS regime implemented by the Province.

The Government of Newfoundland and Labrador, the Government of Nova Scotia, and the Federal Government, in consultation with C-NSOPB and C-NLOPB, have now developed the policy basis for the proposed OHS legislative amendments and are committed to proceeding in a timely manner. Governments have agreed that consistency in the East Coast offshore regimes is a desired outcome.

Key governance features of proposed OHS amendments include the ability for the responsible provincial or federal minister to call an audit or inquiry into the activities of the C-NLOPB. The proposed amendments would also establish a tripartite Advisory Council to advise the C-NLOPB and government ministers regarding occupational health and safety and the administration of the OHS part of the Accord Acts.

This new governance model will include clarified lines of accountability. The proposed amendments would provide that the operators, employers, supervisors, suppliers and providers of service, owners, interest holders and corporate individuals are responsible for coordinating their activities regarding health and safety at the workplace. Specifically, in relation to helicopter transportation, the proposed OHS amendments will apply to passenger craft which includes the transportation of workers by aircraft or vessel to and from as well as between installations.

Currently, in Newfoundland and Labrador, the provincial Minister of Natural Resources has responsibility for offshore safety. Under the proposed amendments, there will be a separation of oversight responsibilities. The provincial Minister of Government Services, who is also responsible for onshore OHS, will have ministerial responsibility for offshore OHS oversight. This separation of roles will provide additional assurance that there is no conflict or appearance of conflict between the Ministry of Natural Resources role in promoting offshore development and the Ministry of Government Services role in overseeing the C-NLOPB's regulation of offshore OHS. The minister with oversight responsibility will be entitled to any OHS information and documentation under the control of the C-NLOPB. This change in ministerial oversight responsibility cannot be made without amendments to the Accord Acts because the provincial Minister of Natural Resources is specified as the responsible minister in the Atlantic Accord implementation legislation.

The Accord Acts amendment process has also involved important engagement with stakeholders. As noted in the Province's Phase 1A submission, information sessions were held earlier this year. Stakeholder information sessions occurred on April 14, 2010 in

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Halifax and April 16, 2010 in St. John's. A summary of the proposed amendments was distributed at the sessions and was also made available to the public on the Department of Natural Resources' website.<sup>82</sup> An advance copy was provided to the Commissioner and Inquiry Counsel.

In addition to the presentations at these stakeholder information sessions, presentations regarding the proposed amendments were conducted via teleconference call by representatives of the Province, the federal government, and the C-NLOPB to both rotations of the Joint OHS Committees for each Operator. During each presentation an invitation was extended directly to the committee members to comment on the proposed amendments. The information sessions and subsequent meetings with stakeholders were well attended and the submissions received from the various parties were extremely beneficial to the governments. The Province, in conjunction with the Nova Scotia government, and the federal government, continues to work on the proposed amendments and it is anticipated that the legislatures in Newfoundland and Labrador and Nova Scotia and the federal Parliament will consider the proposed amendments in fall 2010 legislative session.

The proposed amendments will not impact on the safety or airworthiness of helicopters used in the transportation of workers to and from the offshore as these matters are within the exclusive jurisdiction of Transport Canada.

The underlying principles in the proposed amendments include offshore OHS laws that provide workers with protections equivalent to those which exist for onshore workers; the continued protection of employee rights (to know, to participate, to refuse, protection from reprisal); an OHS culture which recognizes the shared responsibilities in the workplace; a clear separation of OHS and production issues; joint management by the

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<sup>82</sup> See Governments of Canada, Nova Scotia, and Newfoundland and Labrador, *Amending the Accord Acts To Incorporate an Occupational Health and Safety Regime*, online: <http://www.gs.gov.nl.ca/ohs/OHSOffshoreconsultationDeck.pdf> (Tab 38). See also Governments of Canada, Nova Scotia, and Newfoundland and Labrador, *Proposed Amendments to the Accord Acts to Incorporate an Offshore Occupational Health and Safety Regime*, April 2010, online: < <http://www.gs.gov.nl.ca/ohs/offshoresummaryDoc.pdf>> (Tab 39).

federal and provincial governments; and an effective and efficient regulatory and enforcement regime including a governance model with oversight by the provincial minister responsible for onshore OHS.

#### **4.1 Provisions of the Proposed OHS Amendments**

The purpose of the proposed OHS amendments is to prevent accidents and injuries arising from the course of employment in the offshore area. The operator will have overall responsibility for ensuring the health and safety of all persons engaged in carrying out work related to the operator's authorization. The proposed amendments will apply to all activity related to the exploration and production of petroleum at a workplace situated in the offshore area.

Passengers in transit, including by helicopter, are covered explicitly. The proposed OHS amendments will apply to employees and other passengers immediately before and while they are being transported from the last point of embarkation on shore and a workplace in the offshore area or on the return voyage, as well as between workplaces in the offshore area.

Key definitions in the proposed new OHS section of the Accord Acts result in broad protections for individuals employed in the offshore Newfoundland and Labrador area. The definition of workplace includes, in relation to which an authorization has been issued, any marine installation or structure where an employee is employed, any workboat operating from a marine installation or structure that is used by an employee to perform routine maintenance or repair work, any dive site from which a diving operation is conducted, and any underwater area where a diving operation is conducted by an employee. Further definitions are noted in the information session documents. See Tab 39.

## 4.2 Role of the Chief Safety Officer

Under the proposed OHS amendments, when an application for an authorization is made, the Chief Safety Officer must consider the potential impact of the work on the health and safety of the employees and make written recommendations to the C-NLOPB. The CNLOPB may also add additional OHS requirements to an authorization.

The Chief Safety Officer may require the operator or any employer to develop or adopt a code of practice. Every operator must also inform the Chief Safety Officer of any accident, incident, occupational disease or other hazardous occurrence as soon as it becomes known to the operator. The operator must also enquire into the accident, incident etc. and keep records of its enquiry. The operator must submit a yearly written report setting out data on all injuries, incidents, and accidents. This report is to be available to the Chief Safety Officer and the workplace committee.

The Chief Safety Officer may order the operator or an employer to establish a special committee for particular OHS purposes as well as set out the mandate, duties and functions of any special committee that they order created. An operator or employer receiving such an order has 15 days to establish the committee.

The C-NLOPB, alone, or in partnership with the federal government, the provincial government, a foreign government or with any organization that carries out similar functions may undertake research into the causes and means of preventing occupational injury and illness, commission and publish OHS studies, compile and disseminate OHS information and undertake programs to prevent or reduce injuries or occupational illnesses.

## 4.3 Duties and Responsibilities: Operators

Under the proposed amendments every operator must take all reasonable measures to ensure the health and safety of employees and any other person at the workplace or any

passengers being transported to or from the workplace. Operators' duties will include the coordination of all work and activities related to an authorization, compliance with the health and safety management system, ensuring that employees are made aware of known or foreseeable hazards and are provided with and trained to use personal protective equipment, complying with the requirements of the authorization related to health and safety, ensuring that committees receive the necessary support and training to carry out their functions, and cooperating with persons carrying out duties or functions under the OHS Part of the Accord Acts. A complete list of the operator duties and responsibilities is found at page 8 of Tab 39.

Importantly, operators will also have specific duties in relation to transportation. Operators will have to ensure that, each time before being transported, all employees and any other passengers receive any information or instruction necessary for their health and safety including contact information for the purposes of exercising a work refusal. Operators must also ensure that all passengers are provided with training and personal protective equipment necessary for their health and safety.

Each operator will be required to have a written OHS policy, in consultation with each employer at the workplace and the workplace committee, which contains the commitments of the operator to health and safety and sets out the responsibilities of the various employers in relation to health and safety. The operator will also be required to review the policy every three years.

The operator will be responsible, in consultation with the workplace committee, for the development, implementation and maintenance of an OHS management system that fosters a culture of workplace safety. The system will set out how the operator will identify, assess and manage risks to the safety of employees, the implementation of the health and safety management system, the procedures for responding to emergencies, failures to comply with the system and enquiries into accidents, and auditing the effectiveness of the system.

#### **4.4 Duties and Responsibilities: Employers**

Every employer must take all reasonable measures to ensure the health and safety of employees and any other person at a workplace controlled by the employer, to ensure the health and safety of their employees at a workplace not directly under their control and of their employees while and immediately before being transported on a passenger craft.

Employers will also have specific duties related to the coordination of their work and activities with those of the operator and other employers and compliance with the health and safety management system. A complete list of employer duties in the proposed OHS amendments is found at page 10 of Tab 39.

While the operator is responsible for the overall system, each employer that employs five or more employees or for whom the Chief Safety Officer requires it, must develop and implement an OHS program. The employer's OHS program, like the operator's policy, fosters a culture of workplace safety and implements the operator's health and safety policy.

Every supervisor must take all reasonable measures to ensure the health and safety of employees and other persons under their supervision. Specifically, every supervisor must ensure that all employees comply with the OHS provisions, inform their employer of known or foreseeable hazards and, provide employees with written instructions on procedures or measures to be taken for the protection of health and safety, report any failure to comply with the provisions of the Act or the regulations to their employer.

#### **4.5 Duties and Responsibilities: Employees**

Every employee must take all reasonable measures to protect their own health and safety at the workplace or on a passenger craft. Specifically, every employee must cooperate with their employer, the operator and other employees to protect health and safety, properly use or wear their personal protective equipment and take all reasonable

measures to ensure that other employees properly use or wear personal protective equipment, cooperate with committees and cooperate with any person who performs duties under this Part or the authorization, follow instructions for the purposes of ensuring OHS, and report to their employer any thing or circumstance that could be hazardous in the workplace.

In relation to transportation, every employee must, immediately before and during transportation on a passenger craft, cooperate with the operator, employer and any person operating the craft, and use or wear all personal protective equipment or devices required by regulation, the operator or any person operating the passenger craft.

#### **4.6 Duties and Responsibilities: Providers of Service, Owners, Interest Holders, Directors and Corporate Officials**

Generally, every provider of service must take all reasonable measures to ensure that no person at a workplace is endangered as a result of the provision of services. Specifically, every provider of service must ensure that, in respect of any services that they provide related to the placement of individuals, those individuals have all the required qualifications and certifications; ensure that any information they provide in connection with the provision of services is accurate; and ensure that, to the extent practicable, any person who is likely to rely on their advice, certificate, stamp etc. will not be in contravention of this Part as result of that reliance.

Owners must take all reasonable measures to ensure that any workplace in which they have right, title or interest is delivered and maintained so as to ensure the health and safety of any person at that workplace. Owners also must inform the operator of known or foreseeable hazard(s) that could assist the operator in reducing the risks posed by the hazard(s) and to assess whether there is compliance with the OHS Part, the regulations, and the authorization requirements.

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Interest holders must take all reasonable measures to ensure that the operator complies with the provisions of the Part, the regulations, and any requirements of the authorization. Directors and officers of a corporation that carries out work under an authorization must take all reasonable measures to ensure that the corporation complies with the provisions of the Part, the regulations and any requirements of the authorization or those undertaken in the declaration.

### **4.7 Right to Know and Participate; Communication of Information to Employees**

Mandatory communication of OHS information will be required of both operators and employers. Operators must post the OHS policy, contact information for the reporting of health and safety concerns to the C-NLOPB, and committee member names and their most recent minutes. The operator is also required to make certain information available upon request including a document describing the OHS management system, a copy of the OHS Part and regulations, any code of practice required by the Chief Safety Officer, and any information that would enable employees to become aware of their rights and responsibilities under this Part.

The Chief Safety Officer may require the operator or employer or both to provide certain information to employees in a time and manner of his or her choosing.

### **4.8 Workplace Committees**

The operator is required to establish one workplace health and safety committee for each workplace they control, with an exception for temporary workplaces where a coordinator must be appointed. The committee's membership is to be made up of one half management and one half employee representatives. The committee will determine its own rules of procedures. Employees serving on a committee must be provided time off to conduct committee business and to receive training related to committee membership.

Operators/employers must immediately notify committees regarding the completion of any prepared or commissioned OHS reports about examinations, monitoring or tests, and if requested, provide a copy. Operators/employers who receive requests for information other than reports have 21 days to respond to the committee in writing.

Under the proposed OHS amendments, the workplace committee must consider all OHS complaints, participate in visual examinations of the workplace with the operator or employer, maintain minutes of their meetings and records, and perform any other CSO assigned duties. In addition, workplace committees may also seek to identify dangers to employee health or safety and advise on procedures to address those dangers, advise the operator/employer on the development of OHS policies, systems or programs as well as the provision of personal protective equipment, and make recommendations for the improvement of occupational health and safety. The workplace committee may choose an employee to act as an observer of any workplace monitoring program, including the set up of or any change to systems for monitoring health and safety conditions at the workplace.

These important provisions will allow employees to continue to make valuable contributions to the health and safety of their offshore workplaces.

The proposed OHS amendments also include appropriate protections for workers at temporary worksites. Where an authorization is for six months or less and there is no equivalent joint OHS committee, the operator will be required to designate an employee to serve as the OHS coordinator for that workplace and ensure that they receive any prescribed training and are informed of their responsibilities. The OHS coordinator has duties similar to workplace committees in that they must consider all complaints with respect to OHS, assist in carrying out employer enquiries into exposure to hazardous materials, maintain records in the form and manner approved by the Chief Safety Officer, and perform any other duties assigned by the Chief Safety Officer.

### 4.9 Reporting Concerns and Refusal Processes

The proposed OHS amendments will protect the rights of employees to refuse unsafe work. An employee may refuse to perform an activity if the employee has reasonable cause to believe the performance of the activity constitutes a danger to themselves or another person. The employee must first inform their supervisor of the refusal and if the matter cannot be resolved satisfactorily between the employee and supervisor, the work refusal will be examined first by the employer, the workplace committee and, if a resolution is not found, a health and safety officer. Decisions by a health and safety officer regarding the existence of danger are subject to review by the Chief Safety Officer, with the right of appeal to the provincial Labour Relations Board.

Regarding helicopter transportation, it is important to note that the right to refuse includes the right to refuse to be transported if an employee has reasonable cause to believe that being transported constitutes a danger to the employee. A transport refusal must immediately be reported to the operator who must then inform all the other passengers that a refusal has been lodged before any other passenger can be transported. If the matter cannot be remedied to the employee's satisfaction by the operator, then every refusal to be transported will be examined first by the operator and if unresolved to the employee's satisfaction, a health and safety officer. The workplace committee must be notified and may make recommendations that it considers appropriate with respect to any such refusals.

Reprisal actions against an employee are prohibited and the reprisal allegation and resolution process closely mirrors the onshore model. No employee can be penalized for seeking to establish or acting as a member of a committee, acting as an observer of a workplace monitoring program, making a complaint, exercising their right to refuse work or to be transported, seeking OHS related information to which employees are entitled, testifying in any proceeding or inquiry established under the Accord Acts, or giving information to anyone performing duties or functions related to the Accord Acts.

#### **4.10 Verification and Compliance**

The proposed OHS amendments will not only establish a comprehensive set of health and safety rights and responsibilities, they will also set out robust verification and compliance mechanisms.

Officers of the CNLOPB who will be responsible for verifying compliance will be called occupational health and safety officers and will be designated as such by the Minister of Government Services and the Federal Minister of Natural Resources. The C-NLOPB may also recommend a non-Board employee to the Provincial Minister for such a designation.

Health and safety officers who are verifying compliance will have a variety of powers. For example, upon entry to a place or any passenger craft, a health and safety officer may make an order to carry out examinations, tests or monitoring in relation to OHS, take samples, photographs and measurements, make recordings, drawings and copies, use any computer system to examine data, remove anything for examination or testing, be accompanied or assisted while in the place by any person the officer considers necessary, meet in private with any person, with that person's agreement and use any of the general order-making powers.

A health and safety officer may also make a number of different types of orders including, but not limited to, an order to provide information, an order to ensure that anything in a place not be disturbed for a reasonable period pending an enquiry, to order anything be removed from a place and sent to the officer for examination or testing, and to facilitate communications between the officer and any person.

When an officer is verifying compliance, an employer representative and an employee representative of the workplace committee will have an opportunity to accompany the officer during the workplace examination. Every person at a place entered by a health and safety officer in order to verify compliance must give the officer all reasonable assistance. A health and safety officer has a duty to provide copies of all written reports

on OHS examinations, monitoring or testing carried out by the officer to the operator and the employer. Health and safety officers are provided with an authority to exercise the powers described without a warrant if the conditions for a warrant exist but by reason of exigent circumstances it would not be practicable to obtain.

The proposed OHS amendments also contain provisions to ensure that workers feel confident in disclosing information to the CNLOPB. The identity of anyone who provided information related to OHS administration and enforcement must not be divulged except under terms and conditions provided by a court or tribunal. The proposed amendments also include protections for commercially confidential information.

#### **4.11 Disclosure of Information**

The Chief Safety Officer may disclose OHS information to government officials, government agencies and foreign governments where the CSO is of the opinion that the disclosure is in the interest of health and safety. The Chief Safety Officer may set the conditions for further disclosure of the information.

The Federal Minister and the Provincial Minister are also entitled to any OHS information or documentation under the control of the CNLOPB, upon request. Such disclosure does not require the consent of the person to whom the information or document relates however, the Ministers may not further disclose the information without the written consent of that person.

The CNLOPB, on the recommendation of the Chief Safety Officer, may release information related to any accident, incident, occupational disease or other hazardous occurrence if it deems that the public interest in making the disclosure outweighs the potential harm from such a disclosure.

#### 4.12 Orders and Decisions

The proposed OHS amendments recognize the realities of the offshore industry and thus, health and safety officers may issue orders and decisions related to danger even if they are not physically present in the place referred to in the order. The recipient of an order must provide the officer with a notice of compliance describing how they have complied with the order within a time specified by the officer.

A health and safety officer who believes that there is or has been a contravention may order the person to terminate the contravention within a specified time and/or to take specified steps to ensure the contravention does not re-occur. Further, where a health and safety officer believes that the operation of any thing, the performance of a specific activity or the condition of a workplace or passenger craft constitutes a danger, the officer may order any person to take measures to correct the hazard or condition within a specified time or protect any person from the danger. If the officer is of the opinion that the danger cannot otherwise be corrected immediately, the officer may order that the thing, activity or place not be used until the order is complied with.

The prioritization of safety is clear throughout the proposed amendments. In the event of inconsistency between orders made by different officers, an order of an occupational health and safety officer prevails over an order made by an operational safety officer, a conservation officer or the Chief Conservation Officer. Similarly, an order of a special officer prevails over an order made by an occupational health and safety officer, the Chief Safety Officer, an operational safety officer, a conservation officer or the Chief Conservation Officer where any inconsistency exists between the orders.

Work refusal decisions and substantive orders must be reviewed by the Chief Safety Officer before being appealed to the external body. Any decision of an OHS officer related to a refusal or any order of an OHS officer may be appealed to the CSO. Decisions or orders of a special officer, as well as orders that an operator or employer must establish a special committee, will go directly to external appeal. In Newfoundland

and Labrador, decisions or orders related to reprisal complaints are referred directly to the Labour Relations Board.

### 4.13 Offences and Penalties

The proposed OHS amendments will also contain robust enforcement mechanisms. Offences will include making a false entry or statement, destroying, damaging or falsifying any report, failure to comply with the order of an OHS officer or to comply with a requirement of the CSO to develop or adopt a code of practice or to comply with a decision of the CSO related to a review, or failure to comply with the decision or order of the Labour Relations Board. Proceedings by way of summary conviction may be instituted up to three years from the date on which the offence occurred. Proceedings by way of indictment have no time limit.

Penalties for summary conviction offences are as high as fines of \$100, 000 or up to one year imprisonment. Penalties for indictable offences are as high as fines of up to \$1, 000, 000 or up to 5 years imprisonment. The Court will also have broad powers to make orders, including prohibiting the offender from committing an act or engaging in any activity that may result in a continuation of the offence, taking any measure deemed necessary to avoid any harm to health or safety that may result from the act or to remedy any harm that has resulted from it, directing the offender to publish the facts related to the case, directing that within three years the offender to provide the CSO any information on the offender's activities that the court deems appropriate, directing the offender to pay the Board a sum of money it considers appropriate to conduct OHS research, education and/or training, directing the offender to perform community service, or directing the offender to post a bond that the court consider appropriate to ensure compliance with any condition required.

#### 4.14 Advisory Council, Audits and Inquiries, Ministerial Oversight

The proposed OHS amendments will enhance government oversight. New oversight mechanisms include an Advisory Council, and the ability to conduct audits and inquiries into occupational health and safety issues. The proposed Advisory Council will be comprised of an equal number of representatives of employees and industry. The federal and provincial governments will also be members and the Chief Safety Officer will be an *ex officio* member. One half of the Advisory Council members will be appointed by the Minister of Government Services (the Provincial Minister responsible for OHS) and the other half of the members will be appointed by the Federal Ministers of Natural Resources and Labour jointly. Members are appointed for a maximum term of five years. The Advisory Council will advise the Board and the Ministers on the administration of OHS Part of the Accord Acts and any other matter respecting occupational health and safety that the Board or the Ministers refers to it.

The audit provisions allow the Provincial Minister, the Federal Minister, or the Ministers jointly to appoint an auditor to measure and report on the effectiveness of the Board in administering the proposed OHS amendments. Any report shall be made to both Ministers and the Board and the Board must reply to the audit within 60 days of the receipt of the auditor's report. Both Ministers will receive a copy of the Board's reply. This provision creates the possibility of an independent assessment of the Board's efficacy with the authority to direct improvements.

A further oversight provision is the ability to call inquiries. The Federal Minister or the Provincial Minister or both jointly may appoint a person(s) to inquire into and report on OHS matters. The C-NLOPB may also initiate an inquiry on its own. A person appointed by the Federal Minister, by the two Ministers jointly or by the Board will have all the powers of a commissioner under Part I of the federal *Inquiries Act*. If both the C-NLOPB and Minister(s) have called an inquiry into a matter, the Minister(s) may direct the Board to terminate its inquiry and provide all records and evidence collected to the person appointed by the Minister(s).

The C-NLOPB's annual report will also be required to have a specific section on OHS and the Board must appoint an audit and evaluation committee. A joint directive power for the federal Minister of Natural Resources and the Provincial Minister responsible for OHS has been created and includes the ability to direct the Board to implement recommendations arising from an audit or inquiry.

An additional oversight provision is the creation of the role of a special safety officer. A special safety officer is a non-Board employee who is designated to carry out certain duties under the OHS Part of the Accord Acts. The Provincial Minister may appoint a special officer, in circumstances where the Provincial Minister is satisfied that the existing provisions of the Accord Acts are not sufficient to address the issue and where there is a serious threat to the health or safety of offshore workers in the near term. The Federal Minister of Natural Resources must also be satisfied of these conditions and will consult with the federal Minister of Labour before designating the officer.

#### **4.15 Regulation Making Powers**

The proposed OHS amendments will also allow for regulation making powers. Regulations may be made in a number of areas including, but not limited to, the establishment of fire safety and emergency measures, the establishment of standards for equipment that may be used by employees, specifying the persons responsible for ensuring that regulated standards are complied with, and the operation of the Advisory Council. The regulation making power also includes a catch-all as there are provisions throughout the text of the Bill relating to things which may be prescribed through regulation. The regulations may incorporate any material by reference regardless of source and may be fixed at a specific point in time (static) or change as the incorporated material changes (ambulatory).

## **5. Conclusion**

The Offshore Helicopter Safety Inquiry was established by the CNLOPB following the March 12, 2009 crash of Cougar helicopter flight 491. The causes of the accident are being investigated by the Transportation Safety Board. The Offshore Helicopter Safety Inquiry will recommend improvements to the safety regime in the Newfoundland and Labrador area to ensure the risks of offshore helicopter transportation remain as low as reasonably practicable.

The Ocean Ranger Commission concluded that “the single window approach would appear to be the best institutional arrangement for regulating offshore oil operations” as long as appropriate steps such as “the establishment of a Safety Branch within the single regulatory agency” were taken.<sup>83</sup> The Commission noted that with a single regulatory agency “competing jurisdictions, administrative overlap and lack of co-ordinated, consistent policy were diminished.”<sup>84</sup>

After the Ocean Ranger Commission Report was issued a ministerial task force, the Harrison Task Force, was established to make recommendations regarding the implementation of the Ocean Ranger Commission Report. In a report issued on July 31, 1986 Task Force members supported the Ocean Ranger Commission’s single window regulatory model and determined that effective safety regulation could not be ‘parceled out’.

While the C-NLOPB is the primary regulator in the NL offshore area, there are other regulatory agencies which play a role in regulating specific aspects of offshore safety. For example, Transport Canada regulates marine and air transportation including offshore helicopter transportation and the C-NLOPB consults closely with Transport Canada on these matters

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<sup>83</sup> Ocean Ranger Commission Report, *supra* note 2 at 140 (Tab 3).

<sup>84</sup> Ocean Ranger Commission Report, *supra* note 2 at 152 (Tab 3).

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Safety in the offshore oil and gas industry is an important issue that is regulated in many different ways around the world. Some jurisdictions regulate through their national occupational health and safety department or agency (New Zealand and the United Kingdom), some have a separate national offshore petroleum safety agency (Australia and Norway), some have a national or regional offshore regulatory agency whose mandate includes safety regulation (Denmark and Newfoundland and Labrador/Nova Scotia), some have an evolving process that will likely result in a mixture of these (United States). Across all of these jurisdictions, it is the civil aviation regulator which has primary responsibility for offshore helicopter safety.

Upcoming Accord Act Amendments will enhance occupational health and safety in the NL and NS offshore. This new governance model will include clarified lines of accountability. The proposed OHS amendments would provide that the operators, employers, supervisors, suppliers and providers of service, owners, interest holders and corporate individuals are responsible for coordinating their activities regarding health and safety at the workplace. Specifically, in relation to helicopter transportation, the proposed OHS amendments will apply to passenger craft which includes the transportation of workers by aircraft or vessel to and from as well as between installations.

The proposed amendments will provide the CSO and health and safety officers with the enforcement tools and mechanisms to ensure that there is an appropriate level of accountability for the parties with obligations and responsibilities under the new OHS regime, allowing for a comprehensive, and offshore specific, regulatory environment.

Key governance features of proposed OHS amendments to the Accord Acts include the ability for the responsible provincial or federal minister to call an audit or inquiry into the activities of the C-NLOPB. The proposed amendments would also establish a tripartite advisory council to advise the C-NLOPB and government ministers regarding occupational health and safety and the administration of the OHS part of the Accord Acts.

Currently, in Newfoundland and Labrador, the provincial Minister of Natural Resources has responsibility for offshore safety. Under the proposed amendments, there will be a separation of oversight responsibilities. The provincial Minister of Government Services, who is also responsible for onshore OHS, will have ministerial responsibility for offshore OHS oversight. This separation of roles will provide additional assurance that there is no conflict or appearance of conflict between the Ministry of Natural Resources role in promoting offshore development and the Ministry of Government Services role in overseeing the C-NLOPB's regulation of offshore OHS. The minister with oversight responsibility will be entitled to any OHS information and documentation under the control of the C-NLOPB.

The underlying principles in the proposed amendments include offshore OHS laws that provide workers with protections equivalent to those which exist for onshore workers; the continued protection of employee rights (to know, to participate, to refuse, protection from reprisal); an OHS culture which recognizes the shared responsibilities in the workplace; a clear separation of OHS and production issues; joint management by the federal and provincial governments; and an effective and efficient regulatory and enforcement regime.

It is anticipated that the legislature in Newfoundland and Labrador and the federal Parliament will consider the proposed occupational health and safety amendments in the fall 2010 legislative session.

# Offshore Helicopter Safety Inquiry

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**BRIEF OF THE COMMUNICATIONS, ENERGY AND  
PAPERWORKERS UNION, LOCAL 2121 TO THE  
OFFSHORE HELICOPTER SAFETY INQUIRY**

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**THE INQUIRY'S MANDATE**

1. The Inquiry's terms of reference state that the purpose of the Inquiry is to determine what improvements can be made so that the CNLOPB, the Canada Newfoundland and Labrador Offshore Petroleum Board, can determine that the risk of helicopter transportation of offshore workers is as low as is reasonably practicable in the Newfoundland and Labrador offshore area. It is most unfortunate that the stated purpose of this Inquiry incorporates what can only be described as "wiggly words." It is far too easy to justify something less safe than it needs to be or the exposure of a worker to an unnecessary risk by saying that it wasn't reasonably practicable to remedy the risk. Risk management, safety plans and safety regulation are meaningless unless they are firmly rooted in the acceptance of the principle that above all every worker has the right to be safe at work and that unsafe work should never be undertaken.
  
2. The specific mandate of the inquiry requires that the Commissioner inquire into, report on and make recommendations in respect of:
  - (a) safety plan requirements for operators and the role that operators play in ensuring that their safety plans as represented to and approved by the Board are maintained by helicopter operators;
  
  - (b) search and rescue obligations of helicopter operators by way of contractual undertakings or legislative or regulatory requirements, and
  
  - (c) the role of the CNLOPB and other regulators in ensuring compliance with legislative requirements in respect of worker safety.

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Implicit in this mandate is the idea that the current structure of safety plans approved and monitored by CNLOPB is a satisfactory structure. The specific mandate with respect to search and rescue obligations of helicopter operators targets organizations which are the subject of regulation by other agencies; these obligations are probably best seen as obligations of operators.

3. Like any mandate conceived after a major accident, the mandate of this Inquiry reflects the concerns that were paramount at the time. It is submitted that the work of the Inquiry has disclosed underlying issues concerning the nature and functioning of the organizations involved in the provision of the broad range of helicopter transportation and related services which raise equally fundamental issues about the way safety is assured in this part of offshore Newfoundland and Labrador operations, if not in all parts. Modifying or adjusting the safety plan requirements for operators by issuing guidelines or direction to operators as to how they should ensure that safety plans are maintained by helicopter operators will not address the fundamental issues and concerns that have been disclosed by the work of this Inquiry. A recasting of the role of the CNLOPB will not be sufficient to ensure compliance with legislative requirements in respect of worker safety.
  
4. When one looks at the legislation governing Newfoundland and Labrador offshore, one sees that there is very little in the way of legislative requirements. Rather the legislation is in essence enabling. The legislation does require review of the safety of an operation, but beyond that it enables the imposition of conditions with respect to safety in any authorization

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and enables safety officers to act by prohibitory order in the circumstances of anticipated serious bodily harm. The legislation does not in and of itself require that the operation of an offshore installation be carried on in a safe manner. Rather, it is the Board, through its chief safety officer and safety officers, that must do that. By virtue of the 2001 Memorandum of Understanding under the Atlantic Accord Legislation, operators in the Newfoundland and Labrador offshore are bound to the provisions of the Newfoundland and Labrador Occupational Health and Safety Act and the employer's obligations thereunder. Administration of the Act does not however fall to the Newfoundland and Labrador Government Occupational Health and Safety Division, but rather to the Board's safety officers. Unfortunately, it appears that the Board's safety officers have been anything but proactive in respect of this aspect of their duties.

5. Safety is a matter of behaviour. All the statutory statements, opportunities for enforcement, efforts to educate and apparent systems to support "the culture of safety" mean absolutely nothing if there is not a will on the part of those with the power to act to enforce the obligations of the operators. Before this Inquiry resolves upon the questions that are identified for investigation, it must look at what we have learned about the will of CNLOPB and its officials, the operators and their officials and indeed workers to ensure that a state of safety as it relates to helicopter transportation is achieved.

**THE APPROACH TO HELICOPTER SAFETY ISSUES AS  
DEMONSTRATED IN THE EVIDENCE BEFORE THE INQUIRY TO DATE**

6. The Inquiry heard extensive evidence about three issues which are critical to safety of transportation of workers by helicopter. These three issues illustrated how these matters of safety have been dealt with. These matters involve the introduction of a new helicopter transportation suit, the introduction and provision of an emergency breathing system and the dealing with helicopter search and rescue response time and equipment. Each of these matters will be examined in turn to demonstrate attitudes to improving safety, enforcement and the use of the occupational health and safety system as a means to attain a high degree of safety.

**Helicopter Transportation Suits**

7. The evidence before the Inquiry demonstrated that a large number of individuals were issued helicopter transportation suits that did not fit them properly. According to the evidence of Mark Collins with Helly Hansen, the fitting exercise undertaken after the March 2009 crash disclosed 107 individuals who did not have a proper face seal that could be resolved by the provision of a smaller hood and a further 180 individuals who required further modifications to make their suit fit, including 12 individuals who required a totally custom suit. Of the 180 persons who did not require a true custom suit, most were fitted by the development of a new suit called the HTS 1.

**(Reference: Evidence of Mark Collins, November 18, 2009, Pages 138-143 - Tab 1)**

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8. The evidence of Howard Pike on February 18, 2010 at pages 50-55 acknowledges that the suits which did not fit the individuals to whom they were issued posed three distinct safety risks:

- (1) Leakage of water into the suit during usage due to improper seal leading to hypothermia on the part of the user;
- (2) Excess material in the fit leading to problems with air evacuation thereby causing increased buoyancy and buoyancy inherent in the material which interfered with the ability of an individual to exit a submerged helicopter;
- (3) Improper fit reducing the mobility of a suit user making mobility in the event of a helicopter ditching or crash a problem or leading to a fall while wearing the suit in the ordinary course.

**(Reference: Evidence of Howard Pike, February 18, 2010, Pages 50-55 - Tab 2)**

9. In practical terms, the suit issued to Robert Decker which was one of the new suits, did not function as required and indeed his body temperature dropped to 28 degrees Celsius while he was in the water.

10. The Minutes of the Suncor Occupational Health and Safety Committee meetings from April of 2008 through to the crash of Cougar Flight 491 consistently record the raising of issues with the fit of the helicopter transportation suit, and in one instance for one individual, the

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issue of the seal provided by the suit is raised ( See Exhibit C-00153). These Minutes were transmitted to the CNLOPB Safety Division and on their face disclosed participation in the meetings, where the issues were raised, by Suncor's most senior manager at the FPSO, the offshore installation manager. Additionally, the issue of the fit of the helicopter transportation suit was brought to the CNLOPB at the joint meetings of the Occupational Health and Safety Committees with CNLOPB in November of 2008.

**(Reference: Evidence of Howard Pike, February 18, 2010, Page 60, Lines 10-13 -Tab 3)**

11. There does not appear to be any record in the Minutes of the Hibernia Occupational Health and Safety Committee meetings concerning the issue of the suit fit. The Inquiry did not hear evidence of the dealings of the White Rose Occupational Health and Safety Committee with respect to the helicopter transportation suit.
  
12. The reaction of Suncor to the issue of the fit of the helicopter transportation suit is recorded in the Minutes of the Occupational Health and Safety Committees. Its reaction ranged from the suit meets Government Standards, to the company is working on it with the suit supplier, to nothing to report. The CNLOPB called upon the operators to provide them with a presentation as to how they were addressing the helicopter transportation suit issue in June of 2008. This presentation was done by the operators and would appear to be an indication that knowledge of issues with the helicopter transportation suits was in fact present with all of the operators.

**(Reference: Evidence of Howard Pike, February 18, 2010, Page 48, Lines 12-17- Tab 4)**

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13. CNLOPB accepted that the operators had identified a plan with respect to the suits in July of 2008 and were working on it.

(Reference: Evidence of Howard Pike, February 18, 2010, Page 54, Lines 22-25-Tab 5)

14. CNLOPB did not deal with the Occupational Health and Safety Committees in respect to the helicopter transportation suit and specifically did not take any steps to investigate the risks identified with respect to the suit.

(Reference: Evidence of Howard Pike, February 18, 2010, Page 58, Lines 1-24-Tab 6)

15. What actually happened with the helicopter transportation suit should be contrasted with the expectations contained in the safety plans of the operators. For instance, the HMDC safety plan, Exhibit C-00133 at page 40 suggests “passengers should check that they have been supplied with the correct size immersion suit.” Exhibit C-00131 at Page 179, section 4D.8 states “survival training for the helicopter occupants will maximize the likelihood of a successful rescue of personnel in the water.” The Suncor safety plan, Exhibit C-00139 at Page vi says of its Robust Risk Model “continued work utilizes quantitative and qualitative risk techniques, safety reviews, safety audits and other analytical processes, with the results linking back to the safety plan.” In Section 4.3.1, the safety plan talks of an integrated safety management system. Section 6.2.1 describes the Occupational Health and Safety Committees as assisting in the regulatory and organizational need to monitor health and safety standards, and to identify work place hazards.

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16. Gary Vokey, one of the Suncor witnesses, indicated that the impetus for the ultimate sizing and fitting exercise that was done by Helly Hansen was the heightened concern over wrist seals and the issue with seals around the face was thought to be a function of stiffness of the zippers.

(Reference: Evidence of Gary Vokey, January 21, 2010, Pages 38-39, Lines 21-5-Tab 7).

This heightened awareness apparently arose subsequent to the crash of Cougar Flight 491. Notwithstanding this, Ms. Farrell acknowledged that the company knew in April of 2008, that there was an issue with suit seals.

(Reference Evidence of Michelle Farrell, January 21, 2010, Page 15, Lines 1-20 - Tab 8).

When asked by Counsel for CEP if Suncor was prepared to leave one person flying with a suit that did not seal, Mr. Farrell stated:

*“What I understood and what we were investigating is multiple things, whether the zippers were impacting the face seal ... we took a number of steps to try and address and understand that and at the same time we were proceeding down the path of understanding the implications of modifying suits for whatever reason.”*

(Reference: Evidence of Michelle Farrell, January 21, 2010, Page 47, Lines 1-11-Tab 9)

17. Helly Hansen had been commissioned to do a survey with respect to employee complaints respecting the new helicopter transportation suit. This survey was conducted a considerable period of time prior to the crash of Cougar Flight 491. Two particular answers in that survey provide interesting information. Thirty percent of the Respondents disagreed with the

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statement that they had no trouble making the face seal. Twenty-two percent disagreed with the statement that they had no trouble getting the zipper all the way up. The conclusion from this is that eight percent of the users were in the category of people who agreed they had no trouble getting the zipper all the way up, but still disagreed with the statement that they had no trouble making the face seal. It would appear that nobody picked up on the fact that eight percent of the users were able to properly zip up the suit but still felt there was difficulty with the face seal.

18. The evidence of Michelle Farrell indicated that the previously used Mustang suit still met the helicopter transportation suit standard but did not meet the dual certification required to use the suit as an abandonment suit as well as a helicopter transportation suit.

(Reference: Evidence of Michelle Farrell, January 21, 2010, Page 61, Lines 2 - Page 62, Line 14 - Tab 10)

19. When asked about the Board's interaction with the suits, Ms. Farrell said:

*"So we developed that presentation package. I do recall that there was considerable attendance by members of the Board. They understood the complexity of trying to work within a standard that is set by Transport Canada, Aviation and Marine, both divisions being different, and one seemingly much slower to respond than the other, and so they understand that we were working the issue, that we were continuing to engage the work force and they expected follow up from us."*

(Reference: Evidence of Michelle Farrell, January 21, 2010, Page 78, Lines 10-20 - Tab 11)

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20. The operators had issued a contract to Helly Hansen to provide the new helicopter transportation suit. However, review of the contract with Mark Collins of Helly Hansen demonstrated that there is no requirement on the part of Helly Hansen to train the Cougar employees issuing the suits as to how to determine whether the suits fit or for Helly Hansen to check the initial fit of the suits on the employees.

(Reference: Evidence of Mark Collins, November 18, 2009, Pages 189-190, Line 12 - Tab 12)

21. It is apparent from the evidence that the operators were focused on making the existing suit work and achieving their goal of having a single suit with dual certification. Despite significant information flowing from the workers in the Helly Hansen survey, the operators did not either recognize or focus on the safety implications for the individual helicopter passenger posed by the deficiencies in the E452 suit. Rather, the operators were focused on the issues such suits posed for them in dealing with Transport Canada.

22. Similarly, CNLOPB failed to focus on the safety risk for the individual passengers posed by the E452 helicopter transportation suit. They appear to have bought into the notion that the operators were working on the problem with a very difficult government agency and ignored the fact that the suits were for a significant number of helicopter passengers unable to perform the task required of them. One of these suits very nearly led to the death of Robert Decker after he miraculously survived the catastrophic crash of Cougar Flight 491. This is not hindsight. This is tangible evidence of what has been known in the scientific literature

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for many decades; immersion in the waters of the North Atlantic without thermal protection for any significant duration is fatal.

23. The workers raised the issues with the suit through the joint Occupational Health and Safety system on the Terra Nova FPSO. The workers raised the issues with the suit through the joint Occupational Health and Safety Committee meetings with CNLOPB. The workers raised the issues in their responses to the Helly Hansen survey. It is apparent that some of the workers did not appreciate the significance of the issue as it apparently did not enter into the Occupational Health and Safety Committee process on the Hibernia Platform. There may be an issue with respect to workers' understanding of their rights in respect of the Committees and/or their understanding of the technical requirements of the helicopter transportation suits. What is clear is that the workers brought the issue forward to a sufficient degree such that it engaged the safety system.
24. The safety system failed. Neither CNLOPB nor the operators took the appropriate steps to reduce the risk to the workers posed by the suits. Rather, workers were to be subject to the risks while the operators' desired solution was worked upon. When the crash of Cougar Flight 491 brought matters into focus and in particular brought safety to its appropriate position at the top of the priority list, the obvious solution of no flights by persons who did not have a suit that fitted them was engaged. The crash of Cougar Flight 491 did not change the knowledge state with respect to the helicopter transportation flight suit. The information that the suit did not fit and in particular did not seal was known to the players. What the

crash of Cougar Flight 491 did was increase the concern of the employees about the deficiencies in the suits and change the position of safety on the priority list.

**Emergency Breathing Systems**

25. Studies by Tipton and others in the '90's and early 2000 had confirmed that the breath-hold time for persons submerged in cold waters (warmer than those often experienced in the Newfoundland and Labrador offshore) had a mean breath-hold time of 20 seconds which could be as little as 10 seconds. This is referenced in evidence in the report of Dr. Colshaw. The estimated time needed to escape from a submerged or capsized helicopter in a real accident appears to be from 45 to 60 seconds.

(Reference: Report of Dr. Susan R.K. Colshaw to the Inquiry, Paragraph 2.5.1 - **Tab 13**)

Shell Oil had adopted an emergency breathing system known as a rebreather in the later 1990's.

(Reference: Evidence of Dr. Susan Colshaw, June 29, 2010, Page 72, Lines 10-20 - **Tab 14**)

By the year 2003, most operators operating in the UK portion of the North Sea had some sort of emergency breathing system device available to their helicopter passengers. By the year 2006, all operators in the North Sea would have been using the hybrid device (a combination rebreather and compressed air device). These facts were not highly kept secrets; the work

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of Dr. Colshaw and Dr. Tipton was extremely well known, and anyone familiar with the literature related to cold water survival would be familiar with their work.

26. Additionally, military helicopter pilots have been using a compressed air emergency breathing system from at least the 1990's and the compressed air system was used by professional and amateur scuba divers at least as early as the mid '80's.

**(Reference: Evidence of Gregory Harvey, November 25, 2009, Page 79, Lines 19-24 - Tab 15)**

27. The prevalence of emergency breathing systems appears to have been known to CNLOPB. On February 25, 2000, CNLOPB wrote the Canadian Association of Petroleum Producers and stated that "we understand several companies in the North Sea have adopted the use of 'escape breathing devices' to improve passengers' chances of surviving a crash." One would expect the bodies charged with the regulation of the safety of employees working in the offshore to be current with respect to the advances in safety assists. Safety is of course not a static matter, but rather it is a dynamic process where new understandings of risks and new technologies go hand in hand to maintain an optimal level of safety. The request to CAPP was that this organization discuss this technology and advise of any decisions.

**(Reference: Exhibit P00053 - letter to CAPP, February 25, 2000 - Tab 16)**

The response of CAPP after more than a year was to advise CNLOPB that matters would be delayed pending a literature review by the United Kingdom's civil aviation authority and the Norwegian Industry Initiative on new survival suit standards/specifications. It is interesting

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to note that some eight years prior to actual implementation the Industry Association was tying the introduction of an emergency breathing system to the introduction of a new survival suit standard. On February 12, 2003, Mr. Peter Noel, a safety officer with CNLOPB wrote CAPP expressing concern with the pace of events and describing emergency breathing systems as a mature and tested technology. Mr. Howard Pike, as chief safety officer, disavowed this opinion in his evidence even though it is quite clear from the evidence of Dr. Colshaw that by 2003 most organizations in the North Sea, UK side, were in fact using some type of emergency breathing system.

**(Reference: Evidence of Howard Pike, February 18, 2010, Page 44, Lines 20-25 - Tab 17)**

Mr. Pike said that the Board concurred there was a need for further research.

**(Reference: Evidence of Howard Pike, February 28, 2010, Page 45, Lines 1-4 - Tab 18)**

CAPP responded to Mr. Noel's letter on March 20, 2003 by proposing an implementation committee which would include a representative from the Board's safety division and a worker representative, amongst others. Additionally, CAPP indicated that outstanding issues with respect to the EBS would be resolved by the end of 2003.

28. CNLOPB responded to CAPP indicating that it had supported its approach by letter dated April 8, 2003, and Mr. Peter Noel was appointed to act as the Board's representative. No formal written interaction between the Board and CAPP on the subject of emergency

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breathing systems occurred for another four years although it is apparent that Board officials were aware of a CAPP workshop on the subject held in January of 2006. On March 13, 2007, the Chair of the CNLOPB wrote the president of CAPP requesting an update on the EBS project with a target date for implementation. CAPP responded to the Board stating that implementation was to begin in the fourth quarter of 2007. Notwithstanding these representations, the emergency breathing system (HUEBA) was not implemented until after the crash of Cougar Flight 491 although it is claimed that implementation was intended to start in late 2008.

29. The role of CNLOPB in this matter is marked by a lack of assertion. The long periods of time between formal communications with CAPP are apparent from the chronology just reviewed. It is also apparent that CNLOPB was prepared to have the Canadian Association of Petroleum Producers deal with a major issue respecting helicopter transportation safety on behalf of the operators, with the most substantial document in terms of describing the effort being the letter of March 20, 2003. This letter fell by the wayside in terms of its usefulness within nine months. Howard Pike confirmed that this letter was the extent of CNLOPB's engagement with CAPP.

(**Reference:** Evidence of Howard Pike, February 18, 2010, Page 15, Lines 23 to Page 16, Line 15 - **Tab 19**)

30. No effort was made to define expectations in terms of end result or time frame in which it would be achieved. There was no express delineation of the authority of CAPP and the

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evidence disclosed that CAPP only has authority to deal on any individual matter on behalf of the operators if that authority is specifically extended. Indeed unbeknownst to the CNLOPB, CAPP had the matter withdrawn from it by the operators for most of 2004. **(Reference: Evidence of Paul Barnes, November 17, 2009, Page 54, Lines 15 - Tab 20)**

Mr. Barnes confirmed that CAPP did not inform CNLOPB that it was no longer working on the issue of an emergency breather system.

**(Reference: Evidence of Paul Barnes, November 17, 2009, Page 56-57 - Tab 21)**

31. As the custodian of the workers' right to know of safety issues and the right to participate in respect of safety issues and the right to refuse dangerous work, CNLOPB's Safety Division would be required to support worker participation in EBS implementation which was represented in the letter of March 20, 2003. It is apparent that CNLOPB was aware not only of the failure to appoint a worker to the Implementation Committee, but also in respect of the fact that the Minutes of the Occupational Health and Safety Committee meetings of the operators did not demonstrate any involvement with this issue. As late as 2007 and 2008, workers at the joint Occupational Health and Safety Committee's meetings with CNLOPB were requesting communications on the development of the HUEBA.

**(Reference: Evidence of Howard Pike, February 28, 2010, Page 36, Lines 13 to Page 39, Line 10 - Tab 22)**

Requests from the workers to CNLOPB to intervene on the matter of communication in reference to the HUEBA did not produce results. This problem appears to be reflective of

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- a wider scale problem vis-a-vis worker involvement in safety matters. Mr. Pike confirmed that the joint Occupational Health and Safety Committee meetings had raised the issue of worker participation with respect to the CAPP Training and Qualifications Committee when changes in the standards established by that Committee were required to be passed through the Occupational Health and Safety Committees of the various operators. The fact that participation was raised as an issue is indicative of the fact that this obligation was not being honored by the operators or enforced by CNLOPB.
32. It is apparent from the evidence that workers wished to be involved in the emergency breathing system project but were not given that opportunity. The operators resisted worker involvement in the Implementation Committee and CNLOPB did nothing to support the involvement.
33. The activity of CNLOPB in respect of the development and implementation of an emergency breathing system for helicopter passengers can only be described as woefully inadequate. The inaction of CNLOPB took place against a backdrop of scientific information which established the critical necessity for such systems. It also took place against a backdrop of implementation of such systems by others which effectively denies the necessity of the development and research process adopted by the operators through CAPP. It is simply not plausible that it was necessary to move in the direction of a device that was different than that being used in the North Sea and that it would take such a protracted period of time to put it into operation. The delays demonstrate an incredible lack of will on the part of the

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operators to make the implementation of an emergency breathing system happen. The fact that the Marine Institute had to apply to an oil industry-sponsored fund to develop the training for use of the device ultimately selected, underlines a total absence of motivation by the operators in this respect. Neither CNLOPB, CAPP or the operators presented any insight as to why their respective organizations failed so dismally in bringing this obvious safety improvement about.

## Search and Rescue Response

34. Recommendation 56 of the Ocean Ranger Inquiry recommended that there be a full time Search and Rescue dedicated helicopter provided by either Government or Industry, fully equipped to Search and Rescue Standards, readily available to the Newfoundland and Labrador Offshore Petroleum Industry.
  
35. Operators are required to submit to the CNLOPB a safety plan which is approved as part of the authorization for work to be performed by an operator. This is a repeating exercise and the Board verifies that an appropriate safety plan is in place every time an authorization is given. During the undertaking of the activity authorized by an authorization, CNLOPB will verify and inspect to assure that operators are following their safety plans and the applicable statutory requirements.

(**Reference:** Evidence of John Andrews, October 20, 2009, Page 92, Lines 1-24 - **Tab 23**)

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It is important to note that this is not in essence a prescriptive system. Rather the operator presents to the Board the means by which it will achieve safe operations. The operators have all discussed before the Inquiry their risk assessment and hazard identification programs. In their safety plans the operators discuss the various means by which they prevent hazards and mitigate such hazards. Operators identify levels of safety to be reached. Benchmarks are set in terms of risk of fatalities. Mitigation of risk is discussed at length. Notwithstanding this elaborate system, the Exxon Mobil Contract, in common with all other helicopter transportation contracts, provided: "During non core hours, wheels up response time shall be, at most, one hour."

**(Reference: Exhibit "C-00132", Page 30 - Tab 24)**

The response time contemplated that the helicopter which might be as much as 30 minutes away from St. John's, would require conversion to Search and Rescue status from passenger transportation status by the removal of seats and the installation of SAR equipment. This standard which was current at the commencement of the proceedings of this Inquiry is substantially less than that which is recommended by the Ocean Ranger Inquiry.

36. The standard of Search and Rescue response available is significantly higher than that for which the operators have contracted with Cougar Helicopters. The evidence of Mr. Burt from Cougar Helicopters indicated that a response time of 15-20 minutes was available within services provided by Cougar. Reducing the response time is simply a question of applying resources.

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(Reference: Evidence of Richard Burt, February 3, 2010, Pages 74 & 75 - Tab 25)

Equipment in use by DND on the Cormorant SAR helicopter but not available on the S-92, could have been installed on a dedicated SAR S92. Mr. Burt additionally testifies that the auto hover feature, while not available on the S92 at the present time, had been available on the Sikorsky S61 for some considerable period of time.

(Reference: Evidence of Richard Burt, February 4, 2010, Page 78 - Tab 26)

37. As the regulator of the provision of Search and Rescue response by the operators, CNLOPB was aware of the Ocean Ranger Inquiry report, the wheels up time for Squadron 103 in Gander during the daytime and that offshore oil production platform operators in the North Sea were providing a 15-minute wheels up time.

(Reference: Evidence of Howard Pike, February 18, 2010, Page 62, Line 11 to Page 63, Line 7 - Tab 27)

38. It appears from the evidence of Mr. Pike that CNLOPB simply saw itself as verifying that what was presented in the safety plan was in fact available.

(Reference: Evidence of Howard Pike, February 18, 2010, Page 64, Line 6 - Tab 28)

CNLOPB appeared to be satisfied that the operators were meeting a standard of one hour wheels up time and tolerated a first response helicopter being available only to the extent that

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it was within 30 minutes flying time of St. John's and could meet the one hour wheels up time standard.

**(Reference: Evidence of Howard Pike, February 18, 2010, Page 70, Line 16 - Tab 29)**

39. The research paper presented by Mr. Taber indicated in Paragraph 1.1 that the crash/ditching survival rate during the hours 18:00 to 23:59 was 39 percent as opposed to 70 percent for crash/ditchings during the hours 06:00 to 17:59. Notwithstanding this marked differentiation in survival times between night flights and day flights, CNLOPB took no steps to limit night flights.

**(Reference: Evidence of Howard Pike, February 18, 2010, Page 78, Lines 3-11 - Tab 30)**

40. CNLOPB did not appear to have any knowledge of the appropriate level of continuing training for SAR-Tec technicians and was not aware of any standard.

**(Reference: Evidence of Howard Pike, February 18, 2010, Page 72, Lines 5-23 - Tab 31)**

41. When CNLOPB was challenged to explain why they had not recognized the issues of night flying and wheels up time for Search and Rescue First Response helicopters, the response was to talk about interaction with international colleagues and the approach taken by them in a goal-based system.

**(Reference: Evidence of Howard Pike, February 18, 2010, Page 78, Lines 13 to Page 80, Line 16 - Tab 32)**

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42. CNLOPB showed absolutely no insight as to why they did not recognize that the goal established under the operators' safety plans through their contracts with Cougar Helicopters was unacceptably low.

43. As much as the activities of CNLOPB in respect of Search and Rescue appear to have been deficient, the position of the operators is no better. The operators in their safety plans speak of risk and hazard identification, risk assessment and mitigation and described elaborate systems for employees to report hazards. The employees of the operators by and large work in Newfoundland and are limited in their knowledge of the standards of safety available to what they experience in this jurisdiction. This is not the case for the operators. Each of the operators who have participated in this hearing operate internationally and are involved with the North Sea. There is nothing in the safety plan that prevents an operator from exceeding the goals or bench marks established. Indeed the language employed would give one the impression that safety is a matter of continuous improvement. The undeniable fact is that these operators operated in environments where the standard of Search and Rescue response has been and continues to be markedly higher than that for which they have contracted with Cougar Helicopters.

As this Inquiry has already found, the standard set by the operators is simply unacceptable. Similarly the acceptance of that standard by CNLOPB is equally unacceptable. The challenge that lies before us is to ascertain the 'why' of the failures respecting the helicopter transportation suit, the emergency breathing system and Search and Rescue response time.

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That answer must inform everything that is recommended in respect of the issues which this inquiry will deal with.

## WHY HAVE THE OPERATORS AND CNLOPB BEEN DEFICIENT IN THEIR DEALINGS WITH HELICOPTER TRANSPORTATION SAFETY?

44. It his evidence on the second day of the inquiry, Mr. John Andrews said of the board's mandate:

*"We are to be facilitators of exploration for and development of the hydro-carbons, hydro-carbon resources in the Newfoundland and Labrador offshore area in a manner that conforms to the statutory provisions. Again, you would note that our role is in fact operator driven. We facilitate the explanation for and development of the resources. We do not direct that it be undertaken. We do not in the ordinary instance, order that somebody drill a well. What we are doing is implementing our mandate in respect of the legislation to the plans of a party who comes forward to us wanting to explore and develop the hydro-carbon resources of the Newfoundland and Labrador offshore area. So our role, the implementation of the mandate, is to be responsive to the plans, the applications of parties who want to explore and develop those resources. Particularly, and in the statement of our role, we focus on what our five pillars of the legislative jurisdiction, primarily workers' safety, environment protection and safety, effective management of land tenure, maximum hydro-carbon recovery and value and Canada Newfoundland and Labrador benefits, the industrial benefits part."*

(Reference: Evidence of John Andrews, October 20, 2009, Page 87,  
Line 1 - Page 88,  
Line 2 - Tab 33)

45. However, when commission counsel explored a statement by CNLOPB that it does not have the responsibility for safety of workers and whether it meant that CNLOPB does not have an interest in the safety of workers, Mr. Andrews stated ...

*"The words that I focused on is the oversight and the verification. Clearly we have an interest in all matters in respect to safety, risk assessment, risk management. But, the primary responsibility for worker safety is the operator of the facility on which the worker is to be found."*

(Reference: Evidence of John Andrews, October 20, 2009, Page 97, Lines 7-21 - Tab 34)

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46. Mr. Andrews indicated that the objective of the Board would be to verify that the operator had an appropriate safety plan in place and thereafter during the undertaking of the activity authorized by the authorization, it would verify through audits and inspections that operators follow their safety plans and the applicable statutory requirements.

(Reference: Evidence of John Andrews, October 20, 2009, Page 91, Lines 16-24 - Tab 35)

47. When pressed by Commission Counsel to confirm that the safety officer would not require prior approval from the Board to shut down operations, Mr. Andrews made a very telling statement. He said,

*“No, that would not - that would be a decision that the Chief Safety Officer could take in his own behalf. I will say, of course, that the culture in our office determines we cooperate at all times ... and decisions likely taken by the Chief Safety Officer would be in consultation with other technical experts at the Board and perhaps at the executive level ...”.*

(Reference: Evidence of John Andrews, October 20, 2009, Page 128, Lines 14-25 - Tab 36)

48. The evidence of Michelle Farrell previously referred to is equally telling in terms of CNLOPB’s attitude. Ms. Farrell said that CNLOPB understood the complexity of trying to work within a standard that is set by Transport Canada, that the companies were working with the issue, that they were continuing to engage the workforce and they expected follow up from us. CNLOPB is understanding of the problems of the oil companies in dealing with regulations that made it difficult for them to achieve their goal of a dual certification helicopter transportation suit that fit the workers and could be used also as an abandonment

suit. Their sympathy and understanding caused them to overlook the very real risks that employees were being exposed to. These were not risks that needed to be taken. The subsequent history of events with respect to the transportation safety suit showed that these risks could be very easily avoided by interim transportation by vessel.

49. CNLOPB, as Mr. Andrews said, is a facilitator of exploration for and development of hydrocarbons in Newfoundland and Labrador offshore. Simply put, the successes of the oil industry are the successes of CNLOPB. It is human nature to be supportive of those things which lead to success and avoid those things which tend to dampen or interfere with success. It is in our nature to align with the positives and to avoid being negative. Turning down safety goals as inadequate and telling organizations that they are not doing well enough is negative, and in an atmosphere where the successes of those same parties to whom you direct negative comment is seen as a success for your organization, the focus is on support rather than correction. The Chief Safety officer will consult with other technical experts and the executive before making a negative move against an operator. Presumably this is to obtain their perspective. However, their perspective is not the perspective of safety. Their jobs are facilitating exploration and development of hydrocarbons. The culture of cooperation within CNLOPB is the culture where the focus on safety is lost and any impetus to correction is dissipated.

50. The evidence before the Inquiry suggests that in the operational area, the safety record is strong. We point out that the operational area has not been subject to the kinds of scrutiny

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that helicopter transportation safety has been. We hope that the perception is a reflection of the reality. It can be observed, however, that because certain safety issues potentially cause major damage to the production infrastructure and indeed can cause events like fires that could terminate production, there is a synergy between production and safety. Perhaps it is easier to maintain the focus on safety in that circumstance.

**ISSUES**

51. This Inquiry has proceeded on an extremely confined schedule. The goal of delivering a report by September 30, 2010 and the structure adopted by the Inquiry has significantly limited its investigations. The initial process of the Inquiry was intended to describe the status quo and identify issues. The experts retained by the Inquiry have dealt with very limited matters and on a very limited level. Only one of the expert witnesses, Dr. Colshaw, has a substantial reputation in the area of transportation to and from offshore installations in cold water environments. The role of the other individuals who gave evidence has been very narrow. Even Dr. Colshaw in her evidence declined to answer certain questions on the basis that the time allowed for the preparation of her report did not enable her to inquire into the areas questioned. Frankly, there is not an issue before the Inquiry which could not have benefited from a more indepth investigation.

**The Overarching Issues**

- (i) **Should there be a separation within the CNLOPB between offshore helicopter regulation and other offshore industry regulation.**
52. The evidence before the Inquiry demonstrates that the regulation of offshore helicopter transportation by CNLOPB has been woefully deficient. The Inquiry has not explored the manner in which the CNLOPB conducts other offshore regulation. The evidence indicates that CNLOPB has not been responsive to the Occupational Health and Safety system. It has operated throughout the entire history of its regulatory practice on a set of draft regulations.

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The evidence demonstrates that it has not followed through appropriately when matters of safety are raised in the Minutes of the Occupational Health and Safety Committees i.e. fit problem with suits. CNLOPB has failed to assert the employee's right to participate in respect of the development of an EBS and in respect of the training and qualifications function delegated to CAPP. There is an apparent conflict of interest between the role of CNLOPB as a facilitator and promoter of offshore oil exploration and production and the role of a safety regulator. CNLOPB has shown an unwillingness to impose restraint and expectations upon the operators when it comes to issues of helicopter transport safety. It is difficult to conceive that these attitudinal problems do not extend to other areas of safety regulation. This Inquiry has not delved into the manner in which CNLOPB deals with other safety issues. It has only heard from the operators what is essentially a public relations piece about the strength of their safety systems. The problem is that that strength has not been apparent in the area of helicopter transportation safety.

53. Other jurisdictions have seen fit to separate the regulation of safety from the role of facilitator and promoter of exploration and development. Lord Cullen in his report into the Piper Alpha Disaster described the Department of Energy, which was then regulating both offshore safety and production as tending

*“...towards over conservatism, insularity and a lack of ability to look at the regime and themselves in a critical way. From this certain practical results have followed; the introduction of improvement in safety has been hampered; the development of legislation on the basis of the HSWA (Health and Safety Work Act) has been kept back.”*

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(Reference: Report of the Public Inquiry into the Piper Alpha Disaster, Page 382, Paragraph 22.20 - Tab 37)

This comment could well be a description of the role that CNLOPB has played in respect of helicopter transportation safety. In particular, the lack of ability on the part of CNLOPB to look at the regime and themselves in a critical way is striking. Even the terms of reference and mandate of this Inquiry presuppose that CNLOPB is the body appropriate to perform the safety function. It is submitted that the safety regulation mandate must be removed from CNLOPB. The behaviour of CNLOPB in matters related to Search and Rescue, helicopter transportation suits, the EBS and indeed their dealing with the Occupational Health and Safety Committees are such that no reasonable person could have confidence in the ability of CNLOPB to carry out the safety mandate properly.

- (ii) **Are the risk management systems of the operators and helicopter operators sufficient and adequate to ensure the risk of helicopter transportation is as low as reasonably practicable in the Newfoundland and Labrador offshore.**

54. A risk management system is only as good as the diligence with which it is applied. This Inquiry has seen two contrasting examples of how risk management systems can fail to achieve levels of safety. The implementation of the EBS was in fact delayed by the application of the Petro Canada Risk Management System. The focus on training risks contributed to the deferral of the implementation of an emergency breathing system for workers in the Newfoundland and Labrador offshore, even though such systems were the standard in the most comparable environment where offshore oil exploration and

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development was being conducted, the North Sea. While the experience of others in the industry should not necessarily be accepted without a degree of skepticism, the reality in this particular instance is that the North Sea systems were being used by employees of the same operators as those operating in the Newfoundland and Labrador Offshore. The risk management system of Petro Canada really meant that there was a significant amount of remaking the wheel performed in this jurisdiction. On the other hand, the risk management systems of the operators failed to identify the need to reduce Search and Rescue response time and the ability to do that in this jurisdiction as had been done in other jurisdictions where once again the Newfoundland and Labrador offshore operators were also present. It appears that risk management analysis with its mathematical formulas and models sometimes misses the big picture. These systems did not meet a requirement of identifying current industry best practices and asking the question why they are not applicable to this jurisdiction. This is unsatisfactory. The inquiry has had little opportunity to scrutinize the risk management system of Cougar Helicopter. Questions which would test the adequacy of that system inevitably brought the Inquiry into the territory of the Transportation Safety Board investigation. The adequacy of the helicopter operator risk management systems is a question which will need to be addressed in the context of the report of the Transportation Safety Board. CEP, Local 2121 has been concerned that the pilots employed by Cougar Helicopters were under a misapprehension as to the capacity of the S-92 to operate in a condition of loss of oil. If there was such a misapprehension, the question will have to be asked as to why this was not picked up through the Cougar Helicopter safety

management/risk management system. Unfortunately, this is not a question that this Inquiry can answer at this time.

55. The risk management systems of the oil operators failed to identify the need to respond to the problems with the new helicopter transportation suit. Whether this failure arose from an inadequacy of the system or an inadequacy in the application of the risk management system is not apparent on the basis of the evidence before the Inquiry. We do know that a very simple means of managing the risk was identified, once the focus shifted away from the complications of dealing with modifications to the suit to the safety of the users. This would tend to suggest that the problem with risk management on the part of the operators as it related to this issue, was one of people rather than systems.

**(iii) What is the role of Organizational Safety Culture in Offshore Helicopter Transport.**

56. From the perspective of the worker, the foundations of an organizational safety culture are the three pillars of Occupational Health and Safety, the right to know, the right to participate and the right to refuse unsafe work. The evidence of the workers who appeared before the Inquiry suggests that there has been a significant change in the flow of information about helicopter safety issues to the workers since the crash of Flight 491. The importance of the workers' right to know was underlined by Ms. Lori Chin in her presentation on February 10, 2010 when she said

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*"I've also heard phrases such as risk assessment and safety culture used throughout the Inquiry. I have to question though why aren't the passengers flying offshore not provided with alert service bulletins pertaining to the helicopters that transport workers to the offshore. I believe that workers have the right to be provided with pertinent information so that they themselves can assess the risk and make informed decisions on managing their own risk.*

*Given John's aversion for flying, I strongly believe that if he was provided with the information regarding the problems with the helicopter studs, he would have opted not to fly on Flight 491 on March 12, 2009."*

(Reference: Evidence of Lori Chin, February 10, 2010, Page 24, Lines 3-18 - Tab 38)

Knowledge of risks is an absolute precondition to being able to deal with them.

57. Beyond knowledge, the right to participate and the right to refuse require genuine acceptance on the part of the operators that these rights are in the interests of all persons. The experience with the EBS demonstrates that the right to participate has not been supported by the operators and the regulators. The value of the right to participate is underlined by the role played by the Terra Nova FBSO Occupational Health and Safety Committee. The fact that the individuals on this Committee insisted that concerns about the fit of the helicopter transportation suit remain in the Minutes of that Committee for a period of 11 months has provided this Inquiry with a meaningful reference point as to how concern respecting these suits was dealt with. It is interesting that no such references appeared in the Minutes of the Hibernia Occupational Health and Safety Committee, although clearly the concerns were brought up at the joint Occupational Health and Safety Committee meetings with CNLOPB during that period. The problem with the suits was pervasive and in a properly functioning safety culture, it should have been brought forward by the employees and acted upon by the

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operators. Clearly there is still a need to facilitate the bringing forward of concerns in the area of safety. This is undoubtedly a continuing challenge. It is not easy to change a culture in which it has historically been unwise for employees to bring forward safety issues. As sincere and diligent as the operators might be in this respect, it is reality that old attitudes die slowly.

- (iv) **What are the most appropriate practices, standards and forms of interaction between CNLOPB and the following: (a) industry (including supplies and providers); (b) industry associations; (c) regulators of associated services; (d) other domestic and foreign oil and gas regulators, and (e) worker representatives.**

58. In respect of the interaction of CNLOPB with industry and industry associations, it is the position of CEP, Local 2121 that to the extent that these interactions relate to the regulation of safety, CNLOPB is not the appropriate body to undertake these interactions. There is an inherent conflict in the mandate of CNLOPB as a facilitator and promoter of hydro-carbon exploration and production which, for the reasons previously stated in this Submission, make it inappropriate for CNLOPB to regulate safety.

59. In the context of an appropriate regulator of safety, further studies should be undertaken with respect to the mode of regulation. Both the prescriptive and goal-based forms of regulation have their strengths and weaknesses. Insufficient information has been placed before this Inquiry to come to a definitive position on the appropriate mode of regulation. The regulators of associated services clearly have overlapping authority with respect to CNLOPB. Transport Canada provides a classic example of the difficulties associated with this. While

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Transport Canada requires travellers to the Newfoundland and Labrador offshore to wear the helicopter transportation suit, its regulations appear to be drawn largely in a context of overall helicopter transportation. While egress through windows and flotation equipment are major concerns for the regulator of flights to the offshore, they are not addressed by Transport Canada. Transport Canada does however regulate the airframe in which these concerns reside. It is apparent that there needs to be a clear agreement between Transport Canada and the regulator of safety in the Newfoundland and Labrador offshore, updated on a very regular basis to ensure that regulations do not conflict and that the regulatory jurisdiction of Transport Canada does not inhibit the implementation of the highest standards for workers in the Newfoundland and Labrador offshore. The Newfoundland and Labrador offshore is but a very small part of the international offshore oil and gas industry. Canadian regulators must recognize that there is a wealth of experience in regulation of the offshore residing in other jurisdictions. While it is not appropriate for Canadian regulators to abdicate their jurisdictional authority, neither is it appropriate that all matters be dealt with ab initio by Canadian regulators.

60. Safety regulation onshore has benefited from a consistent tripartite approach where worker representatives, employer representatives and the regulator work together to achieve optimal safety conditions. This has not been the situation in the Newfoundland and Labrador offshore. The regulator has failed to ensure the involvement of worker representatives at all points in the development of safety standards and regulation. In particular, it is nothing short of distressing to see that Government and CNLOPB are moving ahead with new

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Occupational Health and Safety Regulations while this Inquiry is ongoing. Whether it is the development of an EBS or the provision of the regulatory regime for Occupational Health and Safety, worker participation does not mean the opportunity to comment when the process is 90% complete. Worker participation must mean involvement from the earliest stages.

(v) **Does the CNLOPB use best practices in relation to its regulatory role in helicopter transport safety.**

61. The answer to this question is simply 'no'. CNLOPB has been woefully deficient in this respect. For the reasons previously stated, CNLOPB has defaulted in its role as safety regulator when it comes to helicopter transport safety.

## SPECIFIC ISSUES

(vi) **What is the appropriate standard of First Response Search and Rescue that the CNLOPB should require of all operators in Newfoundland and Labrador offshore.**

62. The answer to this issue is quite simple. The safety regulator should require of the operators in the Newfoundland and Labrador offshore the highest standard of First Response Search and Rescue available in the world. We know that the conditions in the Newfoundland and Labrador offshore are indeed the most challenging faced by the offshore petroleum industry anywhere in the world. It flows from this that the required standard of First Response Search and Rescue must be the best that is possibly available.

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(vii) **Are there circumstances, other than declared emergencies, when a rescue helicopter should be dispatched to assist a transport helicopter.**

63. Anytime when a helicopter cannot perform in accordance with its designed capabilities, there is the potential for a life threatening problem. There is without question a high frequency of sensor alerts that indicate a problem with the sensor rather than a problem with the aircraft. The problem is of course, it is not known until the helicopter has safely landed which kind of problem exists. Anytime there is an indication of the possibility of a loss of flight capability by a helicopter, then a rescue helicopter should be dispatched. The inquiry has heard ample evidence as to the perils of cold water immersion. As good as the helicopter transportation suits may be, there is no guarantee of perfection. The fact of the matter is that a downed helicopter will leave its passengers potentially in the water for periods of hours. Minutes can be critical when it comes to avoiding the consequences of hypothermia. Seventeen passengers in the water would be a massive helicopter rescue operation. Any means to avoid delay in undertaking that operation must be adopted.

(viii) **Should there be a more formal protocol regarding the roles of the Department of National Defence and the helicopter operator regarding first response.**

64. The evidence of Paul Drover indicated that irrespective of the ownership of the Search and Rescue assets, helicopter or otherwise, once a Search and Rescue mission is commenced, DND and Coast Guard take control of the operation. There does not appear to be any evidence before the Inquiry which suggests that this arrangement does not work or that some modifications are needed. A more formal protocol may have the effect of creating the

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impression that the role of DND and Coast Guard in Search and Rescue for the Newfoundland and Labrador offshore is diminished. Effective Search and Rescue in the Newfoundland and Labrador offshore will require the resources and expertise of DND and Coast Guard and nothing should be done which potentially diminishes that involvement.

- (ix) **Are operational limitations on helicopter transport, in addition to those dictated by Transport Canada, required to ensure the standard of First Response Search and Rescue is able to be maintained at all times.**

65. The evidence before the Inquiry has demonstrated two matters. Firstly, the instance of fatality in a night crash or ditching of a helicopter appears to be 70% as opposed to 39% for a daytime incident. Secondly, current flotation devices attached to the helicopters being used in Newfoundland and Labrador offshore are ineffective above certain sea states. Night time helicopter transportation to the Newfoundland and Labrador offshore is only necessary in the event of an emergency. Regularly scheduled flights should not occur during the night. The argument put forward by the operators that night time flights are necessary to deal with back ups caused by poor weather conditions is not a sufficient answer to the heightened risk to helicopter passengers on a helicopter which ditches at night. Additionally, the necessity of visual reference for a successful ditching heightens the risk of night flying. Without question, the same issues arise because of fog; however, fog is much less easy to predict than darkness and would likely render helicopter transportation unavailable for a large part of the year. As the witness, Brian Murphy, has said in his evidence, the events of the crash of Cougar flight 491 have increased the probability of a controlled ditching. In high sea states,

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however, the control of a ditching will soon be lost as the high centre of gravity will soon mean that a ditched helicopter quickly becomes an overturned submerged helicopter in the absence of appropriate flotation. Proper operational limitations should be imposed so as to limit flights to times when the sea state will not compromise the floatation of a helicopter and day light is available.

- (x) **Should the CNLOPB impose additional operational requirements on operators to ensure that the risk from helicopter travel in the Newfoundland and Labrador offshore is as low as is reasonably practical.**
66. The mere fact that this question has to be asked is another condemnation of CNLOPB. It is the job of CNLOPB to ensure that appropriate steps are taken by the operators to achieve this result. If ancillary fuel tanks are to be located within the helicopter, they should be equipped with hand grabs to enable them to be used as an assist to exiting a submerged or submerging helicopter. Seating should be arranged so as to minimize the potential of obstruction to window exits and of course should be managed in such a manner that the aircraft balance is maintained. Mr. Tabers work indicates that the effect of the stroking seat on egress needs to be explored. The absence of safety screening for passengers departing the offshore installations is understandable in a context where everybody is required to wear helicopter transportation suits and luggage is dealt with by the operator. It is a reality, however, that these are situations with helicopter transportation which are a highly stressful situation. It is submitted that the likelihood of an individual being able to bring a dangerous object onto

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a helicopter should be examined by the safety regulator to determine whether or not screening for departure from the offshore installations is necessary.

- (xi) **Can helicopter transport safety be affected by the capacity of the helicopter transport fleet and, if so, what role should CNLOPB play in the determination of fleet capacity.**

67. As indicated previously, night flying should be prohibited. The operators use as a justification for night flying the need to clear up backlogs of passengers caused by cancelled flights during the foggy seasons. A certain amount of redundancy within the fleet can alleviate backlogs. CNLOPB, however, should set the requirements for safety and let the operators determine how to meet those requirements. The safety regulator will have to verify that the operators are meeting the safety requirements. It is not necessarily the case that helicopter fleet size is the only solution to the backlogs caused by cancelled flights.

- (xii) **What are the appropriate standards of offshore helicopter safety training to ensure that the risk to passengers is as low as is reasonably practicable both during training and helicopter transport.**

68. It is apparent from Mr. Taber's paper that a more intense level of helicopter transport safety training than that currently being delivered by the Marine Institute and to a lesser extent, Survival Systems, is beneficial. There is no indication from Mr. Taber that increased repetitions of core escape exercises increase the risk to the trainees. Indeed, repetition would appear to increase comfort with the exercise and enhance the safety. It would also appear from the evidence of Dr. Colshaw and Mr. Taber that absolute fidelity to a particular aircraft

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is not necessary for successful training . However, fidelity to the actual steps that an individual will have to take in exiting from a submerged helicopter like jettisoning the window underwater do seem to be more important. Additionally, fidelity to the types of mechanisms to be used for opening exits or restraining the passenger while seated also appears to be important. The UK experience seems to suggest that fidelity to weather and temperature conditions during training can be unduly dangerous. It appears, however, that the Marine Institute is a very long way away from the reality of the situation and that a greater degree of fidelity, while not an exact replication of the likely environment in a crash or ditching situation, would enhance the learning of helicopter passengers, and as such, their potential for survival.

- (xiii) **What personal protective equipment clothing is necessary for helicopter passengers and pilots; what are the standards and should the CNLOPB require guidelines to ensure such equipment and clothing is properly fitted.**

69. A safety regulator, properly functioning, will ensure that prescribed protective equipment is functioning properly. The direction from the regulator should not be a checklist for equipment and a verification that each item is working or properly fitted. Rather the direction from the safety regulator should be that a given standard of safety equipment, be it clothing or electronics, that is supplied to the workers shall achieve the function for which they were designed. The inspection or audit process of the safety regulator is what determines the effectiveness of this approach. Inspection and audits should be functional and not just limited to checklists. The question is not 'does the operator have the equipment'.

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The question is 'does it fulfill its purposes'. When a safety regulator has knowledge of a deficiency raised about a safety item, it should be able to undertake such exercises as are necessary to ascertain whether or not the equipment or clothing concerned is properly functioning. Most of all, the safety regulator should have an attitude and disposition that safety is first and it should not accept explanations as to why safety cannot be achieved. If safety cannot be achieved, then an alternate means of operation must be substituted.

(xiv) **Are changes needed to maximize worker and pilot participation in the development, implementation and monitoring of helicopter safety initiatives and activities.**

70. It is apparent that the current safety regulator has not been supportive of the Occupational Health and Safety system as it relates to helicopter transportation safety. The Provincial Occupational Health and Safety regime generally has a very good record in supporting and promoting safety initiatives and activities. The instances reviewed earlier in this submission with respect to CNLOPB's response to the activities the Occupational Health and Safety Committees, whether, not following up on items in Minutes, not enforcing employee participation, not enforcing information flow from the operators on the HUEBA, or not ensuring participation in the training and qualifications process, all indicate that there is a problem not with the regulatory system but with the attitude and motivation of the regulator. What is needed is a new independent safety regulator that is not drawn into a culture of facilitation and promotion of offshore hydro-carbon exploration and production.

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(xv) **Should offshore workers have a level of personal accountability for their own safety in helicopter transport.**

71. There is absolutely no question that offshore workers should have a level of personal accountability for their own safety in helicopter transport, and this includes above all speaking out when something is not right. The precondition to personal accountability is knowledge, and it is apparent that the information flow both in terms of what individuals can do to improve their chances for surviving a helicopter ditching or crash and the actual risks they are dealing with has been deficient. The auxiliary fuel tank on the S-92 was situated between passengers and window access for a long time before it was changed, yet most people only spoke up after a catastrophic event. Suits did not fit and many people just put up with it. Some questions remain unanswered, however; did persons actually know that the seals in their suits were not working; did persons know the risk of increased buoyancy caused by the excess material in the suit; did persons know the difficulty caused by the auxiliary tank in terms of an individual pushing out a window. Knowledge goes hand in hand with accountability. Before we hold individuals accountable, we must provide them with the knowledge they need. Workers can only dress appropriately for flights if they know what appropriate dress is. Personal accountability must also take into account the realities of the work force. A 50-year old who has been overweight for most of his or her adult life is unlikely to find it very easy to change his/her fitness level. Personal accountability must not be implemented in a manner that it provides a tool for employers to get rid of persons they do not like.

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(xvi) **Does the CNLOPB exercise sufficient oversight of the oil operators, aviation contractors and subcontractors to ensure the risk to workers from helicopter transport is as low as reasonably practicable.**

72. The answer to this question is clearly 'no'. The helicopter transportation suit was brought in in late 2008 in a manner that clearly posed unacceptable risk to the safety of employees of the operators. These risks were apparently observed by the CNLOPB's safety officers to the extent that the additional risk of excessive buoyancy was identified by one of them. Notwithstanding this identification and knowledge of risk, the only step that was taken was to ask the operators to do a presentation on how they intended to resolve the issues. At no time did CNLOPB assess the risk and the options for reducing it. The changes to the location of the auxiliary fuel tank occurred long after it had been put in place. It is a reasonable inference that CNLOPB safety officers would have flown on flights with the auxiliary fuel tank posing the risk that it did. No action was taken by CNLOPB in this respect. The process of the introduction of the EBS could only be described as a nine-year default in oversight by CNLOPB. CNLOPB was aware of the benefits and the availability of the EBS and stood by only uttering the occasional grumble as the operators meandered their way to implementation. CNLOPB provided some of the last evidence to this Inquiry. One would think it would have recognized the problems with its role disclosed in the evidence and have taken the opportunity to show examples of its active regulation. Nothing was forthcoming.

(xvii) **Should the CNLOPB and oil operators aviation audits include reviews of past responses to declared emergencies and emergency preparedness exercises.**

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73. It is one thing to have a safety plan and it is another thing to use it. Emergency preparedness exercises are designed to test the validity of the safety plan. A response to a declared emergency is an actual exercise of the safety plan. Any safety professional will tell you that the one thing that is done after such events is a debriefing to ascertain if the safety plan worked. The job of the safety regulator is to verify that the safety plan is appropriate. No better means exists than to audit those events when the plan has actually been acted upon, either in reality or simulation.

**(xviii) What information from the helicopter operator about flight operation should the CNLOPB require the oil operators to provide to offshore workers.**

74. As previously stated, the first pillar of Occupational Health and Safety is the right to know. Nothing ensures that a safety risk will be eliminated or mitigated like the knowledge on the part of the persons exposed to the risk that it exists. Consider whether extraordinary efforts to change out the studs on the S-92 oil filter mounting would have been made if workers like Lori Chin's husband had started to refuse to fly because they had knowledge of this risk. Knowledge of risk harms no one. The ability to keep it secret potentially delays its elimination. The true safety culture does not hide anything. Information promotes participation and participation promotes safety.

**(xix) Does the CNLOPB have sufficient resources and expertise, including access to independent aviation expertise, to evaluate whether a proposal or plan for helicopter transport from the industry ensures that the risks of helicopter transport are as low as reasonably practicable.**

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75. The offshore oil industry is the most wealthy industrial enterprise that has ever existed in this jurisdiction. The cost of regulation is a cost of doing business. Resources and expertise can be purchased. They need not be a permanent part of the establishment but can be provided on a contractual basis. CNLOPB has not done the job properly. We submit, however, that it is not really a question of resources and expertise; rather, it is a question of motivation. CNLOPB has not been motivated to exercise its regulatory authority in respect of helicopter transportation safety in the Newfoundland and Labrador offshore. CEP, Local 2121 does not doubt for a moment that such expertise would be available were CNLOPB motivated to access it. The validation of a proposal or plan for helicopter transport takes time and potentially delays the operators in moving forward as they wish. The operators had a plan to have a single suit that doubled for helicopter transportation and abandonment. This potentially saved money and eliminated logistical issues. CNLOPB was not motivated to tell them that their plan was not working and to proceed by an alternate means. Had they been so motivated, we have no difficulty in believing that the resources are out there to evaluate such a plan and that CNLOPB would have been able to pay for such an evaluation.

(xx) **Should the CNLOPB more directly involve itself in studies and research in Newfoundland and Labrador and in other jurisdictions to improve safety where offshore oil industry uses helicopter transport.**

76. If a safety regulator accepts that safety is a process of continual improvement, then it will support research and investigation in those areas. Whether this is done by direct involvement or by moral suasion on the operators to support such research is a matter of some

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indifference to CEP, Local 2121. The important thing is that such research be continued. Without the research that has been before this Inquiry, it would be greatly handicapped in its ability to ascertain whether or not CNLOPB has met the standards required of the safety operator. For example, the research on breath-hold time in cold waters has really provided the impetus for developing EBS. The operators are required under the legislation to allocate money for research and development. It should not be difficult for a portion of these funds to be directed to research applicable to helicopter transport in this jurisdiction.

**(xxi) Should there be safety conferences for all parties involved in offshore helicopter transport, and if so, how often should they be held.**

77. Safety conferences can provide a focus for a process of continuous improvement in safety. If such conferences are to be held, they should be closely aligned with the Occupational Health and Safety system so that they do not tend to diminish the importance of that process. The Occupational Health and Safety system is the grass roots basis of advances in safety. An enhanced Occupational Health and Safety system, which genuinely values the input of all the participants in the offshore petroleum industry will provide a continuing focus on safety on a daily basis.

**(xxii) How often should the CNLOPB review its regulations, guidelines and standards with respect to offshore helicopter transport.**

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78. The idea of a time to review regulations, guidelines and standards is inconsistent with an optimal safety system. An optimal safety system works on the basis of continuous improvement. More study is required as to the mode of regulation to be used by a safety regulator in the Newfoundland and Labrador offshore. This is not a matter that has been sufficiently explored by this Inquiry. The mode of regulation will determine whether or not a review cycle is necessary. The danger with a review cycle is that things are written in stone pending review. One need only look at the review cycle associated with the Newfoundland and Labrador Work Health, Safety and Compensation Commission Act. While it unquestionably does lead to a comprehensive review of that Act, it tends to support the status quo in between reviews. With offshore oil and helicopter transportation, we are dealing with a rapidly evolving industry. This Inquiry has not even glanced at the issues posed for helicopter transportation by distant drilling in the Orphan Basin. Currently helicopters travelling to the Orphan Basin have two internal auxiliary tanks. The question might be asked in light of a refusal to work where one tank was installed, what investigation CNLOPB has made of the effect of two such tanks on helicopter transport. Likewise, it might be appropriately asked what consideration of demands on Search and Rescue response time has been made by CNLOPB in light of the extended distance such helicopters will travel and limitations imposed on onsite rescue time for Search and Rescue helicopters posed by the distance. Clearly, such reviews and necessary adaptations to this safety regime cannot be left to a periodic review. The system must be dynamic and able to respond to challenges as they arise.

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CONCLUSION

79. CEP Local 2121 would like to thank the Inquiry for the opportunities it has had to make submissions in respect of its important work. The assistance and cooperation of Inquiry Counsel and staff is sincerely appreciated. The Inquiry staff and the Commissioner can feel with some confidence that their work has already contributed to the improvement of safety in Newfoundland and Labrador offshore. We ask you though not to rest on your laurels for there is much to be done and a large challenge to be met.

DATED at St. John's, NL this 30<sup>th</sup> day of July, 2010.

  
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Counsel for CEP Local 2121

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Our File: AR-2-81347  
Notre dossier:

Your file:  
Votre dossier:

**Via Facsimile**

July 30, 2010

Commissioner Robert Wells, Q.C.  
Offshore Helicopter Safety Inquiry  
Suite 213, Tara Place  
31 Peet Street  
PO Box 8037  
St. John's, NL  
A1B 3M7

Dear Commissioner Wells:

**Re: Transport Canada – Closing Submissions**

Transport Canada is grateful for the opportunity to participate in the Inquiry. Please accept this letter as our closing submission.

Transport Canada currently interacts with the C-NLOPB on a regular and informal basis. We are open to having this interaction formalized should you recommend it. The purpose of such interaction would be to communicate to the C-NLOPB any changes to aviation regulations that may impact offshore helicopter transportation in Newfoundland and Labrador. We feel this will serve to increase public confidence in the level of aviation safety, which is one of our goals.

Please feel free to contact us if the Inquiry has further questions.

Yours truly,



Jonathan D.N. Tarlton & Mark S. Freeman  
Civil Litigation & Advisory Services  
Atlantic Regional Office

JDNT/MSF/td

**Canada**



SUBMISSION ON BEHALF OF  
THE  
CANADA – NEWFOUNDLAND AND LABRADOR OFFSHORE  
PETROLEUM BOARD

# Offshore Helicopter Safety Inquiry

## Canada-Newfoundland and Labrador

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1. The C-NLOPB established the Offshore Helicopter Safety Inquiry to report and make recommendations on matters respecting helicopter passenger safety for workers in the Newfoundland and Labrador Offshore Area.
2. The mandate of the Canada-Newfoundland and Labrador Offshore Petroleum Board is to interpret and apply the provisions of the Atlantic Accord and the Atlantic Accord Implementation Acts (the "Accord Acts") to all activities of Operators in the Newfoundland and Labrador Offshore Area; and, to oversee Operator compliance with the statutory provisions for
  - Worker safety;
  - Environmental protection and safety;
  - Effective management of land tenure;
  - Optimized hydrocarbon recovery and value; and
  - Canada/ Newfoundland & Labrador benefits
3. The legislation does not specifically prioritize these mandates however worker safety is paramount in all Board decisions. This is evident by the powers conferred on the Chief Safety Officer and the specific mandate relating to safety oversight.
4. Prior to approval of any authorization the Board is required to consider the safety of the work in relation to each component and the system as a whole. Section 138.2 states:

**138.2** The Board shall, before issuing an authorization for a work or activity referred to in paragraph 138(1)(b), consider the safety of the work or activity by reviewing, in consultation with the Chief Safety Officer, the system as a whole and its components, including its structures, facilities, equipment, operating procedures and personnel.
5. Operators are responsible for the safety of their workforce and the environment in which they operate. This is consistent with and similar to other occupational health and safety regimes in Canada – the internal responsibility systems. The Occupational Health and Safety Act, RSNL 1990 c. O-3 states:

**Employers' general duty**

4. An employer shall ensure, where it is reasonably practicable, the health, safety and welfare of his or her workers.

The Canada Labour Code, R.S. 1985, c. L-2 states:

**General duty of employer**

124. Every employer shall ensure that the health and safety at work of every person employed by the employer is protected.

6. Just as the Government of Newfoundland and Labrador and the Government of Canada do not guarantee worker safety, the Board does not guarantee the safety of the offshore work force. Worker safety is the responsibility of the Operators. It is the Operators' duty to ensure the protection and safety of workers in the offshore.
7. The Board's role is to require and verify that the Operators comply with their regulatory obligation for safety.
8. The legislation provides the Chief Safety Officer with the necessary tools to monitor and enforce the safety regimes of the Operators.
9. The Chief Safety Officer has broad powers that can be utilized without the necessity of prior Board approval. These powers ensure that the Chief Safety Officer, or his or her designate safety officer, can act swiftly and independently.
10. Section 189, 193 and 193.1 provide the powers of the Chief Safety Officer:

**189.** A safety officer, the Chief Safety Officer, a conservation officer or the Chief Conservation Officer may at any reasonable time

(a) enter any place, including lands, buildings, installations, vessels, vehicles and aircraft, used for any work or activity in respect of which

# Offshore Helicopter Safety Inquiry

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this Part applies, for the purpose of carrying out inspections, examinations, tests or inquiries or of directing that the person in charge of the place carry them out, and the officer may be accompanied by any other person that the officer believes is necessary to help carry out the inspection, examination, test or inquiry;

(b) take photographs or make drawings of any place or thing referred to in this section;

(c) order that any place or thing referred to in this section not be interfered with for a specified period;

(d) require the production, for inspection or copying, of any books, records, documents, licences or permits required by this Part or the regulations;

(e) take samples or particulars and carry out, or have carried out, any reasonable tests or examinations; and

(f) require the person in charge of the place, or any other person in the place who has knowledge relevant to an inspection, examination, test or inquiry, to furnish information, either orally or in writing, in the form requested.

**193.** (1) Where a safety officer or the Chief Safety Officer, on reasonable grounds, is of the opinion that continuation of an operation in relation to the exploration or drilling for or the production, conservation, processing or transportation of petroleum in any portion of the offshore area is likely to result in serious bodily injury, the safety officer or Chief Safety Officer, as the case may be, may order that the operation cease or be continued only in accordance with the terms of the order.

**193.1** An order made by a safety officer or the Chief Safety Officer prevails over an order made by a conservation officer or the Chief Conservation Officer to the extent of any inconsistency between the orders.

11. The Chief Safety Officer has the ultimate authority conferred on it him by the Act. The Chief Safety Officer's decisions are paramount to a conflicting decision by the Chief Conservation Officer.

12. The Chief Safety Officer can suspend production without the necessity of approval from the Board.
13. The Board has demonstrated that its safety regime is effective; removed from the aspects of production and royalties; and, has the power and authority to carry out its mandated duties.

#### **The Inquiry, Recommendations and Participants**

14. The Terms of Reference for this Inquiry indicate that its purpose is to determine what improvements can be made so that the Board can determine that the risks of helicopter transportation of the offshore workers is as low as reasonably practicable. Specifically, the Terms of Reference ask the Commissioner to report on and make recommendation in respect to:
  - Safety plan requirements of the Operators;
  - The Operators role in ensuring their safety plans are maintained by the helicopter contractor;
  - Contractual Search and rescue obligations of the helicopter contractor; and
  - The role of the Board and other regulators in ensuring compliance with legislative requirements in respect of worker safety
15. All of the specific items must be read in reference to the general mandate and therefore must relate to worker safety in the context of helicopter transportation.
16. The Board's legislative authority is limited to the Newfoundland and Labrador Offshore Area and the Operators that it authorizes to work within this area.
17. The Board must be legislatively able to implement the recommendations. This can not be achieved if the recommendations are outside the Board's authority.

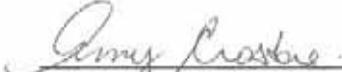
# Offshore Helicopter Safety Inquiry

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18. If recommendations from the Commissioner are outside the Board's authority, or would require changes to the existing legislation or regulations the Board can only pass such recommendations on to both levels of Government as per section 17(2) of the Act. It states:
- (2) The Board may make recommendations to both Governments with respect to proposed amendments to this Act, the Provincial Act and any regulations made under those Acts.
19. The Board can not control the nature or timing of any changes to legislation that both levels of Government may deem necessary.
20. The mandate of the Inquiry has required all participants to provide information not only to the Commissioner but also in a public forum. The Board is grateful to all the parties with standing and presenters for their cooperation with the process.
21. The expert reports and testimony have provided a thorough review of issues relating to worker safety in relation to protection from the cold waters in the North Atlantic, and a useful overview of the regulatory trends and regimes in other jurisdictions.
22. The Board is most appreciative of the thoroughness with which the Commissioner has conducted the Inquiry and expresses its gratitude to the Commissioner, Commission Counsel and to all the Parties with Standing who have participated throughout the process.

All of which is respectfully submitted.

  
AMY M. CROSBIE  
Curtis, Dawe  
Solicitors for the C-NLOPB

**PRESENTATION**  
**TO**  
**OFFSHORE HELICOPTER SAFETY INQUIRY**

Honourable Robert Wells, Q.C., Commissioner

Oral Presentation: November 25, 2009

Jack Harris, Q.C., M.P.

St. John's East

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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## Commissioner:

I am pleased and honoured to have the opportunity to make a presentation today in the early part in Phase One of your hearings, which I understand is addressed, in part at least, to establishing the current facts and circumstances and preparing for the investigative part of this phase of your undertaking, and considering what aspects of helicopter safety should be included for further detailed study.

Firstly, I wish to join with others in expressing my own deep sympathy for the loss of the passengers and crew of Cougar Flight 491, and offer my condolences to all their spouses, children, family and friends who continue to endure the pain of their loss.

And, Mr. Commissioner, I wish to add that my own efforts with respect to participation in this Inquiry are dedicated to their memory, as I am sure is the case for many and perhaps all those participating in this important work, whether as parties, counsel, witnesses or staff. A tragedy like this encompasses the whole community. That is why we are all here.

Also, I would like to express my appreciation to Mr. Robert Decker for his testimony and his contribution to this Inquiry, and also condolences to him for the loss of his friends and co-workers. His participation as the sole survivor was a testament to the indomitability of the human spirit and will, I am sure, be most helpful to the work of the Inquiry. I extend to Mr. Decker best wishes for a full recovery from his injuries.

My own presentation is based on my experience as one who has spent many years as a lawyer with an extensive practice in administrative and labour law, including representing offshore workers and their union for about 10 years, and as an active, practicing politician, now serving as Member of Parliament for St. John's East. As you are aware, my riding includes the operations base of Cougar Helicopters. I also have special responsibilities as a Member of the Standing Committee on National Defence, which is the lead department of the Government of Canada responsible for search and rescue.

I would be pleased to make my presentation and answer questions from the Inquiry or counsel present.

I want to focus on 4 issues.

- 1) The place of search and rescue in the offshore context
- 2) The vital importance of response times
- 3) The terms of reference of the Inquiry
- 4) What the Inquiry can do.

1) Offshore Context

In my submission, this Inquiry cannot effectively carry out its mandate without, at the very least, examining what the Department of National Defence does in the provision of search and rescue services in Canada, in the case of Newfoundland and Labrador, from Greenwood, Nova Scotia, and Gander, NL and through the Joint Rescue Coordinating Centre in Halifax.

I will detail the reasons for this shortly but first wish to state my perspective on search and rescue in the offshore. Firstly I don't think we are any more dealing with both search and rescue; primarily it is rescue. Helicopters and offshore platforms or drilling rigs are in constant radio communication with land-based owners and operators and there is little doubt about their location. If there is an emergency there is little doubt about where to look. It's a question of how fast you can get there to effect a rescue when necessary, or an evacuation from an offshore facility.

It is obvious that we are no longer dealing only with vessels transiting through the offshore, doing seismic work or temporary exploratory drilling, perhaps on location for a month or more at a time. This was the circumstance when the Ocean Ranger Inquiry took place in the early 1980s.

The offshore now consists of permanent facilities (Hibernia) or fixed production and storage facilities that are to be in place for a decade or more (Terra Nova and Sea Rose Floating Platforms). Working with these facilities on an ongoing basis are drill ships engaged in drilling production wells, such as the Henry Goodrich and the Glomar Grand Banks. And more development is to come, starting with the Hebron Ben Nevis project.

But the implications for classic search and rescue capabilities are not yet, I believe, fully appreciated. What we now have is a workforce of up to 600 workers on a regular basis working and living offshore, and during some periods, such as what's called turnaround or maintenance shutdown, hundreds more. It is effectively an eastward extension beyond land of our workplaces, with significant numbers of people working and living several hundred kilometers from land, in a dangerous and often hostile environment. I don't think this is well understood by those setting standards for search and rescue in Canada.

In fact it is just that – the standards for search and rescue – that ought to be a major focus, in my view, of this Inquiry's work. What standard of search and rescue capability ought to be in place to protect our offshore workforce? What standard are they entitled to?

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Canada-Newfoundland and Labrador

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## 2) Response Times

The biggest issue in responding to an emergency, whether it be a fire, an accident or incident at sea, is the response time: how long it takes to get there after the emergency is reported. Coupled with that is of course the question of what you respond with, what equipment and crew is available to do the job.

Response time was important even in the March 12<sup>th</sup> crash of Cougar Flight 491. The lone survivor, Mr. Decker just made it. When he arrived at hospital his body temperature was so low as to be dangerous. He was rescued by the Cougar helicopter assigned to search and rescue, while the DND Cormorants and their crews, normally stationed in Gander, were in Sydney, Nova Scotia on training.

We have been told by Laurie Hawn, Parliamentary Secretary to the Minister of Defence, during debate in the House of Commons on a Motion by Judy Foote, M.P. for Random-Burin-St. Georges, that Cougar is the first responder in such an incident and also that, since the crash was “non-survivable,” it wouldn’t have made any difference even if an aircraft was overhead at the time. He also said that search and rescue aircraft were available “24/7,” with a 30-minute response time on weekdays and a 2-hour response time on weekends.

Aside from the obvious, that the crash was clearly not “non-survivable” and of course you have already heard from Mr. Decker, what would have been the circumstances if all eighteen survived the crash? Perhaps that scenario would be just as likely if there was a controlled ditching as opposed to a crash. The first responder would not have been able to handle the situation, given the fact that the Comorants are fully equipped with all the equipment and crew to handle a larger emergency. Secondly, the Cougar craft was not configured for search and rescue and therefore had to be reconfigured before the helicopter was able to take off.

This raises the obvious question as to whether, under current circumstances, with the first response mandated to Cougar Helicopters, offshore workers are being provided with second-class coverage as compared to other users of search and rescue: a less than fully equipped helicopter, not configured for search and rescue, with a crew that, however valiant and well trained for search and rescue, does not have the day-to-day experience of effecting search and rescue missions, and does not have the greater capability and equipment available though the Cormorant Service. (I must add that this is no reflection on the professional crew and trained search and rescue technicians working for Cougar who effected the rescue of Mr. Decker. It is simply the case that the SAR-Techs working for DND are performing their duties in real-life emergencies virtually every day of the year.)

The second question is what is the response time needed to provide the level of search and rescue capability needed in the offshore? Mr. Hawn, in Parliament, suggested

that the DND response time was 30 minutes on weekdays and 2 hours on weekends. Actually the standards in use are 30 minutes between 8:00 a.m. and 4:00 p.m. on regular working days, Monday to Friday, and 2 hours for all other times. This was confirmed in the background document forwarded to the Inquiry by the Department of National Defence. The National Search and Rescue Manual refers to these hours outside the regular work day as “quiet times.”

It has to be asked whether this standard is adequate, whether the service is ultimately provided by private industry or government. A review of Search and Rescue Response Services in Canada prepared and issued by the Director of Program Review of the National Search and Rescue Secretariat was completed and approved by the Interdepartmental Committee on Search and Rescue of the Government of Canada in June of 1999. In it, what I am calling response time is referred to as “readiness-standby posture,” which is important in understanding the conclusions of this study. Among its “Key Findings,” contained in summary near the beginning of the Report, is item 14 on page 7, which states:

The federal readiness-standby posture is determined primarily by resource availability, not by user demand.

Paragraphs 40 to 43 of the report set out the findings, conclusions and recommendations on the SAR response issues of standby posture. The information is said to be derived from extensive interviews; document, literature and file searches; case studies; and an Expert Opinion Panel. I will set out the relevant paragraphs here but will only touch on the highlights.

#### **READINESS – STANDBY POSTURE**

40. The standby postures of SAR departments were reviewed and it was found that there are significant variations among departments. DND has prescribed a 30-minute readiness capability during “working hours” and a two hour readiness capability during “quiet hours”. DFO/CCG maintains a 30-minute response standard 24/7/365 for primary SAR vessels. Parks Canada readiness levels are site- specific. RCMP SAR posture is no different from their police posture - 24/7/365 coverage. Given the vastness of and differences in the Canadian geography, climate and environment and the various types of SAR incidents that occur, a common standby posture may not be appropriate.

#### **Findings:**

41. The Team found that:

a. resource availability is the primary driver that determines the standby postures for all NSP departments;

# Offshore Helicopter Safety Inquiry

## Canada-Newfoundland and Labrador

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- b. DND usually meets the standby/readiness target. However, working hours do not necessarily coincide with the days or times of peak SAR activity;
- c. DFO/CCG met standby/readiness targets a high percentage of the time in 1997, but expected a substantial decrease in 1998;
- d. Parks Canada standby/readiness is determined through historical operational requirements, available resources and through visitor risk management analysis. However, although more than 70% of parks have public safety plans in place, many have not conducted the analysis for standby/readiness posture.
- e. RCMP meet targets for receiving SAR reports; there are no data on their performance;
- f. for critical SAR missions, all departments occasionally task resources that do not meet their training or equipment standards, thereby putting their staff at increased risk.
- g. along with the Parks Canada efforts to develop risk assessments, in the past year DND has attempted to study standby postures for two of its squadron. In the past year, DFO/CCG has utilized the International Maritime Organization (IMO) Formal Safety Assessment Guidelines to assess SAR coverage within its area of responsibility. However, there is a lack of an overall indicator(s) for what should be a standby posture (or postures) for combined efforts of the federal SAR program. The result is that no assurance can be given that the program is responding as it should.

### **Conclusion:**

42. A lack of strategic management within the SAR program has resulted in each department developing standby postures in isolation, without consultation with other SAR departments. As a result, there is no common rationale driving standby postures.

### **Recommendations:**

43. The Review Team recommends that:

- a. the standby postures of primary SAR resources should be determined principally through an analysis of demand for services; and
- b. federal primary resources that fail to meet training, equipment or delivery standards, as described in a federal SAR Plan, should not be viewed as primary resources and should likely not be tasked.

It is my submission that this Inquiry should heed the spirit of the Recommendation set forth in paragraph 43 a. above and determine a standard for readiness and response time for service in the Newfoundland and Labrador Offshore through an analysis based on the need and demand for service and based on a thorough assessment of the risks, including the presence of a large number of people in a high-risk environment.

### 3. Terms of Reference

However, there is a real question as to whether the Inquiry can effectively do that, given the potential constraints of the Terms of Reference. The Inquiry is specifically mandated in Paragraph 5 of the Terms of Reference to inquire into, report on, and make recommendations in respect of search and rescue obligations of helicopter operators by way of contractual undertakings or legislative or regulatory requirements.

Paragraph 6, however, places a limitation on the Commissioner's mandate in that it does not include an examination of the provision by the Government of Canada (Department of National Defence) of Search and Rescue facilities for all marine incidents and the location of such facilities within the Province of Newfoundland and Labrador.

As stated earlier, I believe this Inquiry cannot effectively carry out its mandate without, at the very least, examining what the Department of National Defence does in the provision of search and rescue services to Newfoundland and Labrador. The provision of search and rescue services by, in the current case, Cougar Helicopters, on contract to the operator of the oil production facilities, is but one piece of a larger puzzle, which includes the services provided by Department of National Defence, the Canadian Coast Guard and others who are involved in the whole Search and Rescue establishment. How can one possibly make effective recommendations without examining the status quo, the "lay of the land"? You haven't even had an effective presentation from DND, only a backgrounder, without any witness to answer questions.

What exactly is the relationship between Cougar and the Joint Rescue Coordination Centre in Halifax, operated by the Department of National Defence? It is obviously important to know, yet the Terms of Reference arguably prevent you from even asking. What is the current relationship between Cougar and DND regarding search and rescue training and assessment?

The Ocean Ranger Royal Commission discussed this in the context of its Recommendation 56, which reads as follows:

That there be required a full-time search and rescue dedicated helicopter, provided by either government or industry, fully equipped to search and rescue standards,

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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stationed at the airport nearest to ongoing offshore drilling operations, and that it be readily available with a trained crew able to perform all aspects of the rescue.

Since the March 12, 2009 crash there has been a lot of talk about this recommendation. However, there is a nuance to this recommendation that I think needs to be further explored.

In the preamble to the recommendation, the Royal Commission report refers to the December 1983 *Guidelines to Operators – East Coast* of COGLA (Canada Oil and Gas Lands Administration, the predecessor of the C-NLOPB).

Included in these guidelines is the following:

Operators on the Grand Banks shall, on a joint and continuing basis, maintain a helicopter dedicated to search and rescue with personnel trained and qualified in the use of such equipment.

According to the Royal Commission Report:

The communiqué accompanying the guideline elaborated that this would be a full-time dedicated search and rescue helicopter, that *the Department of National Defence (DND) would assess and the search and rescue programs of the operators on a continuing basis, and that DND would provide search and rescue training for industry personnel.* (emphasis added)

In the April 1985 Summary of Action Taken by the Government of Canada in relation to the Recommendation of the Royal Commission on the *Ocean Ranger* Marine Disaster, the implementation status to recommendation 56 from COLGA/DND states that “Initial training was provided by DND SAR specialists and further training is available on a continuing basis.”

While recommendation 56 calls for the full-time SAR-dedicated helicopter to be “provided by either government or industry,” there is a clear acknowledgement of a responsibility of DND to ensure at least continuing oversight of the SAR capabilities servicing the offshore. The 1985 action report from government establishes that there was an acknowledgement of this responsibility on the part of DND.

This information shows that at least it was intended that there be a close relationship between the services to be offered by industry and the activities of the Department of National Defence. The Inquiry should clearly be able to investigate this relationship.

I believe it is preposterous that the Terms of Reference are drawn so narrowly as to arguably prevent this. This is preposterous situation and I urge the Canada-Newfoundland and Labrador Offshore Petroleum Board to amend its Terms of Reference to allow this Inquiry to do its job.

The people of this province and especially those who work in the offshore deserve to have confidence in the provision of search and rescue facilities available to them in times of emergency.

5) What the Inquiry can do

There may be an interpretation that the Terms of Reference should only limit this Inquiry from examining the maritime aspects of the DND SAR Operations, and that it is perfectly satisfactory to examine the aeronautical aspects that DND is specifically tasked to do (that is, the provision of aeronautical services through the Cormorants and fixed wing aircraft). It is not certain what the drafters of the Terms of Reference intended.

However, it is clear that they do not want the Inquiry making recommendations on the location of DND facilities in Newfoundland and Labrador.

I would urge this Inquiry to establish standards and requirements for Search and Rescue in the Newfoundland and Labrador Offshore, to ensure those at work in our oil and gas industry have first-class protection, which they deserve. This may result in a political debate as to who should provide the service, and who should pay for it, and how it is to be provided. However, this debate is for a later date and in other places.

Thank you for this opportunity and I look forward with interest to the continuation of the Inquiry's work, hopefully with an expanded and clarified mandate.



***PRESENTATION***

***TO***

***OFFSHORE HELICOPTER SAFETY INQUIRY***

***established by***  
***Canada-Newfoundland and Labrador Offshore Petroleum Board***  
***(C-NLOPB)***

***Honourable Robert Wells, Q.C.***  
***Commissioner***



Submitted by:  
William A.(Bill) Parsons  
Retired Labour Leader

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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## YOUR HONOUR:

It is indeed a pleasure and an honour to have this opportunity to appear before the Offshore Helicopter Safety Inquiry. Needless to say, I was impressed with the Commissioner's first press conference and I quote from the Telegram:

Speaking to the media, Wells said he has already been in contact with other countries that have offshore oil industries, Norway, the United Kingdom and the United States and said he expects them to take part in the Inquiry.

However, Newfoundland's conditions are somewhat worse.

The North Sea can be a rough place, but it hasn't got ice and frigid waters like we have. The Gulf of Mexico, barring the hurricane season, is a much calmer place than the North Atlantic.

Wells said "It seems that, in one sense, we have ice, we have frigid waters, and we have high winds and cold - and all that plays a part in safety."

First, I would like to express my most heartfelt sympathy to all those families, spouses, friends and extended families, to all those mourning the loss of their loved ones in this terrible crash at sea of Cougar Flight 491 on March 12<sup>th</sup> of this year.

During my working career in the labour movement, many times - all too often - I have had the experience of been made aware of workplace fatalities, injuries and diseases. Workers taken away so suddenly and tragically at the workplace changes lives forever.

Secondly, I express unequivocally my deep appreciation to Mr. Robert Decker, the sole survivor of Cougar Flight 491, for putting a "human face" on the events and for describing the moments prior to the ditching, his immersion into the icy waters of the North Atlantic and his actions, which brought him to the surface - his survival. I wish him well in his recovery. He has provided this Inquiry with loads of information and life experiences that the Commission would not have had otherwise.

This presentation will speak to four basic issues which I would submit to this Commission.

- 1. The role of the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) in matters respecting workplace occupational health and safety.**

- 2. The need for effective legislation and regulation for offshore workplaces.**
- 3. The definition of “worker” or “employee” in the offshore workplaces.**
- 4. A mid-distance heliport.**

***The role of the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) in matters respecting workplace occupational health and safety***

This is an extract from a story called “OCEAN RANGER TRAGEDY RAISED SAFETY ISSUES,” Special Report - Saturday, February 16<sup>th</sup>, 2002 - The Telegram.

Offshore safety is regulated by the Canada-Newfoundland Offshore Petroleum Board (C-NLOPB). The board was created to manage the resource in 1985 by the federal and provincial governments, as part of the Atlantic Accord.

The C-NLOPB employs eight staff members dedicated to safety issues. They examine industry processes and training, traveling offshore to conduct an audit roughly every two months.

They also monitor reports submitted daily by operators about the progress of drilling and production activities. Operators are required to notify the C-NLOPB of any incidents.

“The purpose there is to reduce the risks to as low as reasonable practical,” says Howard Pike, the C-NLOPB’s manager of operations and chief safety officer. “You can never eliminate risk. It’s just a part of life. There’s always a risk in everything you do. So the whole notion there is to bring it down to the lowest degree possible.”

Although the C-NLOPB relies on offshore operators to provide it with information, Pike is confident nothing is being hidden from the board.

“There is a legislative requirement for them to do this,” Pike says. “And if we catch them not doing it, then we lay charges against them. If you look at the Hibernia platform, there are 220 people on board. I can assure you that if somebody doesn’t like what they see going on, they will normally find a way of letting us know.”

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(In the fall of 2001, Hibernia became the first offshore oil platform in North America to become unionized; Hibernia Management Development Co. is challenging that certification.)

Operators who breach a work authorization - which is necessary to operate in the offshore - can be charged with an offence, Pike says. Summary convictions can net a \$100,000 fine or one year in jail; more serious indictable offences carry a possible fine of \$1 million.

The C-NLOPB has only ever laid two charges, both against divers - one for using a falsified certification, the other for providing doctored diving logs.

Pike says the lack of charges against industry heavyweights means the C-NLOPB is doing its job. To make his point, he draws an analogy to highway safety.

“If we were regulating highway safety the way we regulate the offshore, what would happen is before you’d be allowed to take that trip to Gander, you’d have to make an application,” he says.

“And then what we would do is sit down and say ‘OK, what inspections have you done on the car? Are the brakes good?’...So you would check the appropriateness of that vehicle for that drive.”

Once the car had cleared all those hurdles, the driver would have to file regular reports. And the C-NLOPB might decide to station somebody at Goobies, just to make sure the driver was following the rules of the road.

“So it shouldn’t be surprising from that standpoint, if we’re doing it that way, that we wouldn’t be issuing as many speeding tickets,” Pike says.

While the C-NLOPB regulates safety, it doesn’t make public the details of its investigations.

The agency is bound by the Atlantic Accord Act, which includes a confidentiality provision specifying what information can be released.

“So we’re working with the legislation,” Pike says.

While critics have railed against at the C-NLOPB’s perceived lack of transparency, Pike says the confidentiality arrangement allows offshore operators to be frank with safety personnel.

“Right now we get, I would say, very candid descriptions of the processes going on. So we’ve got the issue of confidentiality from a business perspective - a business’s right to confidentiality versus the public’s right to know.”

The C-NLOPB currently enforces a combination of the provincial Occupational Health and Safety Act and draft legislation targeted specifically at the offshore - a situation, Pike allows, that does lack some clarity.

The offshore component of occupational health and safety legislation has been in draft form since 1989.

Joint action by the provincial and federal governments is necessary for the 13-year old draft legislation to officially come into effect.

“We don’t promulgate the regulations; we only enforce them, we administer them,” Pike says. “It is up to the governments to promulgate these regulations.”

Clarity of regulations aside, Pike acknowledges that the C-NLOPB needs industry co-operation to do its job.

“Safety per se can’t be legislated. This has to be something that people do of their own accord. We’re being very proactive in this regard; we’re trying to get them to act safely all the time, not just while we’re there.”

And making such changes can have meaningful results.

“As is indicated in the Ocean Ranger report, it’s a sequence, frequently, of events. All you need to do to stop an accident is get one of those dominoes out and that stops the sequence.”

During the period of the Ocean Ranger Disaster, there were numerous questions arising: which has jurisdiction, the federal government or the provincial government? Was the Workers’ Compensation Act applicable? Was it responsible for death benefits, etc.? With the 1985 Atlantic Accord, the provincial government, under certain conditions, was given jurisdiction of occupational health and safety legislation standards and regulations. This is something the provincial Department of Occupational Health and Safety never did achieve because of provincial/federal conflict on the issues of occupational health and safety regulations and standards. The C-NLOPB assumes the role of enforcement of the occupational health and safety offshore. It is, according to the C-NLOPB, a combination of the provincial occupational act and draft legislation targeted specifically at the offshore, a situation the C-NLOPB states lacks some clarity.

This situation is a disaster waiting to happen. The C-NLOPB is a federal/provincial crown corporation with its main objective being to sell resource oil and gas land at a sustained profit with certain restrictions to the oil and gas corporations. The C-NLOPB controls the issuing of licenses for exploration and

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development and the licenses specify the mode and amount of production. The oil and gas corporations have a greater budget than any nation in the world. These corporations' main objective is solely to return profits to their shareholders.

The C-NLOPB has a budget to administer and therefore has a specific amount of funding for occupational health and safety. No other country out-sources its workplace health and safety to other corporations, with the exception of Norway.

The Government of Norway has "The Norwegian Petroleum Directorate." This authority has a very specific legislative mandate for "all aspects" of the workplace environment health and safety. It answers directly to the ministry responsible for offshore oil and gas workplace health and safety.

I'm confident the Commission is aware of its volumes of legislative law and statutes and regulations relative to those matters.

As to comparisons between the C-NLOPB and the Norwegian Petroleum Directorate respecting workplace health and safety - there is frankly none.

## *The need for effective legislation and regulation for offshore workplaces*

It is my view that not one ministerial department, federal or provincial, has taken ownership or responsibility legislatively for the occupational health and safety for the offshore workplace.

Following this Inquiry via the media, it is most difficult to follow what statutory body bears the ultimate sole responsibility for offshore petroleum workplace, for workers' health and safety. There is, to the best of my knowledge and belief, not one such single authority, nor is there one authority which coordinates such an effort. As a matter of fact, the C-NLOPB has no statutory regulatory authority on occupational health and safety.

According to the C-NLOPB, it starts with a safety plan, which is required by all oil companies working in the Newfoundland and Labrador offshore industry. Those plans explain how the companies will keep their employees and those of their contractors safe, both in the workplace and while traveling to and from the offshore platforms and drilling rigs. All safety plans are submitted to the C-NLOPB for approval.

I quote from the Telegram, which the Telegram said is part of the evidence before this Commission.

“In the process of reviewing a safety plan, we review the helicopter operations,” said Howard Pike, chief safety officer for the C-NLOPB.

“That includes the helicopter systems and equipment, emergency response training and how the operator supervises such contracts.”

The board also monitors compliance with those safety plans, which Pike said are designed to “manage risk for the protection and safety of the people working offshore.”

“We verify that operators follow those plans...and we verify that deviations from approved plans are corrected,” he said.

“Safety of an activity requires three elements - the appropriate equipment, the proper procedures and competent personnel.”

Operators are defined as anyone holding an authorization permit issued by the C-NLOPB to carry out offshore activities, such as drilling wells, diving or producing oil.

Authorizations are essentially work permits and they are primarily held by the oil and gas companies.

A helicopter company, for instance, is not considered to be an operator - it's a contractor hired to transport workers.

While the C-NLOPB does not directly oversee contractors' activities, John Andrews, legal manager for the board, said transportation is included in any operator's safety plan.

He also said the operators - not the board - are responsible for worker safety.

“These are not the board's safety plans. These are the operators' safety plans. We are verifying that appropriate safety plans are in place.”

Andrews said the board carries out audits and inspections to ensure the operators follow those plans.

“The board does not have the responsibility for safety. It has an interest in safety of workers by way of its oversight role and its verification role, but worker safety is the responsibility of operators.”

In the world of work, if an accident or fatality or other incident happens, who would the worker see as more impartial - the management safety representative, a

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C-NLOPB safety representative or occupational health and safety representative from his or her elected government department?

Occupational Health and Safety Legislation, Regulations and Standards should, as to the greatest degree possible, be a multi-party effort. Legislation enables and provides for regulation, standards, personal protective clothing and equipment, risk analysis, job processes and procedures, lockouts, fall arrests, transportation, workplace committees, training, and the list goes on.

Regulation should be non-adversarial, transparent and subject to periodic review. This has to be triggered by some authority. The proposed amendments that have been cited by the C-NLOPB, of 1989, are now primarily antique and need major revision. Without the proper law and legal authority, this situation does not cut it.

The governments must act with dispatch and rectify this untenable situation.

This province's history of, for example, the mining industry's safety legislations and regulations was a disaster. It was not until the late seventies that this province's mining industry was regulated by the Occupational Health and Safety Department of Labour (as it was then). Our mining history, which caused injury, death and disease, is not a good one.

Occupational health and safety offshore from heliport to heliport and at the workplace must be governed by one body, one occupational health and safety department, and one government. The sole and final responsibility for occupational health and safety must be the government's responsibility for the specific workplace.

## ***Definition - "worker" or "employee"***

The definition of "employee" should be crystal clear in the legislation. Compensable benefits for an injured worker are, and have been for too long, totally inadequate.

The question, simply put, is: How and why is an injured worker worth less because of injury, loss of limb or fatality? Why do the family's income and security have to suffer because of an injury, loss of limb or fatality? Why does the injury have to cause, for example, a worker's family not to have the right to a full education and a decent standard of living?

***Mid-Distance Heliport***

This province has experienced its share of loss of life at sea and this loss of life potential has drastically increased with the exploration and development of offshore oil and gas. The stress of the family who remains at home while their loved one goes offshore for a three-week rotation is tremendous. The effects on children are unimaginable. The experiences of the crew and families of the helicopter's crews who fly daily offshore must be heart-wrenching.

It is not necessary here to present arguments that Newfoundland's environmental conditions at sea are worse than in the North Sea or the Gulf of Mexico. The Commission expressed that fact very early in its briefings with the media.

It is recommended that there be constructed and maintained a mid-distance helideck offshore at the midway point between St. John's International Airport and the farthest distant oil and gas working platform.

There could be two helidecks with a hanger or one helideck capable of handling two helicopters, much like what the Coast Guard, Navy and others have. There would be a ship's crew required, including a trained industrial nurse, appropriate nursing station and accommodations for a minimum of 20 persons. The ship would require only minimum propulsion and suitable anchorage.

This helideck would be a floating facility, i.e., ship, barge or semi-submersible anchored at a site mid-distance and capable of facilitating helicopters flying to and from offshore rigs.

This mid-distance facility would have a tremendous impact on the offshore workforce and could facilitate other search and rescue at sea as well as acting as a training facility for helicopter pilots and offshore workers. It could likewise be an emergency fueling location.

The stress of the workforce traveling to and from offshore, the helicopter crews and all the families included would be greatly relieved to know that there was such a facility available.

The loss associated with the Cougar Flight 491 helicopter crash is just awesome. The lives of those workers ended; the impact, in terms of the family, skills, experience and training, not to mention equipment loss and recovery costs, is enormous.

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Given the facts of the circumstances surrounding this crash, a helideck facility mid-distance as recommended above may have prevented this disaster from happening.

Recommendation 56 at Page 155-156 - Volume 1 of the Royal Commission on the Ocean Ranger Marine Disaster had this to say:

That there be required a full time search and rescue dedicated helicopter provided by either government or industry, fully equipped to search and rescue standards, stationed at the airport nearest to ongoing offshore drilling operations and that it be readily available with a trained crew able to perform all aspects of rescue.

This presentation supports that recommendation. There is now a greater reason for additional equipment and crews to be stationed at St. John's International Airport with the increased volume of offshore activity.

It is regrettable that those who risk their lives to save the lives of others offshore are the ones who take the full impact of any and all criticisms as to the tardiness or failure of the rescue. That sort of criticizing is not a part of this presentation. Those persons involved with search and rescue (SAR) who carry out those missions are fearless and flawless. They do not make the legislation, rules and regulations or define the budgets which they operate under. They are, by nature of their careers, required to use their best efforts with the equipment the government provides.

The Royal Commission on the Ocean Ranger Disaster, Report 1, at page 125, had this to say:

The crew of the Seaforth Highlander, who, without safety lines and with the deck awash, valiantly endeavoured to save the men in the lifeboat, displayed courage in the best traditions of the sea. Neither they nor the crew of the other vessels had training in rescue operations and, in their efforts to find and rescue survivors more could not be asked of them.

The Seaforth Highlander did not, according to the Royal Commission Ocean Ranger Disaster Commission, recover any crew members whatsoever.

In conclusion, Your Honour, although the Terms of Reference for this Inquiry have mostly focused on the crash of Cougar Flight 491, I want to remind the Commission that a very serious danger of disaster on oil-producing platforms is

that of an on-board fire. This situation has the potential to require major rescue efforts, including the complete evacuation of workers. The question remains: is there adequate provision for search and rescue operations in case of such a disaster?

I submit that these questions of adequate search and rescue operations are within the terms of reference of this Inquiry.

Respectfully submitted  
William A. (Bill) Parsons



**PRESENTATION**

**TO**

**OFFSHORE HELICOPTER SAFETY INQUIRY**

Honourable Robert Wells, Q.C., Commissioner

Oral Presentation: January 14, 2010

Lorraine Michael  
MHA, Signal Hill – Quidi Vidi  
Leader, New Democratic Party

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Good Afternoon,

I would like to thank the Commission for the opportunity to give this presentation, and to say how honoured I am to be able to be a part of what I hope will become a turning point in the history of this province's oil and gas development.

I also want to offer my condolences to the families and friends of those who were lost in the crash of Cougar Flight 491 on March 12, 2009.

Like others who have presented, I like to think of my contribution here, in the House of Assembly, and as Leader of the province's New Democrats, as being dedicated to their memory.

I think my work with the Ocean Ranger Family Foundation gives me an insight into the impact of this latest tragedy. I worked for three years with the families of the men who were lost in that accident, and I learned just how vulnerable the families of workers can be.

I have a strong and deep understanding of the impact on families this sort of accident has.

It is because of this experience that I know this Commission must do everything it can to ensure the future safety of offshore workers.

I am also here today because, as the Leader of the province's New Democrats and an MHA, I have been contacted privately by workers in the offshore oil industry with their concerns.

I am not a lawyer, or an engineer, nor do I have a lot of technical knowledge about the various aspects of helicopter safety. But I do know people, and I know they come first in any consideration — before any other consideration.

No consideration — not political or financial or legal — should take our focus away from why we are holding this inquiry and what we hope to achieve.

We are here in memory of those we lost, in the hopes that we can, through our work, ensure that men and women on their way offshore to work can do so in the safest possible way in the future.

The shock of the loss of Cougar Flight 491 on that cold grey March morning has not been dulled by the passing of time.

When I heard of the missing helicopter, like many I waited anxiously to hear that all aboard were safe. When I heard, as we all did, the details released during that agonizing day, my heart sank.

The loss of 17 people was overwhelming — my sadness was lifted only by the heroic rescue of Robert Decker.

### **Imagine dying on your way to work.**

Unlike most of us, who face nothing more than a short trip to our place of work, those who work offshore face travelling by helicopter to one of the most inhospitable work environments on Earth — an offshore oil platform in the North Atlantic.

While these people accept this risk in order to provide for themselves and their families, it is important to remember that they are also generating great wealth for the benefit of the rest of us.

It is also important to emphasize that it is our responsibility to ensure that risk is managed, and minimized as much as possible.

Work at sea has always been a hazard too well known to Newfoundlanders and Labradorians. Those who work on the North Atlantic have always faced great risks.

It is a sad fact that our history reflects a poor record of safety when it comes to protecting the men and women who work offshore.

Dangerous at the best of times, the annual seal hunt of the past was a litany of danger and tragedy.

In March of 1914, sealers from the S.S. *Newfoundland* were left on the ice off the northeast coast all night in a savage blizzard. That night 78 of the 132 men abandoned on the ice died of exposure. They died in part because the company who owned their sealing vessel did not think it worthwhile to add the expense of a radio, so the skipper did not know his men were in peril.

In 1984 we lost 84 men working on the *Ocean Ranger*, a rig drilling in search of the oil we now benefit so greatly from. The Royal Commission struck to investigate the tragedy cited poor design and poor safety training and equipment as contributing to the disaster.

I see some grim themes in all these past instances: a work culture not focussed on safety, and a tendency to be reactive to disaster, instead of proactive. We tend to have inquiries such as this one *after* the accidents.

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I hope those days are behind us.

Today we meet here to look into measures we can take to avoid another catastrophe occurring while offshore oil workers are going to and from their work.

We all understand working in the North Atlantic is risky, but risk can be understood and mitigated; it can be reduced.

In my presentation today I am going to address a number of issues I think are important in determining what future measures are needed to improve the safety of those who must travel by helicopter to their work offshore:

1. Concerns with the mandate and Terms of Reference of the Inquiry
2. The need for a culture of safety
3. A biennial offshore safety conference
4. An independent Safety Board separate from the C-NLOPB
5. The need for DND Search and Rescue based in St. John's
6. Individual safety issues with current offshore travel

## **1. Concerns with the Mandate and Terms of Reference of the Inquiry**

I am troubled by the limitations that were placed on the Commissioner in the general Terms of Reference, stating as they do that the Commissioner is not able to examine the provision by the Government of Canada (Department of National Defence) of Search and Rescue facilities for all marine incidents and the location of such facilities within the province of Newfoundland and Labrador.

My federal colleague, MP Jack Harris, called this situation in his presentation to this Commission “preposterous” and I certainly want to second that opinion.

When the oil and gas industry in this province was in its infancy, and we were dealing with the Ocean Ranger disaster, a recommendation of the Royal Commission — recommendation 56 — was “that there be required a full time search and rescue dedicated helicopter, provided either by government or industry, fully equipped to search and rescue standards, stationed at the airport nearest to ongoing offshore drilling operations, and that it be readily available to perform all aspects of rescue.”

We know this recommendation has never been put in place.

It is, as Jack Harris says, preposterous that the Commissioner be stopped from looking into this matter.

I applaud the Commissioner's move to ask the Department of National Defence to present information, and I encourage him to continue to "push the envelope" of his mandate. The safety of people who have to travel to work in helicopters demands it.

### Purpose of the Inquiry

I was also interested in the wording found in the Commissioner's terms of reference, regarding the purpose of this inquiry. To quote the section: "to determine what improvements can be made so that the Board can determine that the risks of helicopter transportation of offshore workers are as low as is **reasonably practicable** in the Newfoundland and Labrador Offshore Area."

I found the term "reasonably practicable" concerning, as it provides vague guidance at best.

With respect, I would ask that the Commissioner focus on the term "reasonably practicable."

I believe a lot of what can come out of this inquiry will depend on how the Commissioner interprets that phrase.

One person's reasonable is another's unnecessary risk. Should "reasonably practicable" be viewed in terms of profit margins or bottom lines?

The NDP believes financial considerations should never be a deciding factor in considering employee safety.

Each employee should be given every possible advantage to survive in an emergency situation. This is especially true for this province's offshore oil industry.

### Oil Wealth – So Much Owed To So Few

Our province has benefited mightily from offshore oil revenues. Government claims we are a "have" province for the first time in our 60-year association with Canada.

Never in our 500-year history has this province been so wealthy.

We owe this wealth to the good fortune of discovering oil reserves off our shores. We also owe it to the brave hard-working men and women who work the offshore platforms.

In simple numbers, there are roughly 1,200 offshore workers. In 2008-2009 the province earned \$2.5 billion in oil revenue; the federal government, with its 8.5 percent stake in

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just the Hibernia platform, earned over \$1 billion; and the oil companies have earned many billions more.

It is inconceivable to me, in the face of all this wealth being generated by so few workers, that cost should *ever* be a consideration in evaluating worker safety — *especially* when it comes to offshore travel.

The people of Newfoundland and Labrador owe these workers our absolute, unwavering commitment to their personal safety — no matter the cost.

I submit that every safety precaution, every safety measure and every enhancement to safety and all training are “reasonably practicable” and I hope the Commissioner will interpret that phrase the same way.

## 2. The Need for a Culture of Safety

After the crash of Cougar Flight 491, safety issues regarding offshore helicopter travel began to be discussed in the media, brought up by people working offshore who had harboured these concerns for some time.

We heard concerns about survival suits that don’t fit, worries about auxiliary fuel tanks carried inside the helicopter with passengers, and testimony from the sole survivor regarding his doubts about survival training given to workers.

Perhaps these issues were not contributing factors to this particular incident, but at another time in another circumstance each of these safety issues could be the cause of a tragedy.

This sudden outpouring indicated to me a problem with the offshore work culture.

Since the crash I have been approached privately — through e-mail, by telephone and in person — by offshore workers who have concerns for their safety but fear that speaking out will cost them their jobs.

I understand it can be seen as unfair to level allegations against oil companies or helicopter companies, using anonymous complainants. An organization accused in public has the right to question and cross-examine its accuser.

Yet the fact remains that I have been approached by offshore workers who spoke of their concerns, and of their worries about speaking out publicly.

I have been told of terrifying near misses while helicopters attempted to land in fog at the rigs and of stressful sudden returns to St. John’s with no real information given to

passengers on what was wrong, only instructions to board another helicopter to fly out to their workplace.

As one person put it to me:

Passengers who are subjected to this stress should be able to reject further travel that day with no pay loss. Passengers at Cougar have returned (to St. John's) . . . , and then loaded onto another helicopter for offshore travel. When do the stress and hardship incurred by the passengers enter the equation? Now would be a great time don't you think to give this issue the professional respect it deserves?

Each of these issues could have been, and should have been, identified, addressed and resolved as part of ongoing safety reviews: they should not be surfacing as anonymous e-mails or phone calls from offshore workers to an MHA they hope is going to be able to speak on their behalf.

Nevertheless, the fact that I *am* approached like this speaks to the work culture that exists offshore — often a culture of secrecy and fear of reprisal.

Such a culture is the antithesis of what is needed to ensure that all safety concerns, from the frivolous to the serious, are aired, discussed and resolved in an atmosphere of complete openness and trust.

Officials with the C-NLOPB have stated to this Inquiry that since 1997 when the Hibernia oil platform began working, they have been made aware of 178 concerns about the helicopters, performed 261 safety audits or inspections of the oil industry's offshore operations, and found no significant safety concerns with helicopter safety.

This information seems to be at odds with what we are learning about such issues as survival suits, safety training, and other aspects of helicopter travel offshore.

I have heard many concerns raised regarding safety issues in all areas of the offshore, including helicopter safety. Many of these concerns were raised by people who said they don't trust their employers, or in some cases, the regulator (the C-NLOPB).

Whatever the reason, this situation is unhealthy and dangerous. It is not conducive to developing a healthy safety culture.

There needs to be change.

There needs to be a complete overhaul of the offshore work culture, from an industry, labour, and government perspective, so that any worker anywhere can feel at any time that he or she can speak openly, without fear of reprisal, about safety concerns.

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I understand that my proposal extends far beyond the issue of offshore helicopter travel, which this Commission is investigating, but in order for people to feel safe on the helicopters that take them to their work offshore, they are going to need to feel they are a valued part of an industry-wide, ongoing, proactive safety culture.

I don't think this has been the case in the past. It won't change without the complete and sincere efforts of everyone in industry.

Developing a more open safety culture will be a difficult goal to achieve, but it is essential if safety is to become an ongoing, proactive issue. Safety must be *everyone's* responsibility.

### **3. Biennial offshore safety conference**

One practical way an open safety culture could be fostered stems from a recommendation of the Royal Commission that looked into the Ocean Ranger tragedy. That report recommended "that the Government of Canada encourage and support the convening of a biennial conference on offshore safety."

I think this practice would be an excellent way for our local industry to become a world leader in the area of offshore safety. I also believe an event like a regular conference would be a strong motivator for all stakeholders in the industry to work towards a healthier, more open safety culture.

A key component of a biennial safety conference would be offshore helicopter safety.

The world looks to Norway as a leader in offshore oil practices — how wonderful if a decade from now Newfoundland and Labrador were synonymous with offshore safety practices. All that is lacking is the will.

### **4. An Independent Safety Board Separate from the C-NLOPB**

It is clear that the offshore oil industry needs to be regulated by a separate body responsible only for safety issues.

Such is the case in Norway.

While the recommendation of a separate safety board for the entire offshore goes far beyond the mandate of this Commission, this is as good a place to start the discussion as any.

On January 1, 2004 the Norwegian government created the Petroleum Safety Authority. Its broad mandate gives it regulatory responsibility for safety, emergency preparedness and the working environment in all aspects of the country's oil and gas activities.

The Authority defines safety as embracing (and please note the order) “three categories of loss – human life, health and welfare, the natural environment, and financial investment and operational regularity.”

It works toward true and equal collaboration “between employers, unions and government as well as worker participation” noting that these goals are important cornerstones in efforts to establish and develop a high level of safety in the petroleum industry.

Mr. Commissioner, such a commitment is what we need to provide to all who have to fly offshore to their jobs. They deserve this level of commitment, and it is our duty to provide it.

Testimony this week has shown that the oil industry cannot be trusted to instill safety procedures on their own. Earlier this week an oil company executive admitted to you that his company had taken too long to provide workers with a safety device — a helicopter underwater escape breathing apparatus — for those required to make helicopter flights. This is an unacceptable situation.

The C-NLOPB also shares some responsibility for this state of affairs. As the regulatory agency responsible for offshore safety, the C-NLOPB should not have allowed the implementation of this safety feature to take nine years or more, by the oil company's own admission.

Others have reported that prior to this accident they had no idea that survival suit fit was an issue.

However I first heard of the problems with the fit of survival suits at least ten years ago in my role as executive director of Women in Resource Development.

It was especially an issue for women, but also for many men.

The C-NLOPB is primarily a marketing and permit-granting body, and should not also be responsible for safety considerations concerning the offshore industry.

New Democrats have long recommended that offshore safety must be administered by an entirely independent agency charged with working equally with all sectors of the industry.

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Safety must be the highest priority.

The surest way to begin the long road to a healthy, open culture of safety in the offshore begins with an independent safety authority. It works in Norway. We can make it work here.

## **5. The need for DND Search and Rescue based in St. John's**

I would like to start this section of my presentation with a quote from someone I consider to be an authority on offshore helicopter safety — the sole survivor of the disaster, Robert Decker.

His calm testimony about the events of that day provided us all with a valuable picture of what happens when things go wrong on a helicopter flight to the oil rigs.

I remember in particular one statement, when Decker was speaking of his time in the water after he escaped from the submerged helicopter:

“Then I guess I was anxious because I knew my only hope was rescue by a helicopter. Obviously when the helicopter came on scene I knew it was a Cougar helicopter — I knew the colours — I was expecting a big search and rescue yellow helicopter which I think anyone would probably anticipate.”

Decker's expectation is the essence of common sense, spoken by a man who was recalling being injured and near death after the crash, afloat by himself in the North Atlantic.

The fact is, despite the limitations placed on the Commission's mandate, and despite the insistence by the federal government that they deem a dedicated Search and Rescue unit in St. John's not “an option,” simple common sense dictates we need one — and we need it right away.

Although this issue has been portrayed as a political issue, it is not. It is an issue of common humanity, and an issue of common sense.

This recommendation has been on the books, and ignored, for over 25 years. I pray we never have another offshore catastrophe. But if we do, we owe it to those who find themselves caught in it — and their families — that they can expect swift rescue from a dedicated unit based in St. John's.

Although I understand this issue is outside the Commissioner's mandate, I believe it must be mentioned here in this forum.

This is a preposterous state of affairs. It must be addressed.

Simple common sense dictates it.

## **6. Individual Safety Issues with Current Offshore Travel**

Since the Cougar Flight 491 I have, as I have already mentioned, been approached by people inside the industry who have expressed to me concerns they have about offshore operations right now — especially regarding helicopter travel.

I understand that the Commissioner, in order to be thorough and reliable, will have to take time in hearing and considering all presentations, and in rendering his decisions.

This necessity is cold comfort to someone facing travelling today by helicopter when they have concerns about whether or not these craft are safe to travel on. We have heard from earlier testimony by the president of the Hibernia Management and Development Corporation that a few workers refused to fly on the helicopters when they heard Robert Decker's testimony.

While I am not an expert on any technical aspect of search and rescue, I have listened carefully to those who have approached me with their concerns, and I believe there are a few issues regarding helicopter safety for those travelling offshore right now that I should raise here today, to put them into the realm of public debate.

As late as this morning I received a telephone call from someone calling my attention to yet another issue regarding survival suits worn by workers travelling by helicopter to work offshore.

This caller drew my attention to his concerns regarding the dangers of being in a survival suit fully submerged underwater. His contention is survival suits are not designed to be worn underwater, and that this could have been “instrumental” in the deaths of those travelling on Cougar Flight 491.

I have no way of verifying whether his concerns are valid. I have no desire to cause unnecessary anguish for the families of the victims.

Calls like this underscore my concerns that the current system for addressing offshore safety issues is not working.

Offshore workers should not have to call their MHAs with safety concerns. As I stated earlier, an independent safety board separate from the C-NLOPB would be a more appropriate venue.

I offer these issues in no particular order, and I bring them up solely because someone has seen fit to bring them to my attention.

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**The March 12 Cougar Rescue:** One issue raised to me concerns actions Cougar helicopter took on the day of the crash. While all of us applaud the heroic actions of the Cougar staff that day, the fact is they are not as well trained or prepared, nor could they expect to be, as a dedicated search and rescue team like the SAR-techs working for the Department of National Defence.

I understand that on the day of the crash, under the stress of the news that one of their helicopters was missing, technicians had to install the hoist that proved vital in saving Robert Decker's life onto the Cougar rescue helicopter, and precious time was lost in the process.

No one judges these people, working as they did under tremendous stress. I wonder if any of us could say we would have acted nearly as well that day as the Cougar employees did.

My point is, when it comes to a vital issue like emergency search and rescue, everything should be in place for immediate action.

Fully trained, dedicated professionals with a helicopter fully ready, 24 hours a day, seven days a week, 365 days of the year for search and rescue are the least any offshore worker should expect.

The need for a top class, state-of-the-art search and rescue facility stationed in St. John's, dedicated primarily to the offshore oil industry, is obvious.

It should be done.

**Cougar Colours:** Another issue raised with me by a concerned employee refers to the Cougar colours. I think anyone in this province now recognizes the blue and white pattern of the Cougar helicopter.

I have been made aware of concerns regarding the company's colours. Blue and white are not colours that stand out in the North Atlantic. I have had people contacting me to ask why Cougar does not adopt colours that are brighter, and stand out more against the background of the North Atlantic.

Despite all the modern technology available to locate aircraft, it would seem that brightly painted helicopters would be easier to locate, both during regular operations and in the case of an accident.

This is even more the case for night flights. As night flying has gradually returned to Cougar's schedule, the risk of a crash at night has returned.

It seems obvious that a blue-and-white-coloured helicopter would be much harder to spot at night than a brightly coloured one.

I couldn't help but notice, during the news reports at the time of the accident, the flaming red used on helicopters in the North Sea.

**The “milk run”:** It is common practice for helicopters to travel to more than one platform on their trips to and from the offshore oil patch.

I have spoken with people who have told me that the repeated landings and takeoffs are very stressful to them, and they suggested that helicopters make only dedicated flights to and from one destination. They suggest this practice would lower their exposure to an accident — as takeoff and landing on the rigs are high-risk activities — and would also reduce pilot stress, a contributing factor to possible pilot error.

To reiterate my earlier comments on the need for a more open work culture in the offshore industry, it is a sad comment on the existing offshore work culture that people feel it necessary to approach their MHA anonymously, or privately, with their concerns.

I hope all stakeholders can agree this situation must change.

### Conclusion

Mr. Commissioner, as you listen to all the people who participate in this inquiry, I know you have the considerations of the men and women who fly in helicopters to their jobs offshore first and foremost in your mind.

I know too you have a deep understanding of the hopes and fears of the families and loved ones of those offshore workers.

I hope you interpret your mandate broadly, showing a concern for the people your inquiry was struck to protect over the concerns of the officials who drafted your terms of reference.

I suspect I, and the public, will appreciate it.

I hope you will interpret the phrase “reasonably practicable” very generously in favour of providing whatever it takes to ensure the maximum safety of offshore helicopter travel.

I hope you will think of the great wealth generated from the efforts of the relatively small number of people working offshore, and realize that resources exist to ensure that risk is minimized as much as possible.

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I hope you will not be too swayed by the bottom line. Even if expensive new safety practices are necessary, the oil companies and government will still make plenty of profit from their ventures.

I hope you will see that my concerns regarding the need to change the offshore work culture must be addressed, and that this change is especially important with regard to offshore helicopter travel.

I hope you will see the need for independent, public monitoring of offshore helicopter travel.

I hope you will address the ongoing debate regarding the need for a dedicated, publicly-funded search and rescue unit based in St. John's. I think the families and workers are expecting it of you.

And lastly I hope you will be able to look into the individual safety considerations I have mentioned today.

I wish you luck in the completion of your inquiry and in the writing of your report.

I know the people of Newfoundland and Labrador in general, and the men and women who work in our province's offshore oil industry and fly in helicopters to get to work, and their families and loved ones, have great faith in what you are doing.

I, as do they, look forward to reading your deliberations and recommendations.

Thank you.

Lorraine Michael

MHA, Signal Hill-Quidi Vidi

Leader, New Democratic Party

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# Preventative Safety Culture for Offshore Oil and Gas Industry

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Submission to the Wells Inquiry on Helicopter Safety

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Submitted by Newfoundland and Labrador Federation of  
Labour  
February, 2010



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## Opening Remarks

Mr. Commissioner, Members of the Families of Flight 491:

On behalf of the 65,000 members of the Newfoundland and Labrador Federation of Labour, working women and men in every sector of our economy, and every community of our province, I would like to thank you and the Commission for allowing us this opportunity to appear before this Inquiry.

Mr. Commissioner, I would like to begin by expressing on behalf of myself and the Federation our deepest and sincerest condolences to the families of the 17 working people who lost their lives when Cougar Flight 491 crashed 11 months ago.

I know that this may seem entirely inadequate, but I want to assure the families that our Federation will continue to do what we can to stand up for the health and safety of working people; to fight for better health and safety laws and enforcement; and to ensure as they have done - including with their testimony yesterday - that we never forget what is at stake here. It is people's lives.

And to Robert Decker, I would like to say, again on behalf of our Federation, that your courage and strength as well as your unwavering and thoughtful testimony will make a difference to the future health and safety of those working in our offshore. Indeed, I believe it already has. And we hope that you realize just how important your contributions to this Inquiry have been.

I would also like to commend the members of Communications, Energy, and Paperworkers Union, Local 2121 who testified this week. And I would like to recognize the families who bravely shared their grief and with conviction spoke up for their loved ones yesterday and expressed what many in our community of Newfoundland and Labrador are feeling – that more could have been done to prevent this tragedy. That safety is indeed a matter of choices.

The Federation of Labour is an umbrella organization representing nearly 30 affiliated unions and 500 union locals. We are part of the broader labour movement in Canada and in addition to providing a voice for working people on issues that affect them directly such as pensions, OHS, pay equity, labour laws, and workers' compensation, the Federation also advocates for improved public services, as well as policy and laws that support our principles of social and economic justice, equality and workers' rights – including the overall well-being and welfare of all citizens.

It is my hope that our comments and presentation will help in your deliberations and at the very least provide a critical perspective with respect to occupational health and

safety based on the labour movement's long history in the promotion of stronger health and safety laws and practices.

We hope to highlight how rights if they are to have real power must be more than part of a check-list in a legislative framework. They must be given real meaning and include worker involvement.

We do that by ensuring the structures and processes that are in place to support those rights are active and proactive. In fact, we must be careful that we do not diminish and weaken these rights through structures that lack the tools and resources to be effective, that lack the real support of management or regulatory agencies.

Mr. Commissioner, we must ensure Occupational Health and Safety is more than a matter of checklists or what is known in our world as paper safety - when it should and must be so much more.

We also hope to highlight how a safety culture or a culture of prevention can be created, and I know, Mr. Commissioner, this is something that you have expressed an interest in during this Inquiry.

Prevention is crucial to ensuring decent work for workers everywhere. Without creating a preventive OHS culture there can be little link between OHS legislation and guidelines and actual workplace practices. Building a preventive culture is critical. It means having strong approaches at the provincial, workplace, industry, and inspection levels. It means worker involvement at those levels.

The first step to building that safety culture is to understand and respect what workers and their unions bring to the table. Workers and their unions must not be viewed as adversaries, but rather as engaged partners in achieving healthy and safe workplaces.

After all, we all should share a common goal: the health and safety of the people who go to work every day, contribute to our economy and advance our society.

Partnership, as we know, is based on a several basic principles – perhaps the most important being respect, equality and trust.

Collective bargaining often puts unions and their employers on opposite sides of the table, but, Mr. Commissioner, there is absolutely no need for that relationship to interfere with the one we need as workplace partners around issues like OHS. In fact collective bargaining can often lead to improvements to OHS in a workplace and to practices that are above and beyond the legislative or regulatory minimum. Codes of practice are an example of this, as are support for full-time union OHS representatives in workplaces.

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In order to be successful, a partnership formed in the interest of safety must take into account the inherent imbalance of power between the workplace parties and efforts must be made to temper that imbalance.

We believe the bar for OHS is too low when we refer to managing risk or when we preface our comments with statements such as “this is dangerous work.”

The flipside of that statement is a certain amount of risk is acceptable. From a worker’s perspective no level of risk is acceptable – that is a matter for “risk management” professionals, insurance companies and others. For working people, the only test that matters is that they return home to their families at the end of their work, safe and unharmed.

Mr. Commissioner, in the labour movement we do not view occupational health and safety as risk management. We view health and safety in terms of prevention. Every accident is preventable – it is preventable because of strong laws, worker involvement, education and enforcement. It is preventable because we invest enough in safety, in training, in systems and in technology. It is preventable because we put safety first, ahead of production, ahead of profit.

We will speak to the jurisdictional ambiguity that still exists today with respect to laws and regulations governing the offshore and how we might improve the oversight and enforcement of OHS in the offshore oil industry.

And we will make recommendations that we hope will help build a safety culture, or rather promote a culture of prevention which includes activating the rights of workers, building a real workplace partnership based on the social dialogue principles of respect and equality, and enshrining adequate and proper regulatory authority whose mandate is safety first and safety only.

We will endeavour to focus on those areas mandated by the Commission which include the role of the C-NLOPB.

Mr. Commissioner, as you know, next week we will mark the 28<sup>th</sup> year since the drilling rig the Ocean Ranger capsized, killing 84 workers. A month from tomorrow, we will mark the one-year anniversary of the crash of Cougar Flight 491, which killed 17 people.

I refer to the Ocean Ranger disaster because I believe there are still lessons to be learned from that tragedy and from the recommendations of a commission not unlike this one that delved into the circumstances surrounding the sinking of the Ocean Ranger.

That tragedy happened in the early hours of the morning of February 15, 1982 during a severe winter storm, 166 miles east of St. John’s. There were no survivors.

Last year, trade union activist Steve Porter compiled a book of poems and thoughts by his friend Greg Tiller, who worked on the Ocean Ranger – one of 56 Newfoundlanders who lost their lives.

Just days before his death, Greg Tiller, 21 years old, confided to his friend about his experiences working offshore: “It’s unsafe. I’m telling you man something serious is going to happen out there. I increased my life insurance today. I don’t have a very good feeling. “

There have been considerable improvements in health and safety since the Ocean Ranger disaster, but there is, we would suggest, more that can and more that must be done.

Our reaction as a people to that preventable tragedy that took the lives of 84 workers that February day in 1982 was not unlike our response to the crash of Cougar Flight 491. These two events will forever be part of our collective psyche.

The joint federal-provincial Commission of Inquiry report into the Ocean Ranger disaster noted “the shock wave created by the loss was felt particularly throughout our province. In that tightly knit community there were few who did not discover a link, direct or indirect, to one of those lost in the tragedy.”

Similar words and sentiments were repeated, including by Premier Danny Williams, following the crash of Flight 491 that took the lives of 16 men and one woman – and changed their families forever.

Mr. Commissioner, as you heard yesterday children are now fatherless. Wives have lost their life partners. Parents will forever feel the acute and lifelong pain of having lost a child. They deserve – at the very least – that we collectively do whatever we can to prevent further tragedy. This means accepting we can and must do more – all of us industry, government, unions, workers. It means we all have a role to play and we all must be allowed to play that role without fear of reprisal, with clear rules and defined authority.

It means understanding how democratic models in our workplaces can make a difference. It means understanding that workers’ rights – such as the right to know, the right to participate and the right to refuse – must be more than rights on paper. They must have real meaning. It means viewing workers as more than part of production. It means workers come to the table as true partners in occupational health and safety and prevention, not as tokens, because that is the minimum the law requires.

Mr. Commissioner we all have connections to those who died March 12<sup>th</sup> – died because they went to work that day. One of the men lost was from my home town of

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Deer Lake (you heard from his widow yesterday); another was the older brother of a young man I went to university with; and another was the dad of a little girl who attends school with my niece. It was his first day on the job.

It is these connections and the closeness of our community of Newfoundland and Labrador that perhaps make the job of this Commission that much more difficult, but of such consequence.

We all have a stake. We need this Commission to make a difference. This is vital work that you do. It is life-saving work.

As a people, we need to know that good will come from this tragedy. As William Shakespeare wrote: **“Out of this nettle, danger, we pluck this flower, safety (Henry IV).”**

This is our hope.

Of all the work we do in the labour movement, advocating for enhanced health and safety is the most important. There is nothing, nothing (not profit, not production) - more important than ensuring workers come home to their families at the end of the day or the end of their shift. And that should be the foundation of every decision we make.

## **Workers’ Rights**

Mr. Commissioner, I would now like to take some time to speak about workers’ fundamental OHS rights – the minimum standard as outlined by our laws.

The International Labour Organization, a tripartite UN agency that brings together governments, employers and workers in common action to promote decent work throughout the world, has in its 90-year history placed special importance on developing and applying a preventative safety and health culture in workplaces worldwide.

Its constitution, drafted in 1919, refers to the protection of workers against sickness, disease and injury arising out of their employment.

The Universal Declaration of Human Rights states that everyone has the right to life, to work, to free choice of employment, and to just and favourable conditions of work.

The right to safety and health at work has been developed through a number of international instruments since the ILO constitution of 1919 and the Universal Declaration of Human Rights in 1948, including the Occupational Safety and Health

Convention of 1981, which refers to employers being required to ensure workplaces, machinery, equipment and processes under their control are safe and without risk to health.

The fact that we are paid for our work – and in some cases such as in the oil and gas industry probably paid well - does not mean that we should face hazards that can be avoided. We have the technology and the know-how to make workplaces safe and healthy.

It is a fundamental duty of an employer to provide a safe and healthy workplace. As workers, it is our fundamental right to work under safe and healthy conditions. Occupational health and safety is not a bonus or an add-on. Knowing our obligations as employers and our rights as workers means involving everyone in the process of prevention and building a culture of prevention.

According to the ILO, and we agree with this statement, work can only be decent if it is safe and healthy.

I would like to speak to the OHS rights of workers in our province as guaranteed by the Occupational Health and Safety Act. Those rights are extended to the men and women who work in the offshore, by way of a Memorandum of Understanding first signed in 1985 between the Government of Newfoundland and the Government of Canada (the Atlantic Accord).

Section 61 of that MOU refers to provincial laws, including social legislation such as occupation, health and safety legislation. This MOU is on the C-NLOPB website.

A more detailed MOU dealing with OHS was signed in 2001 among the federal and provincial governments and the C-NLOPB. This MOU basically contracts out to the C-NLOPB the administration of portions of the provincial Occupational Health and Safety Act that are not already covered in the Atlantic Accord Implementation Acts.

This MOU refers to the OHS Act as social legislation and deals with the rights of workers – including the right to know, the right to participate and the right to refuse.

Mr. Pike, the C-NLOPB's chief safety officer referred to this Act in his testimony as "other requirements." Indeed this is how it is referred to on their website.

The fact that these fundamental and core worker rights are viewed as "**other requirements**" diminishes, in our opinion, their importance - and perhaps highlights an underlying, troubling and systemic problem – an agency with conflicting mandates : safety and production. I will speak to this later in my comments.

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The provincial Occupational Health and Safety Act guarantees a number of rights for workers – as do health and safety laws across our country. In Canadian occupational health and safety laws, three rights are emphasized:

- The **right to know** about hazards of the workplace (which speaks to employers' responsibility to ensure workers know of those dangers);
- The **right to participate** in health and safety activities, especially joint worker-management health and safety committees; and
- The **right to refuse** hazardous work.

In addition, there is the right to a healthy and safe workplace and the right to be protected from discrimination or reprisal if you raise a health and safety concern in the workplace.

These rights came about as a result of many years of struggles by working people around the globe. Workers demanded these rights through workplace struggles, strikes, and by lobbying governments. And we continue this work.

We do so because despite advances in OHS laws, practices, enforcement and engagement, an estimated two million women and men die as a result of occupational accidents and work-related disease every year around the world. In our own province, we average between 18 and 25 worked-related deaths annually – whether through a workplace accident or through occupational disease.

As a labour movement we do not accept that injury (death) and disease somehow “go with the job.” That’s because despite the tragedies, we know prevention works. Experience shows that a preventative safety culture is beneficial for workers, employers and governments.

It is building that preventative culture that is the real challenge as it requires strong laws and legislative authority. It means education, inspection, worker involvement and enforcement.

It requires high-quality training including health and safety training that is developed with worker input.

It requires meaningful worker/union involvement at the workplace level through joint-occupational health and safety committees. OHS committees were designed to provide a mechanism for communication to bring issues forward and to have them acted upon.

It means employers must adopt prevention as an integral part of conducting their business; that workers and their representatives are consulted, trained, informed and involved in measures related to their safety and health at work.

According to legislation as workers we are responsible to work safely and to protect ourselves and not endanger others, to know our rights and to participate in implementing preventive measures. But how can we live up to those responsibilities if, for example, workplace practices including communications and decision-making do not allow for this to happen?

The ILO through its Seoul Declaration on Safety and Health at Work stated that a preventive safety and health culture is one in which the right to a safe and healthy working environment is respected at all levels; **where governments, employers and workers actively participate in securing a safe and healthy working environment through a system of defined rights, responsibilities and duties and where the principle of prevention is accorded the highest priority.**

According to the ILO, where high safety standards exist they are a direct result of long-term policies encouraging tripartite social dialogue, collective bargaining between trade unions and employers and effective health and safety legislation backed by strong labour inspection.

Social dialogue, a common practice in the European Union, takes many different forms. It is defined by the ILO to include all types of negotiation, consultation or exchange of information between, or among, representatives of governments, employers and workers, on issues of common interest relating to economic and social policy.

It can exist as a tripartite process, with the government as an official party to the dialogue or it may consist of bipartite relations only between labour and management (or trade unions and employers' organizations), with or without indirect government involvement.

The main goal of social dialogue is to promote consensus building and democratic involvement among the main stakeholders in the world of work. Successful social dialogue structures and processes have the potential to resolve important economic and social issues, encourage good governance, advance social and industrial peace and stability and boost economic progress.

In the labour movement, we believe every worker has the right to a safe and healthy workplace. But in our society it is the employers who control where we work, if we work, how we work, and whether our work is healthy or hazardous.

As we grapple with numerous health and safety concerns, we also face what employers view as “management’s rights” such as the choice of materials, chemicals, the pace of production, shift work, excessive overtime, work cycle times, maintenance

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frequency, and the entire design and power structure of the workplace and production systems.

In order to build a preventive safety culture, we need to fix the workplace power imbalance so that workers, without fear of reprisal, have more of a say in their workplace, especially with respect to matters of health and safety. Let's be clear, when I refer to workplace in the case of the offshore, that workplace begins at the airport.

It is workers who risk their lives, limbs, and health in the workplace. By contrast, the risk for employers is profit. I do not say this to create controversy, but merely to point out the reality.

Part of fixing this imbalance is through democratic workplace structures and evolved social dialogue at the enterprise or company level and at the industry, provincial and national levels. But that requires a shift in attitudes. It means truly respecting what workers bring to the decision-making table.

For example: the union health and safety committees must develop their own agenda for health and safety improvements before meeting with management as the joint committee; management must be accountable for the recommendations that come from these committees and the regulatory agency must be responsible for the enforcement side of these recommendations. This enforcement may involve issuing directives.

In order for laws to be effective they must be vigorously enforced. They must be part of a proactive regime.

For example, in countries like Norway, worker safety representatives or safety delegates have the power to shut down production if there is unsafe work. This authority can help mitigate the inherent imbalance in power in the workplace.

I believe most Newfoundlanders and Labradorians would agree there is something wrong with the regulatory regime when the agency with a mandate for covering worker safety does not see that worker safety is part of its responsibility.

I understand this statement was contained in testimony at this Commission including in a PowerPoint presentation by the CNLOPB (page 9) and I quote: "The C-NLOPB does not have responsibility for safety of workers....worker safety (is) the responsibility of the operators."

Mr. Commissioner, this statement, in and of itself, implies what we have in the offshore is not much better than self-regulation.

The C-NLOPB has also noted that the lack of charges against industry means that the C-NLOPB is doing its job. I would argue that the lack of violations or charges is by

no means in and of itself a measure of safety in any industry. It may instead be an indication of inadequate inspection and enforcement.

### **Jurisdictional ambiguity can lead to self-regulation**

Mr. Commissioner, I know this Inquiry has already heard considerable testimony regarding the laws and regulations governing the offshore. Some are federal in jurisdiction, others are provincial. Some deal with production, drilling practices, the environment, and others deal with health and safety. Navigating through these numerous acts and regulations can be a complex piece of business.

I understand the provincial government has attempted to make this a little clearer with a submission to this Inquiry, tabled this week.

For the purpose of this Inquiry, it is perhaps helpful to zero in on the laws and regulations governing occupational health and safety.

As referred to already, these rights are first mentioned in Section 61 of the Atlantic Accord MOU, signed in 1985 – three years after the Ocean Ranger disaster. They are referred to in the 1987 Canada-Newfoundland Atlantic Accord Implementation Act - section 46 1. (e) of this Act refers to an MOU being established on the matter of OHS.

These rights are later expanded upon in an MOU among the federal and provincial governments and the C-NLOPB signed in 2001.

The Commission has also heard reference to draft OHS regulations (these do not include or encompass those sections of the OHS Act I have referred to above dealing with workers' right to know, participate and refuse: as mentioned, these rights are covered off in the MOU signed in 2001).

The draft OHS regulations (which deal with issues such as working in confined spaces, scaffolding and protective clothing) have been – incredibly – been worked on or in draft form, I believe, since 1989. They now need to be reviewed and modernized without ever being enacted.

Your honour, you have already heard from retired labour leader Bill Parsons who spoke of the jurisdictional ambiguity with respect to what level of government is responsible for what aspect of the offshore. He too raised concerns about the competing mandates of the C-NLOPB whose main and chief objective is to sell oil and gas land for exploration and development, but also has a responsibility for occupational health and safety.

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Mr. Parsons expressed concern that not one ministerial department (federal or provincial) has taken ownership or responsibility legislatively for the occupational health and safety for the offshore workplace, which includes helicopter transport.

Instead the federal and provincial governments contracted out this responsibility to the C-NLOPB, which does not report to the government department responsible for OHS, but to the government departments responsible for production and the economic development of the offshore oil and gas industry.

Our Federation supports the comments made by Mr. Parsons that the current legislative ambiguity and contracting out of responsibility to an agency whose chief responsibility is to the economic development of the offshore is at best unacceptable and comprises a conflict of interest. This kind of regulatory arrangement was sternly criticized by Lord Cullen in his report on the Piper Alpha explosion in 1988. I will refer in more detail to this later in my comments.

This Commission has heard from the C-NLOPB that it is not responsible for safety, that this is the responsibility of the operators. It has been our experience in the labour movement, that sometimes the internal responsibility system (which I believe has been referenced at the Inquiry) and is part of our OHS regulatory regime in Canada can be used to weaken the proactive role government must play.

The internal-responsibility system is intended to be part of a larger framework that includes, and I stress, a proactive (not a passive or reactive) regulatory role. I believe Ms. Lori Chynn (the widow of a deceased passenger) spoke to the need for proactive safety yesterday.

This IRS is in place in Norway too, but there is a strong regulatory framework to back it up, and strong worker participation at all levels - workplace and state.

Mr. Commissioner, the fact that the C-NLOPB does not see itself as being responsible for worker safety is totally unacceptable. While we understand that employers, and in this case the offshore operators, are primarily responsible for the health and safety of their workplace (including helicopter transport), governments and their agencies have a responsibility for legislation, regulation and enforcement.

The role played by government or an agency acting on behalf of government must be more than oversight and verification of safety plans. That, Mr. Commissioner, and I repeat, contributes to an environment of self-regulation.

Mr. Justice Cory in 1991, in *Wholesale Travel*, a decision of the Supreme Court of Canada noted: "Regulation is absolutely essential for our protection and well-being as individuals, and for effective function in society. It is properly present throughout our

lives. The more complex the activity, the greater the need for and the greater our reliance upon regulation and its enforcement...of necessity society relies on government regulation for its safety.”

But laws and regulations are only as strong as the education and enforcement that go with them and how those laws and regulations are practiced in the workplace and enforced by those charged with the protection of our well-being as workers.

We cannot, and I would hope no one is suggesting that we can, rely totally on employers to make our workplaces safe. Because employers have by their existence a goal that sometimes competes with safety – that is to make a profit.

I do not say this to be controversial or to diminish all of the efforts made over the years by the employer community with respect to OHS. This is merely a statement of fact. It is reality in our world.

We should accept that as a given and build from there. This is why we need vigilant and proactive government and worker involvement – to mitigate that economic reality.

### **Production versus safety – conflicting goals...**

Mr. Commissioner, we ask that in your deliberations you consider the competing mandates of production or profit versus safety.

In the Commission’s report into the sinking of the Ocean Ranger, there was a clear acknowledgment of the often conflicting goals of production (or profit) and safety.

The Commission noted – and I quote - that the oil industry had “faced and overcome the problems associated with exploring for and producing oil and gas under major environmental constraints, because without these solutions, exploration and production could not take place. Thus when a rig is being built... (it is) worthy of the latest innovations that technology has to offer.”

The Commission found the equipment designed for enhancing safety had not been given the same attention.

Rather it found that the Ocean Ranger “evacuation system did not meet the same criterion of being essential nor did it elicit the same response” (Chapter 10, page 104).

In addition, the Commission report on the Ocean Ranger warned of the potential conflict of interests between responsibility for safety and for energy policy.

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...[the] inherent risk that, in the drive for energy self-sufficiency, particularly under conditions of economic stress, the price to be paid for accelerated production may be a lowered level of safety  
(Report, Volume 2, page 147)

We would suggest that there have been a number of examples of this conflict provided in testimony at this Inquiry, including:

- the incredible and unacceptable nine years it took to implement helicopter underwater emergency breathing apparatus;
- the length of time it took to respond to repeated concerns by workers regarding the fit of the survival suits;
- the decision when to change studs on helicopter gear boxes;
- the fact that OHS regulations have been in draft form for over two decades.

We must avoid a “father-knows-best,” “top-down” management approach to worker safety, but rather we must encourage worker involvement. We must view workers as experts who can contribute to enhanced health and safety because of their very real experience in the workplace.

In May 2009, the International Labour Organization held a Tripartite Meeting on promoting Social Dialogue and Good Industrial Relations from Oil and Gas Exploration and Production to Distribution.

The conclusions from this meeting, which included employers, workers and government representatives with a stake in the offshore oil and gas industry included:

- The recognition that social dialogue is “of paramount importance” for addressing a wide-range of workplace issues;
- A collaborative approach between employers and workers’ organizations is central to good industrial relations and that the precondition to good industrial relations is full respect for freedom of association and the right to bargain collectively.
- That decent work involves... *freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all.*
- That education and training should be viewed as a long-term contribution to sustainability of the oil and gas industry and as an investment in human capital. It

should involve governments and social partners – like unions and educational institutions.

- That social dialogue is paramount to good governance in the oil and gas industry. **Good governance also relies on transparency in decision-making and reporting processes.**
- That governments play an important role in promoting social dialogue by creating an enabling environment. And governments have a responsibility of facilitating social dialogue through the establishment and enactment of appropriate legislation and institutions.

These recommendations could form part of a new framework for the offshore oil and gas industry in our province.

### **C-NLOPB (Conflicting mandate)**

This issue of competing or conflicting mandates with respect to offshore production and safety has been raised several times and by important inquiries such as the one by Lord Cullen into the Piper Alpha disaster.

I believe this tragedy has been referred to already at this Commission. The Piper Alpha was a North Sea oil production platform. An explosion and fire on the platform in July 1988 killed 167 men. It is considered the world's worst offshore oil disaster. The inquiry was critical of the oil platform's operator, which was found guilty of having inadequate maintenance and safety procedures.

The Cullen Inquiry made a total of 106 recommendations for changes to North Sea safety procedures. One of those recommendations dealt with the conflicting or competing interests of production and safety when a single regulator is responsible for both.

The Inquiry recommended (and this recommendation was acted upon) that the responsibility for enforcing safety should be removed from the Department of Energy and placed with the Health and Safety Executive because having both production and safety overseen by the same agency was viewed as a conflict of interest.

Mr. Commissioner, in 2002, the provincial government, through the department of Mines and Energy conducted a round of consultations concerning the Atlantic Accord. It was an attempt to consolidate legislation dealing with the offshore and incorporate an offshore health and safety regime into that Accord.

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At that time, the NLFL, under President Elaine Price, made a submission outlining the Federation's concerns with the proposed amendments. The proposed amendments, the Federation stated at that time, did little to support what was seen as a needed clear separation between occupational health and safety and production issues.

In its submission, the Federation noted that to begin with all the persons in major health and safety positions, including the Chief Safety Officer (CSO) and all other safety officers, would continue to be employees of the C-NLOPB. "And while our federation (she said) does not question the personal integrity of these officers and does not doubt their dedication to carrying out their duties, it nonetheless remains that they are employees of the organization that is responsible for the development of the oil and gas industry."

The C-NLOPB reports to the federal and provincial departments of natural resources, whose primary mandates are development and production.

The latest annual report of the CNLOPB highlights this competing mandate. Chairman and CEO Max Ruelokke in his report notes that in 2008-09 the CNLOPB experienced several high points including a banner year for land rights issuance and one billion barrels produced.

He noted that the past year "saw several significant successes and accomplishments; however the year was marred by the tragic crash of Cougar Flight 491."

And to further point to the legislative ambiguity of who is responsible for what, we have on the one hand the CNLOPB saying it is not responsible for worker safety, but yet it has the power to shutdown an offshore operation. And we have the provincial government in its submission (page 4) stating that the CNLOPB's responsibilities include operational and occupational health and safety and that this responsibility was enhanced in a MOU signed between the parties in 2001. "The purpose of the MOU (according to the government) was to enhance the CNLOPB's ability to carry out its responsibility for occupational health and safety."

These confusing and conflicting messages from the various authorities only add to the ambiguity of who is really responsible for what. It can also add to a culture of self-regulation.

## **Training...Worker Involvement**

As workers we understand the critical importance training is to health and safety. Skilled and trained workers are part of a strong health and safety foundation. In addition

to being trained and skilled to do the job workers have been hired to do, health and safety training – both general and workplace specific is also critical.

The issue of training has been raised at this Commission, including by Mr. Robert Decker.

Training was also a matter of considerable discussion and the subject of a number of recommendations by the Commission into the sinking of the Ocean Ranger.

That Commission recommended the establishment of a separate Offshore Petroleum Training Standards Board with authority to determine requirements for training in the offshore industry.

The report said:

The insight of workers having substantial experience offshore should also be represented. The Board should be authorized to determine, in consultation with industry, training institutions and related government agencies, requirements for training in the offshore. (Report, Volume 2, page 75)

This is an example of social dialogue or a tripartite model that could be implemented for training workers for the offshore, including OHS training. To be clear, this would involve workers' engagement including through their union.

When you consider Robert Decker's testimony, it becomes clear that the training provided is inadequate.

Mr. Decker said (and I quote):

As good as the training is, a couple days of controlled immersion in that pool every few years is not enough to allow anyone to develop the instinctive reactions that they need to have a chance of escaping a helicopter crash like Cougar 491.

The Federation has been a strong proponent of worker training, including and especially in the area of OHS, but we also recommend that workers and their unions must be involved in the development and delivery of training.

### **Safer Helicopters**

Mr. Commissioner, I would like to take a couple of minutes to speak to the issue of helicopter safety. And I am by no means a helicopter expert.

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An important part of the mandate of this Inquiry is to consider the safety of helicopter transport. Given the assertions by the C-NLOPB that the operators are responsible for safety, I am assuming that also means safety during transport.

The NLFL is hopeful, as was expressed by Robert Decker in his testimony and by family members yesterday, that this Inquiry does result in safer helicopter travel. **Mr. Decker said that he would not be flying offshore anymore, but that others continue to do so and deserve to be able to do so safely.**

But there are still a lot of questions with respect to helicopter safety, questions we hope this Inquiry in conjunction with the Transportation Safety Board can answer.

In his testimony Mr. Decker stated that training to escape from a crashed helicopter is important. Having good survival suits is important, and having search and rescue capacity nearby is important. But all those things are what you need after there's been a crash into the ocean.

If we really want to make offshore helicopter travel safe, what we have to do is to make sure that every helicopter does not crash. The best way to keep every offshore worker safe is to keep every helicopter in the air where it belongs. Safety starts with the helicopter and I think everything else is secondary.

In preparation for this submission, the NLFL has been in contact with a Norwegian trade union which represents 13,000 offshore workers. The Union has spent a lot of time dealing with helicopter safety. According to one of their representatives responsible for health and safety in the offshore, Mr. Karlsen, helicopter transport is one of the largest single contributors to the risk an offshore worker is exposed to.

Helicopter accidents, he reports, are responsible for a large share of the total fatalities in the offshore. The Unions and industry there have been engaged in work on helicopter safety and are currently involved in a third study on this matter. The first such study took place in the early 1990s. The Union has representatives on the steering committee for this work. The main conclusion from the second report on helicopter safety released in 1999 was that it was not pilot error that results in most accidents, but rather technical failure.

During last year's ILO tripartite meeting on promoting social dialogue in the oil and gas industry, the chairperson of the workers' group at this meeting noted that helicopter accidents account for about 25% of fatalities in the offshore oil and gas sector and transportation by helicopter was one of the weakest points of the health and safety chain.

So the question is how do we make helicopter transport safer and what role should the oil and gas industry as an employer who depends on helicopter transportation in order to operate, play in that, and from our perspective how do we ensure workers are involved in that process, ensuring their rights to know and participate are activated?

Is it simply that we use different helicopters that are more expensive, because they have more technology, such as a dry-run capability?

We know this technology exists because SAR helicopters have this capability. Isn't it responsible and practical to expect helicopters transporting workers every day one and half hours out to sea also be required to have such technology?

Isn't it responsible and practical that workers have a right to know when there are problems with those helicopters? I believe this speaks to the heart of a worker's right under our OHS Act – and that is the right to know.

We would wholeheartedly agree with Mr Decker's assessment that the best course of action is to keep the helicopters in the air. We also know we must do everything we can to ensure if a helicopter must ditch, that the occupants of that helicopter are given the best possible chance of survival – from the best survival suits available, to appropriate training and adequate, timely and dependable search and rescue response.

### **Search and Rescue (What Ocean Ranger recommended; what we didn't get; and what we still need....)**

Mr. Commissioner, you have heard a lot about the federal government's so-called commitment to search and rescue and you have heard criticism of Canada's search and rescue resources, including the fact that the response time dramatically increases between 4pm and 8am and on weekends or what are referred to as quiet times according to a DND document provided for the Commission.

I suppose it is stating the obvious, but perhaps that is also necessary: people who work in the offshore (whether it is in the oil and gas or fishing industries) do not work 8 to 4.

This staffing decision is a result of an inadequate financial commitment by the federal government to search and rescue.

It is a result of cutbacks to these services and programs. It is about political choices.

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We are a maritime nation and therefore a good deal of economic activity takes place at sea. Government has a responsibility to provide adequate public services in this regard. And it is not doing that.

And I would argue that SAR services are needed more today than ever before given the increased activity on our oceans. Globalization means more and more goods are transported by sea. We have only to walk along St. John's harbour any day of the week to have this confirmed.

In addition, offshore activity has increased significantly since the Commission Report into the Ocean Ranger sinking made its recommendations with respect to enhanced SAR. At that time the Commission recommended:

**That government or industry, provide for a dedicated full-time search and rescue helicopter at the airport nearest the offshore operations.**

That there be required a full-time search and rescue dedicated helicopter, provided by either Government or industry, fully equipped to search and rescue standards, at the airport nearest to ongoing offshore drilling operations, and that it be readily available with a trained crew able to perform all aspects of rescue (p. 155).

In addition to the increased transportation of goods, and the increased offshore oil activity from installations, transport of workers, oil tankers and supply ships, we have also experienced in the same time frame a dramatic increase in the number of fishing vessels fishing further offshore.

For example in the late 1980s and early 1990s, the nearshore fleet of vessels (greater than 40 feet) in Newfoundland and Labrador caught on average about 10,000 tonnes of snow crab and shrimp.

In 2008, this fleet of about 900 vessels caught about 40,000 tonnes of snow crab and 80,000 tonnes of shrimp. This is about nine times the total of shrimp and snow crab landings as 20 years ago. Much of this increased activity takes place anywhere between 50 and 200 miles offshore.

Today, according to the Canadian Association of Petroleum Producers (CAPP), NL produces more than 340,000 barrels of crude oil per day or about 36% of Canada's total light crude oil production. In 1997, we had just one oil field producing – Hibernia. Today there are three, with a fourth expected by 2017. In addition, there is significant seismic and other exploration taking place offshore

In the face of this increased economic activity, SAR capabilities have been reduced, including longer response times at night and on weekends.

This is totally unacceptable and irresponsible and the Federation joins others at this Inquiry calling for increased and enhanced search and rescue capabilities.

### **Social dialogue – Tripartism**

Throughout our presentation I have referred to this process known as social dialogue.

There are already examples of this approach to problem-solving and engagement in our province. For example, provincially, labour, business and government participate in what is known as the Strategic Partnership Council – a tripartite system of having dialogue on issues in which we share a common interest, such as labour market and labour relations.

The Workplace, Health, Safety and Compensation Commission is currently engaged with the Federation of Labour and the Employers Council in a program to develop sector councils in various industries throughout the province. These councils would be responsible for promoting enhanced OHS practices in various sectors of our economy.

The idea behind these kinds of processes and structures is they are an effective means to solve problems; they result in a high level of engagement and input among all the parties. But they require trust and respect.

According to the ILO, which is by its nature a tripartite organization of workers (unions), employers and governments, social dialogue is the ILO's best mechanism in promoting better living and working conditions.

The Federation believes that such a system would be beneficial in the offshore oil and gas industry at a number of levels and in particular with a focus on health and safety.

Certainly Norway operates under such a model and we would recommend that the Commission visit other jurisdictions, as I believe is your plan, to see how the workplace parties talk to each and how health and safety matters are dealt with. I am sure their system is not perfect, but it does appear to be certainly more evolved than ours.

For example the Norwegian Petroleum Safety Authority (an arm of the government) says that collaboration between employers, unions and government as well

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as worker participation, are important cornerstones in efforts to establish and develop health and safety in the petroleum industry.

From an ethical perspective, it is crucial that people exposed to risk participate in decision-making processes which affect such exposure.

(Petroleum Safety Authority Norway website)

Norway's Working Environment Act also contains a number of provisions on the right and duty of workers to participate in ensuring a fully acceptable working environment in an enterprise. The same requirement for participation also applies when government agencies develop risk-based regulations and regulatory regimes. In other words, workers and their representatives are included in the making of the decisions and the laws.

It is important, according to the Authority, that workers have the necessary level of involvement before solutions are chosen.

I do not believe we can say that is the case in our oil and gas industry.

## **Concluding remarks/Recommendations**

Mr. Commissioner, in conclusion, I would like to make the following points.

Our Federation does recognize and recommend that clearing up the legislative ambiguity, embracing social dialogue in the offshore sector through real and meaningful worker involvement; creating a stand-alone, proactive safety agency with tripartite governance that reports to the provincial and federal departments in charge of OHS as their clearly defined role; and activating worker rights would be a good place to start.

We believe it would be more than helpful if the Commission did visit other jurisdictions and talk to the unions in those jurisdictions when you do. They have a lot to offer and we would be pleased to facilitate that.

We challenge the view that it is only the employers who are responsible for worker safety. This is for all intents and purposes self-self-regulation. We advocate for models that support industrial democracy. And we repeat what Mr. Robert Decker has said, we must keep the helicopters in the air.

We must understand the competing interests of safety and production or profit and put in place the correct structures, laws, and processes to mitigate that conflict.

And we must be proactive – everyone – industry, governments, and workers. We must always put prevention first because when we do, we put people’s lives first.

Before closing, I would like to thank the committee of people who helped me with this presentation – they are each of them OHS activists and OHS experts – Dr. Sue Hart, Gail Hickey, Sharon Walsh and the offshore workers who shared their experiences and knowledge with us. They believe, as I do, that we can collectively make a difference.

They believe as I do that every accident is preventable and they and I are hopeful that this Commission of Inquiry will make the recommendations needed and governments will have the political will to act on them.

The families of the 16 men and one woman who died March 12 of last year deserve this to be the least of our efforts. The people who continue to seek their living offshore deserve the same.

Mr. Commissioner, once again thank you for this opportunity and I hope our presentation is helpful in your deliberations.



**MEETING SUMMARY – Health and Safety Executive (UK)**

**COMPANY/ORGANIZATION**

Health and Safety Executive (HSE)  
Hazardous Installations Directorate  
Offshore Division  
Lord Cullen House  
Fraser Place  
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United Kingdom

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**AVAILABLE INTERNET INFORMATION**

HSE Website: [www.hse.gov.uk/offshore/](http://www.hse.gov.uk/offshore/)

**MEETING INFORMATION**

Date: April 12, 2010  
Location: HSE, Aberdeen  
Attendees: Head of Health and Safety Executive, Offshore Division  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

**SUMMARY**

The Head of the Health and Safety Executive (HSE), Offshore Division, for the UK arranged for a number of representatives from the HSE to participate in our meeting by teleconference. These representatives included:

- the leader of a team of five specialists in topics including emergency response, evacuation, and recovery
- an expert in helidecks and helicopter emergency escape and rescue, who maintains a brief with aviation and a liaison with the Civil Aviation Authority (CAA)

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- a representative with marine responsibilities, and
- a specialist in survival suits and clothing

The Offshore Division of the HSE employs 200 people, 100 of whom are engineers and inspectors. There are approximately 300 installations on the southeast and west coast of the UK.

## Division of roles between economics and safety

Lord Cullen, who conducted the inquiry into the Piper Alpha disaster, found that the priority of Department of Energy was licensing and production, not safety, and he recommended a division of the two roles. In contrast with the HSE offshore division, where safety is separate from the commercial aspects of offshore oil and gas, the railway system merged the safety and commercial divisions eight years ago. The HSE already existed for mining, nuclear, and construction sites. The Head of the HSE explained that, since the division of roles, the Offshore Division has had more resources than the earlier safety section of the Department of Energy. There needs to be a liaison between the two divisions; however, there is a clear separation and the perception in community is that the separation is better.

The Head of the HSE explained that the systems in Norway and Australia are modelled on the UK system.

## Approach to Safety

The HSE's concern is primarily with respect to the activities on a rig itself and for the area 500 metres around the rig. The operator of an oil facility is referred to as the "duty holder" and the duty holder is responsible for the rig/platform and all activities near the rig/platform.

HSE has a goal-oriented approach. Once an oil operator receives a licence to explore, they must submit a "Safety Case" to the HSE on each of a) the design phase, b) the operational phase, c) a material change or d) the decommissioning phase. The legislation in the UK stipulates what a Safety Case should cover. HSE publishes criteria and then assesses against those criteria.

Inspectors from the HSE conduct inspections of the offshore facilities after the Safety Case is in place to ensure that the terms of the Safety Case are met and that it is appropriate. The oil operator does an analysis of transportation risks as part of the risk assessment.

The UK safety legislation is based on goal setting, whereas the CAA legislation is based on prescriptions.

The UK's Prevention of Fire, Explosion and Emergency Response Regulations (PFEER) require that an operator's Safety Case give workers a "good prospect of recovery" in all situations. In the UK, guidance is drawn from performance standards and an approved code of practice for rescue and recovery that are well beyond the National SAR standards. An approved code of practice provides guidance for rescue within the 500-metre area, based upon research into survival times in the water.

The general industry standard is that the duty holder is responsible for rescuing all personnel and bringing them to a "place of safety." Research has established that the survival suits can maintain a person safely in the water for three hours or more, and thus, for most of the North Sea, rescue must be achieved within two hours. The duty holder sets the conditions for rescue and HSE decides if they are acceptable based on the principle: "He who creates the risk must control the risk."

Sea state limits for helicopter travel are set on a case-by-case basis. The HSE has developed guidance as to what are reasonable weather limits, which are extrapolated from trials.

### Helicopters/Rescue

The HSE is very proactive in any accident near a rig. If helicopter ditches far from the rig, then HSE relies on Coastguard and Ministry of Defence for SAR coverage.

The HSE deals with helidecks and helideck crews. One issue of concern for the HSE is exhaust venting on the helideck that could affect landings. The HSE also works with helideck crews on scenarios of a helicopter crashing on takeoff or landing. The HSE deals with survival suits worn by passengers and any other issues with respect to safety on and within 500 metres of the rig.

The offshore facility must provide weather information to the helicopter operators.

The CAA requires the helicopters used to transport worker to have high-back seats and four-point harnesses. These requirements are not those of the HSE because HSE does not have aviation expertise. HSE relies on the CAA to set standards for equipment in the helicopter and helidecks (CAP 437) because the CAA has that aviation expertise. A representative from the HSE is on the Management Committee of the CAA.

The standards for rescue in the UK have developed from standards set by industry, and particularly by Shell, which is seen as a leader. In addition, improvements in survival

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suits, personal locator beacons (PLBs) and breathing devices (re-breathers/airpockets) are all the result of industry initiatives. The workers are always very concerned with safety and have pushed BP and Shell to implement improvements in safety. The CAA was initially against the use of PLBs and airpockets, but it eventually agreed to the implementation of these devices.

## Survival suits

Approximately 10 years ago, the suit worn by workers travelling offshore changed from a suit with an integral hood that sealed around the face to a suit with a seal around the neck. The Department of Energy, HSE, and PFEER tested and judged the immersion suit protocol. There is no absolute HSE standard. The CAA has a standard and general industry practice. The suit design was driven by PFEER. The workers have been involved in every aspect of the selection of the new suits, including trial and development of the changes to the suits.

A large range of suit types is being used in the UK. There are still some sizing concerns because workers in the UK are getting older and, as a result, heavier. The typical UK worker is 92 kilos now, versus the “optimum” average of 75 kilos. More work is needed to fit a typical worker. In the UK, an individual can obtain a custom suit. Workers are encouraged at the heliport to check and report any sizing problems. Also at the heliport, individuals are asked if they are wearing three layers of clothing. Jeans are acceptable; however, workers must wear three clothing layers on the upper part of the body. The three-layer rule is relaxed in the summer, but more insulation is worn under the suit in winter, when the oil operators usually provide workers with a thermal layer that extends from the knees to the elbows. The suit has a separate life jacket that is inflated outside the helicopter.

The helicopters now have to be cooled to accommodate the warm suits. All workforce survival training includes bleeding air out of the suit.

## OPITO and Training

OPITO is a training standards accreditation body. The OPITO standard was created by a working group of HSE, workers, and trainers (see OPITO Summary for detail). OPITO assesses whether a training organization meets the standard.

Training includes HUET training and the HUET is understood to be a general “box” for immersion, and is not required to be an exact replica of a helicopter. The training includes seats with four-point harnesses because this is the industry standard.

Interaction and communication with other groups/authorities

In the UK, an Evacuation Escape and Rescue Technical Advisory Group (EERTAG) has representatives from workers, oil operators, and HSE; it meets three times a year. Its research is funded by the HSE. Occasionally this group will interact with the CAA.

An Aviation Safety Technical Group deals with technical aviation issues. The HSE sits on this committee, which comprises helicopter operators (Bond/Bristow), manufacturers, Oil and Gas UK, and oil operators.

The Helicopter Liaison Group has representatives from the workers, helicopter operators, and oil operators. This Group focuses on helidecks and helicopter operations within 500 metres of the offshore facility.

Helicopter Task Group (HTG) was created after the Flight 85N accident in the North Sea in April 2009. The HSE does not conduct an annual conference, but it does support and conduct numerous seminars on topics such as aging infrastructure, which is now important in that jurisdiction. The HSE conducted a safety conference for the managing directors of all offshore facilities in the North Sea.

UK legislation must be reviewed internally every five years. The HSE is about to publish amendments based upon legal interpretation or developments. Industry guidance and standards assist with the goal-oriented regulations. Oil and Gas UK reviews its guidance every three years. Industry has ownership of this guidance.

The HSE deliberately moves its personnel to different positions to avoid regulatory capture, which has been identified by HSE as a risk to its effectiveness.

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## Meeting Summary

Bristow (UK helicopter operator and Netherlands oil industry SAR provider)

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### MEETING SUMMARY – Bristow Helicopters Ltd.

#### COMPANY/ORGANIZATION

Bristow Helicopters Ltd.  
Redhill Aerodrome  
Redhill,  
Surrey, RH1 5JZ  
United Kingdom

Phone: +44 (0) 1737 822353  
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#### AVAILABLE INTERNET INFORMATION

Bristow Website: [www.bristowgroup.com](http://www.bristowgroup.com)

Bristow European Operations; S92 Frequently Asked Questions:  
<http://www.oilc.org/Updated%20S92%20brief%20191009.pdf>

#### MEETING INFORMATION

Date: April 12, 2010  
Location: Bristow European Operations, Aberdeen Airport, Dyce  
Attendees: Director Global Standards, Quality and Safety  
Chief Pilot, Aberdeen  
Global Chief Training Captain S92  
SAR Standards Pilot by conference call  
Bristow SAR for oil industry in the Netherlands  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

#### SUMMARY

The Director of Global Standards, Quality and Safety, for Bristow and other participants provided a tour of Bristow's facilities, including a tour of their S92 simulator, and described some aspects of providing oil rig passenger transportation in the UK and oil industry SAR in the Netherlands.

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## Coordination of Passengers

Bristow uses the Vantage computer program to track all passengers, their credentials and hours worked.

## Suits

Passengers and pilots in the UK wear suits that are sealed at the neck and wrists, with a separate hood. In addition, they are required to wear a thermal layer at all times. Usually passengers wear their own fleece undergarments as thermal protection. During the winter, passengers must wear three layers of thermal protection under the suits. One oil company requires the passengers to wear a leg and bottom cover.

The UK oil companies have different directions as to what the passengers must wear. Passengers wear an entirely different suit in the Norwegian offshore, one made by Helly Hansen. Norwegian passengers flying offshore in the UK like to wear the Norwegian Helly Hansen suit and their preference is accommodated on UK flights. A description of the Norwegian suit is in the summary on Falck Nutec.

Survival-One manufactures the survival suits for the pilots at Bristow and the UK passengers.

## Auditing

Bristow is audited constantly by the regulator and its contractors, which results in an audit almost every week. They are also audited once a year by the Civil Aviation Authority. Bristow operates an independent internal audit program with its own standard requirements that provide safety assurance across the operational scope of its business. These audits, in combination with those performed by Bristow's clients and the regulatory bodies, amount to a minimum of one audit per week throughout the year. During 2009 Bristow conducted 67 internal audits, hosted 14 client audits, and participated in 27 regulatory audits, making a total of 108 audits in support of UK AOC and associated approvals.

## Communication

The pilots communicate directly with the passengers in advance of each flight: it is Bristow's policy to brief passengers verbally prior to all take-offs and landings. Bristow does not use the automated briefing facility that is available. In the event a helicopter returns to base or experiences any unscheduled event, the pilots of that flight brief passengers immediately upon return to base or at landing on the rig. In addition, Bristow provides a report to the oil operator and the rig within 24 hours. The Offshore

## Meeting Summary

Bristow (UK helicopter operator and Netherlands oil industry SAR provider)

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Installation Manager briefs the passengers on the rig and the chief pilot from Bristow may phone in to the meeting by conference call to brief passengers. In addition, passengers can call Bristow's chief pilot directly with concerns or questions. Bristow explained that managing communication with the passengers (workers) is important.

### Training and Familiarization

Bristow has its own simulator for the S92 which is used to train its pilots. The simulator was shown during the visit.

A DVD for passengers demonstrates pilots pushing out the window for egress of the helicopter. The video was prepared as part of an Emergency Exit Jettison Drill DVD which forms part of the pilots' recurrent training package. Bristow believes that it would be valuable to add this clip to the pre-flight passenger briefing DVD and are currently working towards such an addition. (The current DVD shows operation of all emergency exits, but not the push-out windows.)

### SAR provided by Bristow in the Netherlands

(The Netherlands SAR representative joined by conference call.)

Bristow provides the industry SAR to support 50 installations off the Netherlands. 20 helicopters are on contract to 13 oil companies operating the 50 oil and gas facilities off the Dutch coast. Bristow's SAR helicopters are dedicated primary for offshore oil facilities and vessels. The offshore Oil and Gas Safety Case is set up such that if SAR coverage is not available, the oil regulator (NOGEPa) will restrict commercial flying operations.

Bristow uses two S61 helicopters to provide the industry SAR. Each helicopter is equipped with auto-hover, FLIR, wet fit floor, full SAR radio suite and hover control for the winch operator. Air crew are medically trained to Advanced Trauma Life Support Skills (paramedic training in progress). Medical equipment is also carried on board the helicopter. They employ 8 pilots and 10 air crew to support industry SAR. Coastguard provides two fixed wing airplanes for top cover and radar coordination. The Rescue Coordination Centre (RCC) is ultimately in control and coordinates the SAR missions.

Bristow's SAR helicopters are dedicated primary for offshore oil facilities and vessels and under an agreement with the oil companies provide a back-up service to the National SAR Safety Case of the Netherlands. Bristow is contracted to provide SAR services 24 hours a day, 365 days a year.

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From 0730 to 2100 for 365 days a year, the contract requires Bristow to be airborne within 15 minutes of a call for services, but they are usually airborne within 5-6 minutes from first scramble. Four minutes is their fastest airborne time. If the helicopter is inside the hangar, the towing tractor is attached to ensure quick performance.

From 2100 to 0730, Bristow SAR crews are at 60-minute standby readiness. Bristow explained that its helicopters are normally airborne within 30-35 minutes during standby hours.

As a performance objective, Bristow must be able to winch 21 people out of water within two hours and take them to a place of safety. They are required to brief Coastguard and the oil companies after a mission.

Bristow's SAR providers attend on the offshore oil facilities to brief oil workers on SAR; this includes organizing regular offshore exercises to test Energy Response Procedures and increase awareness of SAR procedure.

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**MEETING SUMMARY – CHC Helicopter Corporation SAR Soteria**

**COMPANY/ORGANIZATION**

CHC Helicopter Corporation  
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Dyce  
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**AVAILABLE INTERNET INFORMATION**

CHC website: [www.chc.ca](http://www.chc.ca) / [www.chcsar.com](http://www.chcsar.com)  
Soteria website: [www.soteriasar.com](http://www.soteriasar.com)

“Soteria Team hails S-92 performance for UK’s SAR-H deal,” by Craig Hoyle, article on Flightglobal website:  
<http://www.flightglobal.com/articles/article.aspx?liArticleID=329437&PrinterFriendly=true>

“British Search-and-Rescue: A Billion Pound Partnership,” article dated February 10, 2010 on Defense Industry Daily website:  
<http://www.defenseindustrydaily.com/british-searchandrescue-a-billion-pound-partnership-02271/>

“North Atlantic Coast Guard Forum – Ireland,” published by Fisheries and Oceans Canada:  
<http://www.ccg-gcc.gc.ca/e0005984>

“The Changing Face of UK SAR,” Shephard’s *Rotorhub* April Magazine:  
<http://mags.shephard.co.uk/rotorhub/2010/RH%20Apr-May%202010/pageflip.html>

**MEETING INFORMATION**

Date: April 12, 2010  
Location: CHC Helicopter Corporation, Aberdeen Airport, Dyce  
Attendees: CHC Search and Rescue Business Development Director  
Soteria Senior Executive  
President CHC European Operations  
CHC Manager Flight Operations (UK)  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

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## SUMMARY

The Business Development Director for CHC Search & Rescue and the others listed above explained the various SAR services that CHC provides.

### UK

An overview was provided of the interim arrangement for SAR in the UK until 2012, when the 25-year contract with Soteria starts. “Soteria” is a consortium of CHC, Sikorsky, the Royal Bank of Scotland, and Thales, which consortium is to provide SAR services from the 12 UK SAR bases. Under the Soteria contract, it must provide coverage for 11,000 miles of coastline, 1.5 million square miles of sea, and inland areas of the UK, using 12 SAR bases.

The SAR coverage currently provided by the UK Government through the contract with CHC, as well as the oil industry SAR, is supplied by Bond Helicopters through the BP project called “Jigsaw.” All SAR services (government and oil industry) are coordinated through the Aeronautical Rescue Coordination Centre.

The SAR response time is 15 minutes in the day and 45 minutes at night from the time the appropriate Rescue Coordination Centre receives notification of an incident. SAR helicopters should be capable of reaching all high-risk areas and 75% of medium-risk areas within one hour of takeoff. There should be a SAR helicopter available in a state of readiness at each SAR base for 98% of the operating time of the base.

During the interim contract for four bases, CHC uses four Sikorsky S-92s and three AgustaWestland AW139s to conduct the SAR missions. Each helicopter has high-speed dual rescue hoists, situation communication for voice, two-way texting and complete position reporting through automatic flight following, searchlight (night sun) which is slaved to the FLIR, FLIR with TV-quality pictures and high-magnification zoom, radar, homer, transponder, and de-icing.

Pilots are dedicated to SAR missions, and rear crew/winchemen all have paramedic qualifications.

### Ireland

CHC is also the largest commercial helicopter operator in Ireland and started providing civil SAR in 1991 using an S-61. CHC is currently contracted to the Irish coastguard to provide SAR services which will end in 2025. There are four SAR bases using a fleet of

six AWSAR S-61s. In 2012, CHC will start using S-92s to deliver SAR services in Ireland. CHC conducts approximately 500 missions for the coastguard per year in Ireland.

### Norway

CHC has also provided SAR services in Norway, starting offshore in 1981. The civil SAR bases in Norway are at offshore facilities at Heidrun, Statjord, Oseberg, and Ekofisk. In Norway, CHC uses AS332-L1 AWSAR helicopters to provide oil-industry-supported SAR. The response time is 15/20 minutes, 24 hours a day, 7 days a week. CHC helicopters can lift up to 21 casualties in one operation and have a maximum of 4 stretchers.

These helicopters are equipped with auto-hover, de-icing, dual hoist, FLIR with a down link to relay pictures to the Rescue Coordination Centre, search light (night sun), wireless communication with rescue crew. The helicopters also offer stretchers, patient monitoring, heart start, medical rack, sitcom to the hospital, and medical equipment.

### Communication

CHC transportation pilots brief the passengers directly prior to each flight and in the event of any unscheduled event. CHC was also consulted on the training for underwater escape.

### Suits

In the UK, each oil operator determines what the policy is and what equipment is provided. Essentially there are three types of suit: two have an integral thermal liner (part of the suit) and the other comes with a separate thermal inner garment (TIG). Of the current oil operators, only Mobil and Marathon use the suits with the separate liner.

The requirement to wear the TIG is regarded as a customer directive, so CHC's staff at check-in will bring the customer requirement to the passengers' attention but cannot dictate what passengers wear. For example, if a passenger checks in wearing a t-shirt, staff will advise that the customer requires at least two layers, one of which has long sleeves, plus TIG. Usually the passengers are very good about what they wear. In addition, if passengers in the departure lounges are not wearing adequate clothing, it will be brought to their attention. For those customers who use suits without the integral TIG, requirements for clothing worn underneath are relaxed during the summer.

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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The passenger suit sizes are held in the Vantage software program and all new passengers are measured according to the charts provided by the suit manufacturer. Suits are delivered to the airport at Aberdeen prior to flight.

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**MEETING SUMMARY – Offshore Petroleum Industry Training Organization  
(OPITO)**

<b>COMPANY/ORGANIZATION</b>
OPITO (Offshore Petroleum Industry Training Organization) Minerva House Bruntland Road Portlethen Aberdeen AB12 4QL United Kingdom  Phone: +44 (0) 1224 787800 Fax: +44 (0) 1224 787830
<b>AVAILABLE INTERNET INFORMATION</b>
OPITO website: <a href="http://www.opito.com/">http://www.opito.com/</a>
<b>MEETING INFORMATION</b>
Date: April 12, 2010 Location: OPITO Offices, Aberdeen Attendees: Standards and Approvals Director, OPITO John Roil, Inquiry Counsel

**SUMMARY**

John Roil alone met with the Standards & Approvals Director as there was insufficient time for all Inquiry members to meet all contacts in Aberdeen because of the large number of meetings scheduled.

The Director outlined the history and makeup of OPITO, the organization formed in the UK that is responsible for the development and regulation of training standards, initially for the North Sea offshore industry, but now with an almost global presence. It is a tripartite entity with its board of directors representing oil companies, operator companies, and two UK trade unions.

It is divided into two business arms:

1. “OPITO - The Oil & Gas Academy” delivers initiatives and activities to ensure a competent and safe workforce for industry in the UK.

## Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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2. “OPITO International” delivers standards to improve workforce safety and competency in oil and gas areas worldwide. It licenses and monitors quality assurance of training providers. There are approximately 60 approved providers in Europe, Asia, the Middle East, Australia, Africa, and the US. OPITO recently licensed Survival Systems Limited of Dartmouth, NS, as an approved OPITO training provider. Training providers pay a fee per student to OPITO to support OPITO’s activities.

OPITO has no presence or approved providers in Norway, where training and safety standards are developed and maintained by the Oil and Gas Industry Association (OLF). There exists a mutual recognition protocol to ensure mobility of workers in the North Sea who hold training that is recognized under either authority.

To provide operational direction and growth, OPITO has established major committees and sub-groups: a Standards Advisory Committee (SAC) in the UK; Employer Forums in Middle East/Africa and Asia/Pacific (with one or more planned in the Americas in the near future) to direct the development of training and competence standards within their respective regions as well as to identify issues and solutions on workforce training, safety, skill, and competence; and the Global Standards Approval Committee (GSAC), which has responsibility for the development and approval of new standards or major revisions to existing standards.

The Director believes that a significant reason for OPITO’s success is the collaborative and consensus approach it uses with employers to develop competence and training standards. Mobility of workers with recognized skills of a high standard is a significant and beneficial achievement for the workforce. He foresees the organization continuing to expand worldwide.

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## Meeting Summary

Bond Offshore Helicopters Ltd. (UK oil industry SAR provider)

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### MEETING SUMMARY – Bond Offshore Helicopters Ltd.

#### COMPANY/ORGANIZATION

Bond Offshore Helicopters Ltd.  
Howe Moss Drive  
Kirkhill Business Park  
Dyce  
Aberdeen  
AB21 0GD  
United Kingdom

Phone: +44 (0) 1224 779007

Fax: +44 (0) 1224 722770

#### AVAILABLE INTERNET INFORMATION

Bond Offshore Helicopters website: [www.bondoffshorehelicopters.com](http://www.bondoffshorehelicopters.com)

“Best of Both Worlds,” article by David Watts in *Energy Exec* magazine, July 2008:  
<http://www.execdigital.com/Magazine.aspx?id=164>

#### MEETING INFORMATION

Date: April 13, 2010

Location: Oil & Gas UK Offices, Aberdeen

Attendees:

Two members of a Bond Helicopter SAR crew

Inquiry Commissioner Robert Wells

John Roil, Inquiry Counsel

Anne Fagan, Inquiry Counsel

## SUMMARY

### SAR Operations

Members of a Bond SAR crew demonstrated the features of one of the helicopters used by Bond in Project Jigsaw, a SAR service that the oil industry provides to support UK offshore facilities.

# Offshore Helicopter Safety Inquiry

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There are two helicopter bases in Project Jigsaw, one in Sumburgh, Shetland, and the other on the Miller, an offshore rig in the North Sea. Each base has one Super Puma L2 helicopter; these are supported by a maintenance back-up helicopter that normally operates as a passenger helicopter.

Each helicopter is equipped with auto hover, radar, heat-sensitive Forward-Looking Infra-Red (FLIR) cameras, bubble windows, night vision goggles for rear crew/winchman, two winches (one electrically-operated primary, the other a hydraulic standby), each capable of lifting 275 kg at a rate of a metre a second, a night sun high-powered spotlight, loudspeakers, and communication devices for the crew. The SAR helicopter also has a stretcher, blankets, and various medical supplies.

The SAR crew advised that they could lift 21 persons into their helicopter in the event of having to rescue all persons on board a ditched passenger helicopter.

The crew remain on site with the helicopters during their shift and operate in the manner that a fire station would. The SAR helicopter is to be airborne within 10 minutes of a call during the daytime while passenger helicopters are flying (0700 to 1900), and within 30 minutes outside this time.

The crew described their training and most have military backgrounds. Most of the SAR technicians either have or are pursuing a paramedic level of medical education. The pilots are dedicated to SAR missions only.

## Communication in Transport Operations

In advance of flights, pilots check the weather and flight route. Prior to boarding oil industry flights, all passengers are shown a safety video and receive a briefing in the passenger lounge from either the pilot or co-pilot on weather, the route, and any stops. The briefing pilot also asks passengers if they are satisfied with the safety briefing or have any questions.

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**MEETING SUMMARY – BP Project Jigsaw**

**COMPANY/ORGANIZATION**

BP Exploration Operating Company Limited  
1 Wellheads Avenue  
Dyce  
Aberdeen  
AB21 7PB  
United Kingdom

Phone: +44 (0)1224 832000  
Fax: +44 (0)1224 833404

**MEETING INFORMATION**

Date: April 13, 2010  
Location: BP, Aberdeen  
Attendees: Project Jigsaw Manager (Offshore Rescue & Recovery)  
Representative from Bond Helicopters  
OHSI Commissioner Robert Wells  
John Roil, Inquiry Counsel (first part of meeting only)  
Anne Fagan, Inquiry Counsel

**SUMMARY**

BP's Manager of Project Jigsaw and a representative from Bond Helicopters provided a summary of Jigsaw.

Project Jigsaw's Manager explained that Jigsaw provides SAR coverage for participating UK facilities operating in the North Sea. Jigsaw initially covered six BP offshore installations and now a number of other offshore facilities have signed agreements and share costs to receive Jigsaw's SAR coverage. Jigsaw is equipped with (a) four 93-metre regional support vessels, each outfitted with two 19-metre autonomous rescue and recovery crafts (ARRCs), and (b) two SAR-equipped helicopters. Each regional vessel has a crew of 25 and a maximum speed of 16 knots. Each ARRC can travel at 34 knots. The helicopters are AS332L2 Super Pumas. One helicopter is located at a base in Sumburgh, Shetland, and the other on the Miller, an offshore platform in the North Sea. The two SAR helicopters are supported by a passenger helicopter, which can be reconfigured and fitted with the SAR mission equipment, to provide SAR services when one of the two SAR helicopters require maintenance.

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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Jigsaw has a coordinator who is on site 24/7 and has numerous types of communication equipment. The Jigsaw coordinator manages the Jigsaw vessels and SAR helicopters to optimize coverage. The ARRCs launch every day. If there is no Jigsaw coverage, the Jigsaw co-coordinator will call Offshore Installation Manager, who will limit activity on the offshore facility and delay crew-change flights until cover is restored.

The UK regulations are not specific as to the time frame in which to conduct a rescue. The HSE approves the oil operator's Safety Case, which is to ensure a "good prospect of recovery." The industry standard is to retrieve all personnel from the water to a "place of safety" within two hours.

Jigsaw has conducted tests in a wide range of conditions by day and night and, during the daytime, in waves below three metres. Once on site, the SAR helicopter provided by Bond can, in normal conditions, extract 21 people from the ocean in 33 minutes (1.5 minutes per survivor). The condition of the survivors and the weather conditions will affect extraction times.

Jigsaw has a memorandum of understanding (MOU) with the UK Maritime and Coastguard Agency with respect to search and rescue. This MOU covers life-and-death situations or those in which a rescue by a Jigsaw helicopter could materially affect the outcome. This MOU covers who does what in a given situation.

The Bond Helicopters' representative provided information on the Bond helicopters that provide the SAR service to Jigsaw. The representative also reviewed the likely tasking, aircraft and equipment, crew and rostering, training, SAR helicopter bases, and statistics. (Some of the same information was provided during the viewing of the Bond helicopter and is repeated in this Summary).

The likely tasking would be for any of the following: ditched crew-change helicopter, platform abandonment, man overboard (platform or surface vessel), medical evacuation, national tasking on behalf of HM Coastguard.

The SAR helicopter is a Eurocopter AS332L2 Super Puma with a crew of four and normal seating for up to nine passengers. As noted during the viewing of the helicopter, the crew explained that, in an emergency, the helicopter can take 21 passengers, but that they would not all have seats. The radius of the area for the Bond helicopter to respond is 190 nautical miles. The helicopter has a cruising speed of 145 knots.

As stated in the summary of the Bond SAR helicopter, each helicopter is equipped with auto hover, radar, heat-sensitive Forward-Looking Infra-Red (FLIR) cameras, bubble windows, night vision goggles for rear crew/winchemen, two winches (one electrically-operated primary, the other a hydraulic standby), each capable of lifting 275 kilograms at

## Meeting Summary

BP Project Jigsaw (UK oil industry SAR provider)

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a speed of 250 feet per minute (180 feet per minute on secondary), a night sun high-powered spotlight, loudspeakers, and communication devices for the crew. The SAR helicopter has a stretcher, blankets, and various medical supplies.

The Civil Aviation Authority does not allow the Bond pilots to use night vision goggles (NVG), but the rear crew and winchmen on the Bond helicopters are equipped with them and do use one of the latest generation of NVG. (Note: Transport Canada does not have regulations to cover the use of night vision goggles by civilian pilots in Canada.)

The crew members remain on site at the base with the helicopters during their shift and operate in the same manner as a fire station. The SAR helicopter is to be airborne within 10 minutes of a call during the daytime, while passenger helicopters are flying (0700 to 1900), and within 30 minutes outside this time.

Most of the crew have military backgrounds. In the UK, a private company provides SAR medical training to Bond helicopter rear crew as well as to the military. Bond SAR helicopter crews receive up to four hours of flying training in every shift. Most of the SAR rear crew either have or are pursuing a paramedic level of medical education. The pilots are dedicated to SAR missions only.

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**MEETING SUMMARY – Shell**

**COMPANY/ORGANIZATION**

Shell Exploration & Production  
Shell UK Limited  
1 Altens Farm Road  
Nigg  
Aberdeen AB12 3FY  
United Kingdom

Phone: +44 (0)1224 882616  
Fax: +44 (0)870 901 2723

**AVAILABLE INTERNET INFORMATION**

Shell website: [www.shell.com](http://www.shell.com)

“7/7=1,” article dated February 1, 2006 in *Rotor & Wing*:  
<http://www.aviationtoday.com/rw/commercial/offshore/1369.html>

**MEETING INFORMATION**

Date: April 13, 2010  
Location: Aberdeen  
Attendees: Head of Air Logistics – Europe  
John Roil, Inquiry Counsel

**SUMMARY**

John Roil alone met with the Head of Air Logistics – Europe, as there was insufficient time for all OSHI members to meet all contacts in Aberdeen because of the large number of meetings scheduled. The meeting was brief.

Industry and worker representatives from the North Sea freely expressed the opinion that Shell has been recognized internationally as a leader in aviation safety, particularly with respect to helicopter transport.

The Head of Air Logistics provided an overview of Shell’s approach to helicopter safety, based historically on two fundamental Civil Air Patrol reports: the 1984 “Review of

# Offshore Helicopter Safety Inquiry

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Helicopter Airworthiness” (CAP 491) and the 1995 “Report of the Review of Helicopter Offshore Safety and Survival” (CAP 641).

He explained that Shell Aircraft International has globally 1) adopted a list of minimum standards for all aircraft operations; 2) defined in its contracts a list of minimum equipment required for helicopters that it hires; and 3) set adverse weather working standards (including limits for flying in adverse weather), all to ensure as safe transportation conditions for its workers as is practicable and achievable.

Shell’s belief is that its workers in any part of the world are entitled to equal treatment and respect as to helicopter safety practices, irrespective of the jurisdiction in which Shell is operating, and thus, universality of treatment is a fundamental principle.

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**MEETING SUMMARY – Helicopter Task Group, Oil & Gas UK**

**COMPANY/ORGANIZATION**

Helicopter Task Group  
Oil & Gas UK  
Aberdeen Office  
3<sup>rd</sup> Floor, The Exchange 2  
62 Market Street  
Aberdeen  
AB11 5PJ  
United Kingdom

Phone: +44 (0) 1224 577250  
Fax: +44 (0) 1224 577251

**AVAILABLE INTERNET INFORMATION**

Oil & Gas UK website: [www.oilandgasuk.co.uk/](http://www.oilandgasuk.co.uk/)

**MEETING INFORMATION**

Date: April 13, 2010  
Location: Oil & Gas UK Offices, Aberdeen  
Attendees: Helicopter Task Group, Chair (and CEO/Co-Chair, Oil & Gas UK)  
Petrofac, Group Director HSSEIA  
Grampian Police, Head of Operational Planning  
Grampian Police, Inspector, Energy and Protective Security Unit  
Oil & Gas UK, Safety Issues Manager  
Oil & Gas UK, HSE Director  
BP, Vice President, HSSE & Engineering  
OILC/RMT, Regional Organizer  
Representative from TGWU-Unite the Union  
Bristow, Global Training Officer S92  
MCA (Maritime Coastguard Agency), Offshore Energy Liaison Officer  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

**SUMMARY**

All of the above met at the Oil & Gas offices in Aberdeen to explain aspects of the oil and gas industry in the UK and what had been achieved through the Helicopter Task Group (HTG).

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Canada-Newfoundland and Labrador

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The HTG consists of representatives from oil operators, contractors, helicopter operators, the regulators, police force, pilots, and workers. The HTG was created to address cross-industry issues concerning helicopter safety, including those arising from the fatal accident of Flight 85N in April 2009. The purpose of the HTG is to act on behalf of the industry as a focal point for sharing information, advice, and learning on matters arising from this and other helicopter accidents. The HTG focusses on prevention, rescue, and communication.

The HTG has dealt with the following issues: recommendations from the Air Accidents Investigation Branch, personal locator beacons, survival suits, the flight surveillance system, voice communication, VHF rebroadcasting, helideck lighting, HUMS advanced anomaly detection, weather reporting standards and training, emergency response, Vantage POB system, flight safety concerns, communication guidelines, helicopter awareness courses, and helicopter operations DVD.

The role of the safety representatives on the offshore oil facilities was discussed, including a training course for safety representatives. Workers were involved in survival suit selection and testing through an oil industry committee. For more information on suit standards, see the Summary on Survival-One.

UK safety is premised on a goal-setting regime. Workers must be consulted with respect to the Safety Cases submitted by the oil operators. The workforce is involved in developing safety initiatives. Workers have the right to raise concerns on board an offshore facility through safety representatives and safety committees.

The HTG compared the suits worn by workers travelling to the Newfoundland offshore with the suits worn by workers travelling offshore in the UK and determined that the suits currently worn in the UK were more effective for the UK environment.

It was explained that in the UK, the industry (oil operators) will agree on a guideline if it makes sense, and this becomes the standard that is applied.

The HTG expects helideck lighting to be improved to include the HTG's recommendation of lighting up the circle and the "H" in the centre of the circle on the helideck and that this will become the standard. The Civil Aviation Authority has jurisdiction over this issue; however, this has become a recommended best practice and every operator of an offshore facility has been written and asked to either improve the helideck lighting or explain why it can't improve the lighting.

On the issue of HUMS advanced anomaly detection, the HTG is advocating improvements in the analysis of data.

On weather condition reporting, the HTG is advocating the standardization of weather reports and skills of weather reporters. In addition, the weather reporting course used to be a two-week course and now the standard is for a much shorter course.

The HTG developed a DVD on helicopter operations and maintenance in an effort to improve communication to the workforce and developed a protocol for communicating technical issues. The group explained that communication with the workforce is very important in the UK.

HTG is advocating a culture of continuous improvement and cooperation in the oil industry.

A brochure issued by HTG in March 2010 and a list of questions and answers arising from Flight 85N are available on the Oil & Gas UK website.

For more information on the HTG, email [helitaskgroup@oilandgasuk.co.uk](mailto:helitaskgroup@oilandgasuk.co.uk) .

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# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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**MEETING SUMMARY – Offshore Workers' Unions in United Kingdom**

**COMPANY/ORGANIZATION (1)**

OILC/RMT  
(Offshore Industry Liaison Committee – Rail Maritime and Transport Workers Union)  
49 Carmelite Street  
Aberdeen  
AB11 6NQ  
United Kingdom

Phone: +44 (0)1224 210118

Fax: +44 (0)1224 210095

**AVAILABLE INTERNET INFORMATION**

OILC website: [www.oilc.org](http://www.oilc.org)  
“Jake Molloy, General Secretary, Offshore Industry Liaison Committee,” career interview article on the Offshore-Technology website:  
[www.offshore-technology.com/jobs/interviews/general-secretary.html](http://www.offshore-technology.com/jobs/interviews/general-secretary.html)

**COMPANY/ORGANIZATION (2)**

TGWU –Unite the Union  
(Transport and General Workers Union – Offshore)  
42 / 44 King Street  
Aberdeen  
AB24 5TJ  
United Kingdom

Phone: +44 (0)1224 645271

**AVAILABLE INTERNET INFORMATION**

TGWU – Offshore website: [www.tgwuoffshore.org.uk/](http://www.tgwuoffshore.org.uk/)

**MEETING INFORMATION**

Date: April 13, 2010

Location: Aberdeen

Attendees: Regional Organiser, OILC/RMT  
Regional Industrial Organiser, TGWU—Unite the Union  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

# Offshore Helicopter Safety Inquiry

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## SUMMARY

The Regional Organiser of the RMT and the Regional Industrial Organiser of Unite represent the two unions in the UK that include the majority of offshore workers in their jurisdiction. These two individuals are well known in the oil and gas industry and are active in advocating for workers' rights in the offshore.

Both leaders advocate for active worker involvement and consultation in matters which affect workplace safety. They explained that consultation with the unions by industry has been achieved over a period of time, but only with the fierce determination of union leadership. However, they believe that employers and the regulator, the Health and Safety Executive (HSE), all now understand that worker engagement in decision making is essential to offshore safety.

The unions are very proud of their involvement in OPITO, which they see as a huge success, both operationally and financially. They believe that the establishment of uniform safety training standards is an important step for workers in the offshore, who often travel to other jurisdictions. They explained that even though Norway does not participate in OPITO, there are mutual agreements between the oil industry in Norway (OLF) and OPITO to recognize each other's training as equivalent for mobility purposes.

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**MEETING SUMMARY – Petrofac Services Limited**

**COMPANY/ORGANIZATION**

Petrofac Services Limited  
Bridge View  
1 North Esplanade West  
Aberdeen  
AB11 5QF  
United Kingdom

Phone: +44 (0)1224 247000  
Fax: +44 (0)1224 247001

**AVAILABLE INTERNET INFORMATION**

Petrofac website: [www.petrofac.com](http://www.petrofac.com)

**MEETING INFORMATION**

Date: April 14, 2010  
Location: Petrofac, Aberdeen  
Attendees: Group Director, Health, Safety, Security, Environment and Integrity Assurance (HSSEIA)  
Safety and Survival Training Manager  
Regional Director Europe  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel (first part of meeting only)  
Anne Fagan, Inquiry Counsel

**SUMMARY**

The Group Director, HSSEIA; the Safety and Survival Manager; and the Regional Director, Europe, provided an overview of the history of Petrofac, which has been providing survival training since 1979 and has been conducting research on the performance of survival suits and human behavior for the past 20 years.

Oil and Gas UK has developed the standards, and the training providers are part of the process of developing training standards. Petrofac is accredited to provide OPITO training. The Regional Director, Europe, explained the Vantage software registry system, which tracks training for all passengers travelling to UK offshore oil facilities.

# Offshore Helicopter Safety Inquiry

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Petrofac provides a number of training courses for the UK offshore, including the Basic Offshore Safety Induction and Emergency Training course (BOSIET), BOSIET refresher/recurrent, Lifeboat Coxswain, OIM, Fire Leader, and Safety Representatives. The standard requires a basic course (BOSIET) that takes a minimum of three days and includes HUET training.

The Safety Representative course is a 4.5-day course on basic industry training on safety, accidents, accident investigation legislation on Safety Cases, hazard identification and risk assessment, effective presentations, report writing, interviewing techniques, safety committee meetings, safety management systems, the role of the safety representative, training and competence, waste management and pollution, workplace inspections, and audits. A complete list and description of the courses is available on the Petrofac website.

Although Canadian training is not identical to that of the North Sea jurisdictions, training is much more consistent in the UK, Norway, the Netherlands, and Denmark. A chart comparing the courses in those jurisdictions was provided.

## Suits

According to Petrofac, all stakeholders are consulted prior to new equipment being introduced. For example, when new suits were being considered, the oil industry funded research to determine the best survival suits and all the stakeholders were consulted. The suits worn by helicopter passengers in the UK offshore are all of the same design and the suits are used in training (and as described in the Survival-One summary). These are very different from the suits worn offshore Norway or offshore Newfoundland.

## HUET Training

HUET training consists of seven functions: egress the HUET into a life raft once, egress the windows of the HUET with a straight sinking twice, egress the windows of the HUET upside down after a roll twice, push out the windows and egress the windows of the HUET upside down after a roll twice. These functions are explicit in the standard. The trainers at Petrofac meet national standards.

The HUET was a “Gibson” type, similar to the HUET at the Offshore Safety and Survival Centre (MUN), however the seats in the Petrofac HUET were high-back with four-point harnesses having the centre twist-locking device.

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**MEETING SUMMARY – Survival-One Limited**

**COMPANY/ORGANIZATION**

Survival-One Limited  
Howe Moss Drive  
Kirkhill Industrial Estate  
Dyce  
Aberdeen  
AB21 0GL  
United Kingdom

Phone: +44 (0)1224 214444  
Fax: +44 (0)1224 214446

**AVAILABLE INTERNET INFORMATION**

Survival-One Limited websites: <http://www.multifabs-survival.co.uk/> or  
<http://www.survival-one.com/>

**MEETING INFORMATION**

Date: April 14, 2010  
Location: Survival-One Limited, Aberdeen Airport, Dyce  
Attendees: Commercial Manager  
Managing Director  
Design & Development Director  
Inquiry Commissioner Robert Wells  
Anne Fagan, Inquiry Counsel

**SUMMARY**

The Commercial Manager, Managing Director, and Design and Development Director met with Commissioner Wells and Anne Fagan and provided an overview of Survival-One, the manufacturer of survival suits worn by workers and pilots travelling to UK oil facilities in the North Sea.

The Commercial Manager provided a corporate history and described the various standards for survival suits for passengers and pilots, and the history and features of suits being worn by UK workers. He also explained various body temperature and buoyancy tests that have been conducted on subjects wearing the passenger survival suits.

# Offshore Helicopter Safety Inquiry

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The suits provided by Survival-One for the passengers travelling to the UK offshore are sealed at the neck and wrist, with a separate neoprene hood stored in a pocket near the knee. The suits used to have an integral hood, but there was an accident in the North Sea when a helicopter ditched during a short transit from one rig to another, and the hoods were not donned by the workers. The inquiry arising from this accident recommended that the suits should be sealed at the neck.

The suits also have separate gloves stored in pockets in the sleeves, near the wrists. The tailoring of the suits minimizes the amount of air trapped inside. The life jackets are separate and outside the suits. Also attached to the suit are a re-breather with a small cylinder of compressed air, a light, and a PLB. The suits also have vent valves on the shoulders, and insulating liners that remove excess heat and insulate from the cold.

Survival-One provides and services 14 standard sizes of suit for the heliports in Aberdeen; there are, in total, 28 sizes to choose from if one of these 14 sizes does not fit a worker. The pilots' suits are tailored to a unique fit.

Survival-One has a presence at the heliport to brief passengers and check the fit.

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**MEETING SUMMARY – Petroleum Safety Authority (PSA), Norway**

**COMPANY/ORGANIZATION**

Petroleum Safety Authority (PSA)  
Visiting Address: 4021 Stavanger  
Postal Address: P.O. Box 599, 4003 Stavanger  
Norway

Phone: +47 51 87 60 50

Fax: +47 51 87 60 50

**AVAILABLE INTERNET INFORMATION**

Petroleum Safety Authority Norway website: <http://www.ptil.no/main-page/category9.html>

“SAFETY Status and Signals 2009-2010,” Petroleum Safety Authority’s Annual Report (English version):

<http://www.ptil.no/getfile.php/PDF/SAFETY%202010.pdf>

Interview with the Director General of Petroleum Safety Authority, February 10, 2010:  
<http://budsoffshoreenergy.wordpress.com/interviews>

**MEETING INFORMATION**

Date: April 15, 2010

Location: Stavanger

Attendees: Special Advisor  
Principal Engineer/Special Advisor  
Senior Advisor/Emergency Preparedness  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

**SUMMARY**

The Special Advisor, Principal Engineer/Special Advisor, and Senior Advisor/Emergency Preparedness met with Commissioner Wells, John Roil, and Anne Fagan to brief them on the PSA’s structure and functions.

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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The Special Advisor for the PSA has been employed with the PSA for 30 years and has participated in reviews of regulators in NL and Australia. Australia has changed its system substantially since the review.

The Principal Engineer has worked with the PSA for 29 years and has also worked with other countries to explain how the system in Norway operates.

The Senior Advisor has been employed at the PSA for 28 years, works with the civil aviation authority in Norway, and has a number of roles, one of which is “emergency preparedness and helicopter safety.”

In Norway, there are many forums for consultation with operators, the regulator, and workers. It was explained that in Norway the regulator is open, independent, and dynamic.

## Governmental Regulation of Safety for Norwegian Offshore Petroleum Activities

The Principal Engineer explained the national organization of the petroleum sector in Norway. There are 17 ministries; the Norwegian Petroleum Directorate reports to the Ministry of Petroleum and Energy, and the Petroleum Safety Authority (PSA) reports to the Ministry of Labour. It was explained that safety was part of the Petroleum Directorate when the Petroleum Directorate was established in 1973. On January 1, 2001, the Petroleum Safety Authority was established as an independent agency reporting to the Department of Labour. Although there was no apparent problem at the time, the government decided to split the safety role from the production role because of the possibility for conflict and criticism in mixing state profit and safety. In Norway the public recognize the conflict between the State’s desire to develop resources and the public’s desire for safety.

Funding for the Petroleum Directorate is from the Ministry of Petroleum and Energy; now that safety is the responsibility of the PSA, funding for safety comes from the Ministry of Labour.

Oil companies reimburse the State for the PSA’s supervision of them by paying for audits and verifications. The State recovers about 35% of the cost of the PSA’s operations from the fees oil operators pay to the State for audits and verifications. The State sets the rate and collects the fees. The State provides the PSA with a budget which in very broad terms indicates priorities for the PSA. The Director of the PSA is appointed for 6 years and cannot be removed by the State. There is a complete delegation of safety oversight

from the Ministry of Labour to the Petroleum Safety Authority. The PSA is an advisor to the Ministry of Petroleum and Energy.

#### Facts about Norway's Petroleum Industry

Oil and gas is Norway's largest industry today. The net cash flow from the petroleum industry is 26% of GNP (2008). There have been offshore oil operations for 40 years. There are 57 producing oil and gas fields and 73 permanent installations (2008), with 2,862 wells for production or injection purposes (2008). The PSA is responsible for these offshore facilities and for 8 land facilities (7 connected by pipeline) and 1 oil refinery. Norway has 15,140 km of subsea pipelines (2008). The offshore employs 130,000 people from a population of 4.5 million and produces 20 times more petroleum than Norway's domestic consumption.

#### Principles in Safety Management

In Norway, the basic principle of safety management is that the oil operator is responsible for regulatory compliance. The oil operator needs to establish a management system to ensure compliance. Regulations and governmental supervision are designed to underpin the oil operator's own and total responsibility. The regulations set goals to be achieved and do not state how to achieve the goals. The PSA has 100 inspectors who make spot checks on the oil facilities. How a goal is achieved is the responsibility of the oil company. Finally, there must be transparency and stakeholder involvement.

In Norway, there is a process for the issuance of licences. The plans for development must be approved. Authorities have a legal right to review documents, decisions, and decision-making processes. The PSA advises the Petroleum Directorate on safety matters when the Petroleum Directorate grants licences to an oil operator. In granting a licence, the State will look for companies with a good safety record. The licence approval process is a public process.

In addition, the oil operator must obtain a Consent from the regulator at certain milestones to start certain activities.

An oil operator is obliged to inform the PSA of any deviation from the conditions of the Consent issued and must advise the PSA of what has been done to compensate for deviation. The guidelines allow oil operators to follow another procedure, but the operator must demonstrate the deviation is as safe as the guideline and the demonstration to support the deviation must be prepared for a verification.

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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We were told that a management system is like a carpenter's tools. The PSA has to see a product in order to verify that the management system is appropriate and working properly.

The regulator conducts audits and verifications of oil operators and imposes sanctions if necessary. An audit or verification is not an inspection. It may look like an inspection, but the PSA considers "verification" to be a better term than "inspection," as the latter may imply the approval of the PSA.

A detailed summary of all audits is published on the public website of the PSA within seven days of the PSA providing the audit report to the oil operator. The public also has the right to request the entire audit report.

## Regulations

In Norway, the State has delegated authority to the PSA to formulate regulations, undertake total safety assessments, and take decisions on Consents, legal sanctions, and exemptions relating to offshore petroleum activity and to certain land-based facilities. In Norway, not all Ministries delegate the power to regulate; however, with respect to safety regulations for the offshore, the power to regulate has been delegated to the PSA because although there is legal knowledge in the Ministry, the Ministry does not have engineers or staff with the technical skills needed to create the appropriate regulations for the offshore oil and gas industry.

The main features of the regulations in Norway are that the regulations are formulated in terms of goal-setting requirements; the regulations provide freedom for the industry to choose optimal solutions and underpin the oil operators' total responsibility for safety; the regulations refer to norms and industry standards to provide predictability for the users; and tripartite co-operation between the PSA, oil operators and workers is a mainstay of the development of regulations.

## Health, Safety, and Environment Regulations for Petroleum Activity

In Norway, there is one set of national regulations with respect to health, safety, and the environment for pollution control, petroleum activities, working environment, and health. These regulations were developed after four years of consulting and conferences with all parties. In Norway there is a regulatory forum involving the workers, operators (employers), and regulators. The regulations were not created through a democratic process, in that the members of the regulatory forum did not vote on the aspects of the regulations, but their ideas were considered in the creation of the regulations. If certain ideas could not be accommodated, all the stakeholders received an explanation as to why these ideas could not be accommodated in regulations.

Guidelines and standards in Norway usually refer to international standards. The PSA disputes the notion that it has the most stringent regulations. The PSA's position is that its regulations refer to guidelines and standards that are almost all located in international standards and that Norway's approach is to ensure the guidelines and standards are followed and it is important to their culture.

### Safety Forum

Norway's Safety Forum is a tripartite group of oil operators, workers, and the PSA. The Forum meets 4-5 times per year and its minutes are available on the PSA website. In addition, the Forum has a one-day annual safety conference. Attendees at the safety conference must be able to commit the organization that they represent. The workforce usually raises the issues or a problem, the Norwegian oil industry association (OLF) representative usually works to find a solution, and the PSA chairs the meeting. This Forum is very productive in solving problems in the industry.

The Chair will ask first *Who owns the problem?* and then *Will you do something about the problem?* The Director of OLF (which is similar to our CAPP) must be able to commit on behalf of members.

### The Principles of the PSA's Supervisory Activity

The main principles of the PSA's supervisory activity are as follows:

- Supervision focuses on the duty of the responsible companies to ensure that the regulations are observed.
- Supervision is based on system audits and verifications.
- The scope and content of the supervision depend on overall experience, type of activity, etc.
- Conclusions from supervisory activities are directed at improvement opportunities in the industry's management systems.

When the PSA enforces regulations, it will if time allows give the oil operator 14 days' notice of a stop-work order. The order to stop work relates to preventing risk and is not issued as a penalty.

### Annual Supervisory Plan

The PSA considers the following when developing its annual supervisory plan:

- the Ministry's priorities
- operators' plans, such as activities and audits

# Offshore Helicopter Safety Inquiry

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- input from other authorities
- trends in technology and organization
- experience with an operator's performance
- issues raised by the Safety Forum and RNNP
- new or revised legislation

(The RNNP is a program that monitors trends in risk level.)

The PSA provides the Minister of Labour with an annual report which is not public because it is very explicit. In addition, the PSA publishes a public status report on its website and focuses on what the public wants to know. See "Status and Signals Report" at [www.psa.no](http://www.psa.no) (English version).

## Trends in Risk Level

Information was provided on trends in risk level in the Norwegian shelf. In the Norwegian offshore, helicopter-related risk constitutes a relatively large part of the risk exposure for an offshore worker. The risk exposure was described as 30/30/40: 30% related to a major accident, 30% related to occupational accidents, and 40% related to helicopter accidents. These statistics are based on data from the Norwegian continental shelf from 1990 to 2007.

Cooperation with the Norwegian aviation authority and the helicopter operators servicing the offshore industry was discussed. In assessing the risk of helicopter travel in the Norwegian offshore, the PSA focuses on the potential for a major accident and uses existing data from the helicopter operators. The PSA's risk evaluation is in line with the method used by the helicopter operators.

The PSA issues to workers every second year a questionnaire related to safety culture, working environment, and perceived risk.

## Helicopters

The Senior Advisor/Emergency Preparedness provided information on the regulation of helicopters. Helicopter operators in Norway must meet general international requirements for the helicopter and helicopter operator. The helicopter operator must have an AOC (Air Operative Certificate) from the Norwegian Civil Aviation Authority. Additional requirements exist for helicopters and helicopter operators:

- M-ADS – Modified Automatic Dependant Surveillance
- VHM/HUMS – Vibration Health Monitoring/Vibration Health and Usage Monitoring System
- meteorological Services
- OLF guidelines for helicopter transport to offshore petroleum installations

### Helidecks

The helidecks on offshore facilities are subject to a general requirement from the PSA with reference to the Civil Aviation Authority's Regulation. The helidecks must meet the Norsok Standard C-004 for helicopter decks on offshore installations.

### Helicopter Operations

Helicopter operations in Norway must meet the requirements and regulations of Norwegian, European, and international Civil Aviation Authorities. In addition, the PSA has the following requirement: "The operator shall ensure that persons and supplies can be transported safely to, from and between facilities and vessels during placing, installation and operation, and in respect of the selected disposal alternative." The industry has also established the following requirements/guidelines:

- guidelines for helicopter transport to offshore petroleum installations (OLF 066)
- guidelines for restrictions on helicopter transport to offshore petroleum installations (OLF 095)
- guidelines for helicopter check-in (OLF 087)
- guidelines for helideck personnel (OLF 074)
- Helideck Manual

The PSA has requirements for the personnel survival suit used on the offshore installations. The OLF has guidelines (OLF 094) relating to requirement specifications for survival suits used on the Norwegian continental shelf during transport and while on the installation.

### Passenger Survival Suits

The integrated survival suit consists of the following:

- a dry suit
- protection of the head (hood), hands (gloves), and feet (fixed boots)
- means of buoyancy
- breathing aid
- spray protection
- detection equipment
- rescue equipment

# Offshore Helicopter Safety Inquiry

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## Helicopter Emergency Response

The Norwegian Petroleum Act and regulations apply to activities inside the 500m safety zone around the offshore installations. The PSA has established requirements for emergency preparedness that are based on function. The party responsible shall ensure that necessary actions are taken as quickly as possible in the event of situations of hazard and accident to do the following:

- alert
- combat
- rescue
- evacuate
- normalize

To meet PSA general requirements, the industry has established more detailed requirements. If a helicopter ditches inside the safety zone, 21 persons shall be picked up within 120 minutes. The industry itself has resolved to place five SAR-equipped helicopters offshore at the following installations/fields:

- Valhall
- Ekofisk
- Statfjord B
- Oseberg
- Heidrun

All these helicopters are duly equipped with winches, etc., and have a normal response time of about 15 minutes during the day and longer at night. Most of them are so called "Full SAR"-equipped helicopters with AWS (all-weather-SAR), whereas some have somewhat limited equipment (Lim SAR). CHC and Bristow provide the industry SAR service and their summaries contain a description of this service.

## Helicopter training

The PSA has general requirements with respect to competence, training, and exercises. The PSA refers to OLF guidelines for safety and emergency preparedness training. All passengers travelling to the Norwegian offshore must complete Helicopter Underwater Escape Training (HUET), with retraining every fourth year.

In Norway a Committee for Helicopter Safety was established in 2003 after a recommendation from the second helicopter safety review. The first review followed the Norne accident on September 8, 1997, in the Norwegian offshore: 12 people were killed

in a helicopter crash involving a Super Puma AS332L-1. There was a second review ten years later and one of the recommendations from the second review was that a Committee was needed to follow up on the recommendations from the reviews and to receive presentations.

These reviews resulted in 29 recommendations, which deal with the following categories:

- responsibility, authorities, regulations
- helicopter (technical and operation)
- air traffic control, navigation, flight meteorological services
- helicopter deck and installations

The Committee for Helicopter Safety comprises representatives from:

- the Civil Aviation Authority
- Avinor (Air Traffic Control provider)
- industry, including helicopter operators, the OLF, and rig owners (NR)
- the unions for pilots, technical helicopter support staff, ATC Providers, and petroleum industry passengers
- the Armed Forces
- the Maritime Directorate
- the PSA

The Committee meets four times a year to address the status of recommendations from the reviews, create working groups on issues, and receive technical presentations.

The Committee had an extraordinary meeting on April 16, 2009, in light of the following events:

- Feb 18, 2009: UK, Bond Helicopters, Super Puma EC 225
- March 12, 2009: Canada, Cougar Helicopters, Sikorsky S-92
- April 1, 2009: UK, Bond Helicopters, Super Puma AS332/L2
- Easter 2009: Norwegian Shelf, 3 near misses (alternate landing/return to shore)

The Committee saw the need to address the rumours, concerns, and lack of information about these incidents.

The outcome of this meeting was to provide the workers with information on the incidents and to develop an information strategy in which the helicopter operator was required to provide the petroleum operator immediately with information about any incident, so that the information could be circulated.

# Offshore Helicopter Safety Inquiry

## Canada-Newfoundland and Labrador

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**MEETING SUMMARY – SINTEF Petroleum Research**

**COMPANY/ORGANIZATION**

SINTEF Petroleum Research  
Visiting address: ipark  
Prof. Olav Hanssens vei 7A  
NO-4068  
Stavanger, Norway

Phone: +47 51 87 44 00  
Fax: +47 51 87 44 01

**AVAILABLE INTERNET INFORMATION**

SINTEF website: <http://www.sintef.no/Home/>

Helicopter Safety Study 2, Volume I: Main Report  
[http://www.sintef.no/upload/Teknologi\\_og\\_samfunn/Sikkerhet%20og%20pålitelighet/Rapporter/STF38%20A99423.pdf](http://www.sintef.no/upload/Teknologi_og_samfunn/Sikkerhet%20og%20pålitelighet/Rapporter/STF38%20A99423.pdf)

Helicopter Safety Study 2, Executive Report  
[http://www.sintef.no/upload/Teknologi\\_og\\_samfunn/Sikkerhet%20og%20pålitelighet/Rapporter/HSS2-ExecutiveSummary.pdf](http://www.sintef.no/upload/Teknologi_og_samfunn/Sikkerhet%20og%20pålitelighet/Rapporter/HSS2-ExecutiveSummary.pdf)

Helicopter Safety Study 3, Executive Report  
<http://www.slideshare.net/OLFNorge/helicopter-safety-study-3-executive-summary>

“Reduced Risk of Helicopter Accidents on the NCS,” news article dated April 8, 2010 from OLF website:  
<http://www.olf.no/news/reduced-risk-of-helicopter-accidents-on-the-ncs-article19541-291.html>

**MEETING INFORMATION**

Date: April 15, 2010  
Location: Stavanger  
Attendees: Member of Helicopter Safety Study 3 Steering Committee  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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## SUMMARY

A member of the Steering Committee spoke on the background to Helicopter Safety Studies 1 and 2, and then outlined the findings of Helicopter Safety Study 3, which was just released, for which only the Executive Summary/Report is currently available in English. A full translation is expected to follow later. The Executive Report is available on the SINTEF website.

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**MEETING SUMMARY – Offshore Workers' Unions in Norway**

**COMPANY/ORGANIZATION 1**

Industri Energi  
Kongsgt. 52  
4005 Stavanger  
Norway

Phone: +47 51 84 05 00  
Fax: +47 51 84 05 01

**AVAILABLE INTERNET INFORMATION**

IndustriEnergi website: [www.IndustriEnergi.no](http://www.IndustriEnergi.no)

**COMPANY/ORGANIZATION 2**

SAFE – Norwegian Union of Energy Workers  
Visiting address: Engelsminnegt 24, 4008 Stavanger  
Postal Address: PO Box 145, 4001 Stavanger  
Norway

Phone: 51 84 39 00  
Fax: 51 84 39 40

**AVAILABLE INTERNET INFORMATION**

“Behaviour Based Safety-A Swathe from America,” article by Roy Erling Furre from January 2006:  
<http://www.docstoc.com/docs/30231797/European-Work-Hazards-Network-Conference-2006>

SAFE website: <http://www.safe.no/artikler.cfm?id=2108>

**MEETING INFORMATION**

Date: April 16, 2010  
Location: Stavanger  
Attendees: Manager HSE Offshore, Industri Energi  
Second Vice-Chair, SAFE  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

# Offshore Helicopter Safety Inquiry

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## SUMMARY

The meeting participants are from the two distinct unions which represent the majority of offshore oil and gas workers in the Norwegian North Sea. In that jurisdiction, membership in a particular union is not automatic, so each union must compete for members on an ongoing basis. Both representatives work in the Health, Safety, and Environment (HSE) divisions of their organizations, which see a focus on safety not only as one of their responsibilities on behalf of their members but also as an essential way of proving their value to union members.

It was explained that in Norway the business culture long ago recognized that collaboration with worker representatives was an important part of workplace safety. That culture ensures that the earlier “we/they” attitude between workers and employers is no longer evident. In addition, worker representative collaboration with the regulator is a hallmark of the Norwegian oil and gas industry.

The unions were particularly proud of the Safety Forums and Regulatory Forums created in that country, which meet periodically to focus all players on safety issues. These tripartite forums engage worker representatives, oil industry and rig operator companies, and the PSA as regulator in high-level engagement to develop new standards of practice and to identify and resolve concerns. New worker obligations become more readily enforceable because “they’re ours.”

In workplace safety, the focus should be on a “risk-based” approach, not on a “behavior-based” approach, which targets only the employees’ activities.

The role of workers’ personal health and risk awareness is an important part of having an informed workplace. The unions currently advocate for more proactive efforts by offshore facility health care staff to assist employees in improving their own personal health and fitness. Workers also have the responsibility to ensure that they wear and use properly the safety equipment that is issued to them by their employers.

The unions are very supportive of the separation between the safety function of the offshore regulator and the licence-granting function. Although it is difficult to identify specific changes in safety since that separation took place in Norway, workers believe the separation has improved their workplace. The unions themselves have developed separate internal safety divisions to recognize the importance of the independence of safety activities. Sometimes, advocating new safety protocols is not a popular outcome for the workers, but member popularity should not impact safety outcomes.

**Meeting Summary**  
Offshore Workers' Unions in Norway

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**MEETING SUMMARY – Falck Nutec**

**COMPANY/ORGANIZATION**

Falck Nutec  
Jåttåflaten 11  
P.O. Box 6061, Hinna  
4088 Stavanger  
Norway

Phone: +47 0 22 01  
Fax: +47 51 82 73 01

**AVAILABLE INTERNET INFORMATION**

Falck Nutec (Norway) website: [www.falcknutec.no/en/home/](http://www.falcknutec.no/en/home/)

Falck Nutec (UK) website: [www.nutecuk.com/](http://www.nutecuk.com/)

Materials available on Offshore-Technology website:  
[www.offshore-technology.com/contractors/safety/falck-nutec/](http://www.offshore-technology.com/contractors/safety/falck-nutec/)

**MEETING INFORMATION**

Date: April 16, 2010  
Location: Stavanger  
Attendees: Operations Manager  
Center Manager Stavanger  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

**SUMMARY**

The Center Manager provided a brief introduction to Falck Nutec’s facility and the Operations Manager provided a corporate history, an overview of the locations in which Falck Nutec delivers training courses, and a description of the courses provided. Falck Nutec advertises itself as the world’s largest supplier of safety training, offering the Basic Survival Course (BOSIET) in Norway, as approved by the Norwegian Petroleum Safety Authority (PSA), and other OPITO-accredited courses in the UK and other jurisdictions.

In Norway, the BOISET course runs 5 days, with a 2-day refresher every 4 years. The particulars for this course and others can be found on the Falck Nutec website.

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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During a discussion on helicopter ditching, the Operations Manager noted that there is a lack of flexibility in the location of life rafts' accesses. In Norway, pilots are taught three different types of abandonment and the effect of the wind on the success of abandoning a helicopter. The Operations Manager explained that the HUET course once had two hours devoted to helicopter operations, in which pilots provided the trainees with helicopter knowledge. This section has recently been deleted from the course and is not included in the HUET as part of the Norwegian BST.

The Operations Manager believes that all new equipment should be brought to the trainers prior to implementation so that the trainers can inform the passengers. The trainers are often the first contact the workers have with the offshore.

## Suits

The Operations Manager advised that 7-8 years ago, testing showed that the survival suits used then had leaks. Falck Nutec's training facility's advice was sought regarding the suits and Falck Nutec's training facilities were used to demonstrate the suits to representatives of the offshore workers.

The suits worn by workers travelling in the Norwegian offshore are manufactured by Helly Hansen and meet both a marine and a helicopter standard. The lining has thermal protection to limit heat and cold transfer.

## HUET training

HUET training was taking place at Falck Nutec and we observed the workers in HUET training, which consisted of a number of functions: egress the HUET into a life raft at an outside facility, egress the windows of the HUET with a straight sinking, egress the windows of the HUET upside down after a roll, push out the windows and egress the windows of the HUET upside down after a roll at least twice.

The HUET used at Falck Nutec is similar to the HUET used at the Survival Systems Training (SSL) in Dartmouth, NS, and is manufactured by a company related to SSL. At Falck Nutec, the HUET is configured with four different windows to replicate the different types of helicopters used to transport workers in the Norwegian offshore. The seats in the HUET were high-back, having four-point harnesses with the centre twist-locking device.

The survival suits worn in training were the same as those worn by the Norwegian passengers offshore. Manufactured by Helly Hansen, they are somewhat different from

## Meeting Summary

Falck Nutec (Norwegian safety trainers)

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the suits worn offshore Newfoundland. The Norwegian suits have a removable thermal liner, much smaller boots, an integrated neoprene hood, a softer plastic in the front zipper and an integrated glove with a zipper across the top of the hand running from the base of the middle finger to the middle of the forearm. This integrated glove is tucked up in the wrist area until it is donned.

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# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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**MEETING SUMMARY – Canadian Forces Squadron 103**

**COMPANY/ORGANIZATION**

Canadian Forces Squadron 103 (SAR unit)  
P. O. Box 6000  
Stn. Main  
Gander, NL  
A1V 1X1

Phone: (709) 256-1703 (Ext 1340)  
Fax: (709) 256-1705

**MEETING INFORMATION**

Date: June 7 and 8, 2010  
Location: SAR, Gander, NL  
Attendees:  
SAR personnel  
Inquiry Commissioner Robert Wells  
John Roil, Inquiry Counsel  
Anne Fagan, Inquiry Counsel

**SUMMARY**

SAR Operations

Members of the Squadron provided a presentation on the following: origins of the CF SAR role, evolution of the SAR system, historical trend analysis, CF SAR squadrons, aeronautical incidents, humanitarian assistance, 103 Squadron history, 103 Squadron composition, search operations, hoist operations, mountain flying operations, distress calls, performance measurement, SAR CAMILLA, SAR NL LYNX, increasing the odds of survival, and the importance of a seamless system.

Commissioner Wells and Inquiry Counsel observed from a Cormorant helicopter SAR practice missions searching, hoisting, and retrieving over water and land in the day and night, as well as landing in confined spaces during the day and night. In addition, all three were hoisted onto Mount Peyton from a Cormorant helicopter. All three examined the equipment used in SAR missions and used night vision goggles and night sun spotlight in searching during the night.

# Offshore Helicopter Safety Inquiry

## Canada-Newfoundland and Labrador

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## Meeting Summary

Provincial Aerospace Limited (secondary SAR for various countries)

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### MEETING SUMMARY – Provincial Aerospace Ltd.

#### COMPANY/ORGANIZATION

Provincial Aerospace Ltd.  
St. John's International Airport  
Hangar #1  
P. O. Box 29030  
St. John's, NL  
A1A 5B5

Phone: (709) 576-1800  
Fax: (709) 576-7363

#### MEETING INFORMATION

Date: June 10, 2010  
Location: St. John's International Airport, Hangar #1  
Attendees:  
Senior Vice President  
Vice President, Airborne Maritime Survival Division  
Vice President, Maintenance and Modifications Division  
Chief Operating Officer  
Inquiry Commissioner Robert Wells  
Anne Fagan, Inquiry Counsel

### SUMMARY

#### SAR Operations

The Senior Vice President, Vice President, Vice President Maintenance and Modifications, and Chief Operating Officer provided a presentation on their involvement in the following search and rescue missions:

Cougar Flight 491 crashed March 12, 2009; fishing vessel Nautical Legacy fire May 30, 2007; M.V. Flare sinking January 16, 1998.

They also provided a slide presentation on the following activities and clients of their company: Provincial Aerospace Background, Global Solutions, Special Missions Solutions, Core Business Functions, SAR Services, Mission Systems Integration, Air Crew Training & Support, Special Missions Operations, Fisheries and Oceans Canada

# Offshore Helicopter Safety Inquiry

Canada-Newfoundland and Labrador

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Surveillance Services, DND Maritime Domain Awareness, Royal Netherlands Navy and Royal Dutch Navy Services, SAR Drop Hatch, United Arab Emirates – Air Force & Air Defense.

Commissioner Wells and Inquiry Counsel were given a tour of the airplane used to conduct ice and fisheries patrols and were shown some other aircraft currently being reconfigured for SAR missions in the United Arab Emirates.

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**MEETING SUMMARY – Canadian General Standards Board  
Helicopter Passenger Transportation Suit System  
Working Group**

**COMPANY/ORGANIZATION**

Canadian General Standards Board  
Helicopter Passenger Transportation Suit System Working Group

**AVAILABLE INTERNET INFORMATION**

<http://www.tpsgc-pwgsc.gc.ca/ongc/home/index-e.html>

**MEETING INFORMATION**

Date: July 19, 2010  
Location: Offshore Helicopter Safety Inquiry Offices  
St. John's, NL

Attendees:

- Senior Safety Advisor, C-NLOPB, in person
- President, The CORD Group Limited, in person
- Policy Analyst, Canadian Association of Petroleum Producers, in person
- Category Manager-Professional Products-Marine Safety, Helly Hansen, in person
- ExxonMobil Safety Lead (Supervisor), ExxonMobil Canada Ltd., in person
- Team Leader/Standards Division, Canadian General Standards Board, by phone
- Manager, Standards Division, Canada General Standards Board, by phone
- Standards Specialist, Canadian General Standards Board, by phone
- Manager, Applied Research, Mustang Survival Corporation, by phone
- John Roil, Inquiry Counsel, in person
- Anne Fagan, Inquiry Counsel, in person

**SUMMARY**

The Working Group (WG) was formed by members of the Canadian General Standards Board's (CGSB's) Committee on Immersion Suits during CGSB's four-day meeting in November 2009. Since then, the WG has been working to revise and update the CGSB Canadian national standard for helicopter passenger transportation suit systems. [Note: The full list of Committee members was entered as Exhibit/P-00226 during Jonathan Power's (NRC-IOT) presentation on June 30, 2010.]

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### Canadian General Standards Board (CGSB)

The CGSB provides standards services, including programs for certification of products and services, quality management systems, and environmental management systems. Under the [*Department of Public Works and Government Services Act*] and an Order-In-Council, the CGSB conducts standards development, certification, and related services for any government, body, or person in Canada or elsewhere.

The CGSB is accredited by the Standards Council of Canada (SCC) as a Standards Development Organization (SDO), one of four in Canada. The Standards Council of Canada is a Crown Corporation established by the *Standards Council of Canada Act* in 1970. It reports to Parliament through the Minister of Industry Canada, oversees Canada's National Standards System, and sets policies and procedures for the development of National Standards of Canada and for the accreditation of standards development organizations.

### Process to Review and Create a Standard

CGSB provides an established process to review standards at designated intervals to reflect new developments and continuous improvement. It relies on CGSB's Procedures Manual for the Development and Review of Standards and SCC's CAN-P-2F Requirements and Procedures for the Request for Development, Approval, Preparation, and Maintenance of National Standards of Canada.

A CGSB committee comprises members with an interest in the "outcome," i.e., end users (operators and labour), regulators, producers (including manufacturers), and general interest (including academic) representatives.

CGSB strives to maintain a balance among the producer, user, regulatory, and general interests voting to approve a standard. Membership on committees is reviewed regularly. Stakeholders not wishing to become voting members are still able to participate by becoming information members.

A working draft standard can be created in one of several ways: the requestor for the standard may already have developed a draft; a small group of interested stakeholders may agree to develop a working draft; or other standards (international or regional) may form the basis for the adoption or preparation of a working draft. Copyright permission may be required in such cases.

Once a draft is available, it is presented to the CGSB Committee for consideration and comment by correspondence, and for discussion at committee meetings. A Working Group is normally formed to discuss outstanding issues in more detail and to recommend resolutions. The draft is updated based on resolutions reached at meetings and/or by correspondence. All information is posted and made accessible to the members, and the public is notified of the availability of a draft for comment. CGSB Committee approval

of a standard is based on a vote of more than 50 percent of the members eligible to vote and two-thirds must vote in the affirmative.

The Standards Council of Canada reviews the draft standard and the supporting documentation to ensure that it conforms to the criteria and procedures established in CAN-P-2F for National Standards of Canada. The Standards Council of Canada informs the CGSB in writing when a draft approved by a CGSB committee has been ratified as a National Standard of Canada.

### The Helicopter Passenger Transportation Suit System Working Group

Transport Canada requires the helicopter passenger transportation suits used in Canada meet the standard set by the CGSB.

The CGSB Committee on immersion suits recognizes that the standard needs to be improved. The goal of the review is to adopt a performance-based approach and to create realistic test conditions based on improvements in available technologies (wind, waves, cold water capability, HUET technology, functionality of suit system).

The WG is studying the standard and the methods of testing suit performance in realistic conditions. The purpose of the WG is to discuss outstanding issues in more detail and to recommend solutions.

The members of the WG include representatives from CORD Group, Mustang Survival, ExxonMobil, Helly Hansen, C-NLOPB, and CAPP. WG members hold conference calls every week.

The WG has arranged to have research done by various experts to answer specific standard-related questions with the intent of collecting data to aid in developing recommended enhancements (i.e., requirements or test methodologies).

Of the issues identified by the CSGB Committee on immersion suits in November 2009, five are key:

#### 1. Maximum Escape Buoyancy

The objective is to evaluate the feasibility of including in the standard a range of maximum escape buoyancy limits related directly to human size. The research being conducted involves a thorough review of escape buoyancy in realistic conditions by means of various performance tasks.

#### 2. Hand Dexterity in Cold Water

The objective is to evaluate the time needed to complete survival tasks in cold water without hand protection and to validate the hand protection requirements for the standard.

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The testing is being done at Memorial University. Wearing gloves in an initial egress situation can have its own risks. Thus the initial research was defined to determine whether gloves are needed or whether the necessary egress and suit performance activities can be performed in cold water with bare hands.

### 3. Stability

The research on vertical stability of the person in the survival suit is to assess the validity of the calm-water test method in comparison to real wave test conditions. The horizontal stability research is to verify a modified UK CAA Spec 19 test method to add wind and waves. The Institute for Ocean Technology (IOT) is doing this research for the WG.

### 4. Water Ingress

The objective is to revise the test method to reflect more realistic conditions and suit performance expectations and to evaluate whether the rate of leakage is consistent over time, in order to develop a duration for the swim component of the test and formula.

Research for the WG includes validating a new water ingress test method that includes more rigorous and realistic conditions (includes: submerged HUET egress, swim, deployment of inflatable buoyancy element, boarding of life raft, and swim component, all with wind, waves, and rain conditions) and determining the most appropriate duration for the swim test (i.e., 30, 60, or 180 min).

### 5. Thermal Protection

The objective of the research is to verify the performance of a 0.75 immersed Clo (thermal insulation value) suit over 6 hours in realistic conditions.

The research is to have test subjects in wind, waves, cold air, and cold water for 6 hours, then correlate the results with thermal manikin and prediction models and revise test methods based on the data.

Thermal performance is a key aspect of protection requirements for this standard and these requirements are related to the water ingress test methodology. This research is designed to evaluate what, if anything, adding realistic conditions (wind, waves, cold air, and cold water) would do to change the standard requirement of 0.75.

The WG recognizes the difference between manikins and humans for conducting tests. Manikins tend to give a test result that is more conservative because manikins do not have the ability to regulate temperature. Human subjects can regulate body temperature by shivering or moving blood to their core through vascular constriction. Unlike a human, a manikin is stiff in the water and does not react the same way to the force of the

waves. After 25 years of daily testing, there is considerable confidence in the results from manikins, given their limitations. Testing with human subjects is helpful; however, there are ethical limitations on the type of human testing that can be undertaken. As well, the variability among human subjects provides inconsistent results for scientific data collection.

### Other Activities

In addition to the work being conducted on the five key areas noted above, the WG is reviewing all requirements and test methodologies to seek areas of possible enhancement.

The WG has considered a national or regional or even international standard. While accepting an international standard with Canadian caveats is a possible solution, it appears that the continuation of a national Canadian standard is the preferred option, given the extreme conditions in Canada. A Canadian national standard can account for all regional differences and protect in all Canadian weather conditions.

The standard must not impede trade. In the updating and development of any standard, a review is undertaken of other existing standards on the same subject. The CGSB Committee and WG look at materials and processes globally that best meet Canadian requirements and give no preference to Canadian manufacturers.

In the case of the revision of the CGSB standard, the WG is reviewing other standards, regulatory requirements, etc., for example, Transport Canada's TSO for inflatable buoyancy element aspects, UK CAA Spec 19, ISO immersion suit standard, and standards of the OLF in Norway.

The WG is considering recommendations for undergarments and educational information on the effect of undergarments on buoyancy and insulation.

In addition the WG is looking at the fit and sizing of the suits.

The WG also recognizes the difference between a prescriptive-based and a performance-based standard and is aware of an additional approach called the "risk-based" standard.

The test methodology may be prescriptive: it would then stipulate what tasks must be performed in the suit and the performance component of the standard would be the results that must be achieved after the tasks are completed. Innovation in design and materials will assist manufacturers in achieving these results.

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The research work undertaken in updating the standard is ongoing, with the expectation that data will be collected and reports available to the CGSB Committee on the various projects through 2010. The draft revised standard is expected to be completed for the next CGSB Committee meeting at the end of October 2010. The intent is to discuss the revised standard and address comments or concerns raised by C32GSB committee members.

It is expected the new standard for the helicopter passenger suit should be finalized in the spring of 2011 (a total of 18 months from commencement of the review).

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*Caveat: This summary has been prepared out of notes taken by Inquiry Counsel at the meeting. While every effort has been made to be accurate in transcription, no guarantee of complete accuracy of facts is given.*

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