OFFSHORE HELICOPTER SAFETY INQUIRY

October 19, 2009 Tara Place, Suite 213, 31 Peet Street St. John's, NL

October 19, 2009

PRESENT:

John F. Roil, Q.C./ Anne FaganInquiry Counsel
Amy Crosbie/
Cecily Strickland/Ian Wallace
Denis Mahoney/D. Blair Pritchett/Stephanie HillierSuncor (Petro-Canada)
Alexander C. MacDonald, Q.C./
Stephanie Hickman
Jonathan Tarlton/Mark FreemanDepartment of Transport Canada
Norman J. Whalen, Q.CCougar Helicopters Inc.
Christoper Gill
Rolf PritchardGovernment of Newfoundland and Labrador
Glen Roebothan, Q.C./Stephen Marshall, Q.C./Jamie Martin
Kate O'BrienDavis Estate (Pilot) andagent on behalf of Douglas A. Latto for Lanouette Estate (Co-pilot)
Randell Earle, Q.CCommunications, Energy and Paperworkers Union Local 2121
Karen Hollett Offshore Safety & Survival Centre, Marine Institute, MUN
Paul Barnes Canadian Association of Petroleum Producers (CAPP)

Oc	tober 19, 2009	Multi	-Page TM	Offshore Helicopter Safety Inquiry
		Page 1		Page 3
1	October 19, 2009	C	1	the number of people that are in this room and
2	COMMISSIONER:		2	the others today are well within the legal
3	Q. I welcome you to the opening public session	on of	3	limits for these rooms. They can be configured
4	this inquiry. Not only do I extend a welcor		4	in different ways. If we take out the tables
5	to those of you who are in the room, but to		5	here, we can accommodate a larger number of
6	much broader audience who have an interes	st in	6	people, but that will not be necessary today.
7	this subject matter, and will be watching o	n	7	I would caution those within the room that
8	television. In that connection, I should say		8	there are places where there are small amounts
9	that Rogers Television has offered to		9	of wiring that have had to be tracked around,
10	broadcast these proceedings and the offer h	as	10	and to be careful, they are taped to the
11	been accepted and appreciated because the	ere	11	floor, but that tape may over a period of time
12	are a large number of people in Newfound	land	12	become a bit frayed. We'll try to keep an eye
13	and Labrador and perhaps beyond who ha	ve a	13	on that for you. This room has three entries
14	very, very keen interest in what is taking		14	and exists; one either side, and one at the
15	place in these hearings, and I'll speak more	e	15	back. In the event of a need to evacuate the
16	later on this morning about public matters	.	16	room, please use the exit that is closer to
17	Firstly, I would like to introduce Mr. John		17	you. As you get out into the corridors, there
18	Roil, Q.C. who is an inquiry counsel, and M	Лs.	18	are two stairwells, one at either end of the
19	Anne Fagan, who is also inquiry counsel, a		19	building and there is the main stairwell in
20	to mention for everybody's benefit, and ple	ease	20	the middle, the stairwell with which you
21	remember when I'm speaking, I'm not j	ust	21	probably came in when you entered this
22	speaking to those here, but to the public		22	morning. Use either one of those, the closest
23	also, and the inquiry counsel have not only	у	23	one to you as an evacuation route. There is
24	the role of advising me as the Commission	ier,	24	an elevator. Please do not use the elevator
25	but also they have a role to act in the public	2	25	in the event of an emergency. Finally,
		Page 2		Page 4
1	interest, which they do. There has been a	_	1	although it perhaps is not an issue here
2	great deal of work done in preparing for thi		2	today, the inquiry has reflected on the need
3	inquiry over the past five and a half month	IS	3	for us, a large number of people accumulating
4	since I've been appointed and then later	•	4	in a small space, to think about the H1N1
5	received the Terms of Reference. I'm going		5	threat. We have developed a policy that will
6	ask Mr. Roil to do two things at the very	-	6	deal with the issue if things come up, but in
7	outset, and one is to explain and present wh	nat	7	the meantime, we encourage the use of hand
8	is called in industry "a safety moment", an		8	sanitizers which are placed throughout the
9	then to read the Terms of Reference into the	ne	9	building, and I guess I don't need to say more
10	record. Mr. Roil.		10	than if you have any of the symptoms, please
11	ROIL, Q.C.:		11	stay home. That's all with respect to the
12	Q. Thank you, Commissioner. A safety mom	ent is	12	"safety moment", Mr. Commissioner. I will now
13	perhaps directed only at the people that are		13	proceed to read the Terms of Reference as were
14	within this building, and so I will say first		14	issued to you in May of this year. I will

16

17

18

19

20

21

22

23

24

25

15 of all that, of course, we are a safety 16 inquiry, so it does behove us to take a moment 17 and reflect on safety as we go forward here. We are on the second floor of a relatively 18 19 small two storey building. The building is not fire alarmed. We will be notified by 20 21 other tenants or by the property manager 22 should there be a reason for us to need to 23 evacuate. We are occupying relatively smaller 24 rooms as well. We have had the Fire 25 Inspector's office check on those rooms and

read them almost verbatim. In places, I will leave out a word or two or a question or two to make the meaning of the terms more understandable to those who are listening today. The Terms of Reference for the Inquiry into matters respecting helicopter passenger safety for workers in the Newfoundland and Labrador offshore area. Whereas the Canada Newfoundland and Labrador Offshore Petroleum Board, the C-NLOPB, was established by the Government of Canada and the Government of

Octob	per 19, 2009	Multi-Page ^T	Offshore Helicopter Safety Inquiry
		age 5	Page 7
1	Newfoundland and Labrador as a joint	1	Then there are a series of definitions,
2	independent arms-length regulator of	2	Commissioner. The only one which I need to
3	exploration, development, and production of	3	read to the public is the expression
4	oil and gas resources in the Newfoundland and	l 4	"Operator". An operator means a company which
5	Labrador offshore area. And whereas the C-	5	has been issued an authorization pursuant to
6	NLOPB has a mandate to interpret and apply the	e 6	the Accord Acts to conduct work or activity
7	provisions of the Atlantic Accord, and the	7	within the Newfoundland and Labrador offshore
8	Atlantic Accord Implementation Acts, to all	8	area. All of the other definitions are really
9	activities of operators in the Newfoundland	9	not necessary for the understanding of these
10	and Labrador offshore area, and to oversee	10	terms. Paragraph three is the purpose. The
11	operator compliance with those statutory	11	purpose of this Inquiry is to determine what
12	provisions, and whereas the C-NLOPB is	12	improvements can be made so that the Board can
13	required by legislation before issuing an	13	determine that the risks of helicopter
14	authorization for work or activity, to	14	transportation of offshore workers is as low
15	consider the safety of the worker activity by	15	as is reasonably practicable in the
16	reviewing the system as a whole and its	16	Newfoundland and Labrador offshore area. Then
17	components, including its structures,	17	paragraph four is the general mandate. The
18	facilities, equipment, operating procedures	18	Commissioner's mandate will be to inquire
19	and personnel. Whereas the C-NLOPB oversee	es 19	into, report on, and make recommendations in
20	the safety of offshore activities by review	20	respect of matters relating to the safety of
21	and approval of an operator's plans and	21	offshore workers in the context of the
22	implementation to determine that risks have	22	operator's accountability for escape,
23	been reduced to a level that is low as	23	evacuation, and rescue procedures while
24	reasonably practicable. Whereas the crash of	24	travelling by helicopter over water to
25	Cougar Helicopter Sikorsky S-92A, Flight 491	., 25	installations in the Newfoundland and Labrador
	Pa	age 6	Page 8
1	was a serious accident in the Newfoundland an	•	offshore area, in compliance with Occupational
2	Labrador offshore area, and whereas pursuant	2	Health and Safety principles, and best
3	to the Accord Implementation Acts an Inquiry	3	industry practices. The specific mandate is
4	into serious accidents is mandatory, and the	4	as follows. Specifically, the Commissioner
5	C-NLOPB has determined that an Inquiry into	5	shall inquire into, report on, and make
6	safety matters respecting transport by	6	recommendations in respect of; (a) safety plan
7	helicopter to the Newfoundland and Labradon	r 7	requirements for operators and the role that

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

offshore area is essential for the C-NLOPB in 8 9 carrying out its mandate as it relates to overseeing safety in the Newfoundland and 10 11 Labrador offshore area. Now, therefore, the 12 C-NLOPB pursuant to the Federal Accord and the Provincial Accord Acts, that an Inquiry be 13 made into safety matters respecting transport 14 15 by helicopter to the Newfoundland and Labrador offshore area, the Terms of Reference of which 16 17 are set out herein, and then there are a series of numbered paragraphs. Number one, 18 19 the establishment of the Inquiry. There is established a Commission of Inquiry on matters 20 21 respecting worker safety associated with 22 helicopter transportation in the Newfoundland 23 and Labrador offshore area that are within the jurisdiction of the C-NLOPB. The Commissioner 24

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. Then the Terms of Reference place a limitation. Paragraph six, the Commissioner's mandate does not include an examination of any issues related to the airworthiness of aircraft, training of flight crews or flight procedures, or any other matters that are included in the Transportation Safety Board of Canada's investigation into Cougar Helicopter Sikorsky S-92A crash, except to the extent

shall be the Honourable Robert Wells, Q.C.

	- ,		
	Page 9		Page 1
1	specifically described in the paragraph above.	1	that it reduces duplication of efforts and
2	The Commissioner's mandate does not include an	2	facilitates expeditious consideration of the
3	examination of the provision by the Government	3	issues raised, the Commissioner shall maintain
4	of Canada, Department of National Defense, of	4	regular and frequent communication with the
5	Search and Rescue facilities for all marine	5	Transportation Safety Board of Canada
6	incidents, and the location of such facilities	6	investigation into Cougar Helicopter Sikorsky
7	within the Province of Newfoundland and	7	S-92A crash. The Commissioner may retain, and
8	Labrador. Then there's a statement of the	8	as needed, request the services of independent
9	Powers of the Commissioner, paragraph seven.	9	specialists whose function would be to provide
10	Consistent with the Federal Accord Act and the	10	information on and interpret information and
11	Provincial Accord Act, the Commissioner shall	11	issues relevant to the Inquiry. Independent
12	be vested with the powers conferred by the	12	specialists retained by the Commissioner may
13	Inquiries Act of Canada and the Public	13	be requested by the Commissioner to appear
14	Inquiries Act of Newfoundland. Paragraph	14	before it as the Commission determines. The
15	eight deals with the Inquiry methodology. The	15	Commissioner shall provide a report to the
16	Commissioner shall design, make known, and	16	Board on the Completion of phase one, which
17	enforce rules, practices, and procedures for	17	report shall be provided by March 31, 2010,
18	the proper conduct of the Inquiry, and where	18	unless an extension should become necessary.
19	necessary, may amend such rules, practices,	19	Then the Terms of Reference turn to phase two.
20	and procedures from time to time. Then the	20	Upon completion of the Transportation Safety
21	Inquiry is divided into two phases; phase one	21	Board of Canada investigation into Cougar
22	and phase two, which the Commissioner will	22	Helicopter Sikorsky S-92A crash, the
23	speak about I'm sure later. Phase one says as	23	Commissioner shall undertake a review of the
24	follows, the Commissioner shall solicit the	24	report therefrom, and in particular, the
25	view of the public in respect of practices	25	findings and shall advise the C-NLOPB on (a)
	Page 10		Page 1
1	which will reduce the risks of helicopter	1	which findings should result in actions being
2	transportation in the offshore area.	2	recommended to be undertaken by the C-NLOPB,

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

3 Mechanisms by which this phase of the Inquiry is to be conducted may include interviews and surveys, calling for written submissions and 5 formal or informal hearings as the 6 7 Commissioner deems appropriate. The 8 Commissioner shall gather information in 9 respect of the specifically identified mandate issues described above. The mechanisms by 10 11 which this phase of the Inquiry is to be 12 conducted may include research studies, consultation with other offshore safety 13 regulators in other jurisdictions in respect 14 of best practices, inspections and 15 investigations, calling for written 16 submissions, and informal or formal hearings, 17 as the Commissioner deems appropriate. Any 18 19 information gathered by the Commissioner during phase one of the Inquiry, which in his 20 view should be addressed by the C-NLOPB, or 21 22 any other regulatory agency with urgency, shall be brought to the attention of the C-23 NLOPB at a time and in a format the 24

12 recommended to be undertaken by the C-NLOPB, and how they should be implemented, and (b) which findings should result in actions being recommended to be undertaken by other legislative or regulatory agencies. The Commissioner may retain, and as needed, request the services of independent specialists whose functions shall be, and so on, the same wording with respect to phase one is applied with respect to phase two. The next heading is called "Participation by Parties with Professional and Commercial Interest". The Commissioner shall provide criteria for standing for those with professional and commercial interest in helicopter transport to the Newfoundland and Labrador offshore area. The Commissioner shall also provide procedures by which standing will be granted. Parties with standing shall provide the Commissioner with written submissions outlining the issues within the Inquiry mandate upon which such parties have an interest. The Commissioner may request from such parties further

Commissioner deems appropriate. To the extent

13

1

2

3

4

5

6

7

8

9 10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 2

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

submissions either by way of written reports or oral presentations. The Commissioner may provide for sessions in which evidence is presented to the Commissioner, and where appropriate, may allow for cross-examination of such evidence. The next heading is "Scheduling." The

Commissioner will provide notice of the detailed schedule and announce specific dates, locations and topics respecting the public sessions, if any, of the Inquiry. This notice will be issued a minimum of 30 days prior to the start of the sessions and shall identify the specific issues on which the information is being sought. The Commissioner will hold sessions at such locations within the Province of Newfoundland and Labrador and at such times as the Commissioner deems appropriate.

The next section is headed "Consultation by the Commissioner with the C-NLOPB." The Commissioner and the Secretariat, and that is really a word to define the Commissioner's support staff, so I'll say the Commissioner and the Commissioner's support staff, or both, may consult the Board for the purposes of

Page 13

Page 15

- necessary in consultation with the Board and 1 2 in accordance with Board policies and
- practices. The Commissioner may engage 3
- professional services (public relations, 4
- 5 technology, website) so as to the fulfil the
- mandate and effectively achieve the objectives 6
 - of the Inquiry. The Commissioner shall not
- 8 express any finding or recommendations
- regarding criminal or civil liability of any
- 10 person, body or organization.

11 COMMISSIONER:

- Q. Thank you, Mr. Roil. Ladies and gentlemen, 12
 - the registrar, Ms. Angela Williams, informs me
- 14 that it would be wise at the opening of the
- Inquiry for counsel to read--or to stand up 15
- 16 and announce their names and for whom they are
- acting and that then will become part of the 17
- record of the Inquiry, and I feel it's a wise 18
- 19 suggestion, and would ask you to do so now.
- Perhaps--well, we know Inquiry counsel. 20
- 21 Perhaps starting this way and going along
- 22 until everybody who is appearing identifies
- 23 themselves and says who their clients are.
- 24 MR. PRITCHARD:
 - Q. Good morning, Commissioner. Rolf Pritchard for

Page 14

- clarifying any matters in respect of the Terms
- of Reference of the Inquiry process and any
- 3 matters relating to the support for the
- Inquiry. The Commissioner may consult the 4
- 5 Board to provide information in relation to
- matters within the Inquiry mandate. The 6
- 7 Commissioner and the Commissioner's support
- 8 staff shall not consult the Board for the
- 9 purpose of discussing any substantive matters
 - respecting the purpose of the Inquiry and the
 - recommendations to be made.

Notwithstanding the above provision, the Commissioner shall bring to the attention of the Board matters that come to the Commissioner's attention during the Inquiry that are of an immediate nature relating to any safety issues within the jurisdiction of the Board.

And finally, paragraph ten, "Support for the Commissioner." The Board shall provide funding to the Commissioner so as to fulfil the mandate and effectively achieve the objectives of the Inquiry. The Commissioner shall occupy such space for offices and hearing rooms and employ such staff as may be 1 the Province of Newfoundland and Labrador.

2 MR TARLTON:

- Q. Good morning, Mr. Commissioner. Jonathan 3
- Tarlton for the Department of Transport 4
- Canada.
- 6 MR FREEMAN:
- 7 Q. And Mark Freeman acting for Transport Canada,
- 8 Mr. Commissioner.
- 9 MARSHALL, Q.C.
- 10 O. Mr. Commissioner, Steve Marshall, and with me 11
 - is Glen Roebothan and Jamie Martin. We
- 12 represent 14 of the passenger families from
- 13 Flight 491.
- 14 COMMISSIONER:
- 15 Q. Thank you.
- 16 MS. O'BRIEN:
- 17 Q. Good morning, Commissioner. Kate O'Brien
- 18 appearing on behalf of the deceased flight
- 19 crew.
- 20 MS. CROSBIE:

22

25

- 21 Q. Good morning, Amy Crosbie appearing on behalf
 - of the Canada Newfoundland and Labrador
- Offshore Petroleum Board and with me is a 23
- 24 representative of the C-NLOPB, Mr. John
 - Andrews.

Page 16

Page 17 Page 19 Fagan, but I'd like to talk to you first about 1 EARLE, O.C.: 1 2 Q. Good morning, Mr. Commissioner. Randell 2 the concepts which I have for the Inquiry and the work, something about the work that has Earle, for the Communications Energy and 3 3 Paperworkers Union, Local 2121, the bargaining been done in the last five months to put the 4 4 5 agent for employees on the Hibernia Platform 5 organization together, to put the premises and the FPSO, and with me this morning is together, to obtain expert witnesses and to 6 6 7 Lawrence Decker from the Terra Nova FPSO and deal, as counsel have done on a repeated 7 8 in the back of the room, Sheldon Peddle, the 8 basis, with the other counsel who are here 9 president of Local CEP 2121, who is a worker this morning. 9 10 on the Hibernia platform. 10 The Terms of Reference have been read, so everybody knows what the Inquiry is supposed 11 WHALEN, O.C.: 11 12 Q. Good morning, Mr. Commissioner. My name is to do. The public participation I will talk 12 13 Norman Whalen. I appear for Cougar and with about later, but for the moment, we're going 13 me is Mr. Hank Williams, senior operator, runs 14 14 to start with evidence from the Transportation--or first from the C-NLOPB, 15 the operation at St. John's. 15 16 MACDONALD, Q.C.: 16 which is the regulator, which will explain its role and that appeared to me from the very 17 Q. Mr. Commissioner, Alexander MacDonald and my 17 outset to be necessary because unless roles 18 partner, Stephanie Hickman, in the back of the 18 19 room, for Husky Oil Operations Limited, and 19 are clearly defined and people in these roles with me today is Mr. Paul McCloskey, the viceexplain what they're doing on a regular basis, 20 20 then we can't understand the overall of the 21 president East Coast operations of Husky, and 21 22 Mark Frost, the representative from the 22 interconnection between the work of this 23 23 Inquiry and these other entities. So the Cemployees of the company and Don Williams, the NLOPB will give evidence. health, safety, environment and quality 24 24 Then comes the Transportation Safety 25 manager. 25 Page 18 Page 20 Board and I have been mandated in the Terms of 1 MS. HOLLETT: 1 Q. Karen Hollett appearing for the Offshore 2 Reference to work closely with and liaise with 2 the Transportation Safety Board and I have 3 Safety and Survival Centre at the Marine 3 done so from the very outset before I even had Institute of Memorial University. 4 4 5 counsel or premises or anything else, and I 5 MR. BARNES: have found the Transportation Safety Board to 6 Q. Good morning, Paul Barnes. I'm a witness for 6 7 the Canadian Association of Petroleum 7 be extremely cooperative and we are clear 8 Producers. My counsel is not with me today, between us with our respective roles and they 8 have the expertise to do what they're doing, but his name is Lewis Manning. 9 namely in a detailed fine tooth inquiry into 10 STRICKLAND, O.C.: 10 11 Q. Good morning, Commissioner Wells. Cecily 11 what happened last March in the tragedy which occurred. The Inquiry would be not equipped 12 Strickland, counsel for Hibernia Management 12 13 and Development Company. With me today is co-13 with technical and professional personnel with these kinds of skills, so it is obviously in 14 counsel, Ian Wallace, and the president of 14 15 Hibernia, Mr. Paul Sacuta. their bailiwick, as it were, to do that kind 15 of work. But we will benefit, this Inquiry, 16 MR. MAHONEY: 16 17 Q. Good morning, Commissioner. Denis Mahoney for 17 from the work that they do because it will be factored into the deliberations and the 18 Suncor Energy. With me is Mr. Blair Pritchett 18 19 19 recommendations which, in the final stage of from our firm, acting for Suncor as well, and this report, will be made. 20 also to my left is Mr. Allan Brown, the vice-20 The other thing occurred to me as I 21 president of East Coast for Suncor. 21 22 thought more and more about this, the other 22 COMMISSIONER: thing that occurred to me to be necessary that 23 Q. No one else to be called upon. Thank you very 23 24 24 Transport Canada explain its role and I got in much. Well, I'll begin by talking to you, and 25 you will hear afterwards from Mr. Roil and Ms. 25 touch with them and they agreed that it was

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

respect of the Royal Australian Air Force when

The Air Force had a safety culture in

they felt was where the danger was. Their

valuable equipment and perhaps the more

include the people working on the floor who

repair and did what was necessary in that way.

So what happened was that the tanks of their

I presume the jets, needed cleaning out. The

become necessary to repair, and how did they

tanks in a very narrow space and clean the old

repair it? Well, people had to crawl into the

coating off and put a new coating on. Well,

they did this. They were provided with

aircraft or a certain type of their aircraft,

coating on the inside of the tanks, it had

looked after the equipment and kept it in

glamorous side of flying. But the safety

culture, it turned out in the end, did not

respect of its planes and its pilots. There

a serious unintended event occurred.

Page 23

Page 24

Page 21 appropriate that they should do so because they are the people whom, as most of us know, license pilots and they license aircraft for use in Canada and for the purposes which these helicopters were used in the Newfoundland and Labrador Canada offshore.

The other matter which I should mention to you, of course, is the DND, the Government of Canada search and rescue capability. I'm not allowed to examine or inquire into that and I will not, but at the same time, I felt it might be helpful to everyone involved if DND provided a statement of what they do, so that it will be available to everyone, Inquiry counsel and parties and also by making it available here, I make it available to the public. So I dealt only with military people in making this request as to whether they would be prepared to give a statement of what they do, not for me to inquire into it, but so that I and you will know exactly what they do, and they forwarded that statement to me very recently and it will be--we'll have it copied and distributed to the parties or to counsel and the parties who are here within the next

respiratory gear, but sometimes the space-often the space was so confined that they
couldn't use it and they would take it off.

couldn't use it and they would take it off.
They were given gloves, but the space was confined and the work was difficult and they

Page 22

two or three days.

So by doing that, and Transport Canada and the other entities that I have mentioned, we will have a grasp of the various roles and in the end, because I'm authorized to do so in Phase 2, all this will come together in recommendations which I may make or will make at the end of the Inquiry.

So now we're to the concepts which we will deal with. I would say that at the time that I was appointed, things like organizational culture were not known to me. I spent my working life in the Courts and in offices and organizational safety culture was really not part of my daily work over the vears. But since the Inquiry has started, I have read and I have talked and begin to understand that there is such a thing as a safety culture and that a safety culture is very important in dealing with safety matters broadly and in detail too also, and I'll give you an example of what I mean by safety culture, and the example I will take is an example that I have read as a result of a

would sometimes discard the gloves. This work went on for some months and gradually, it became noted that the individuals who performed this work were becoming very, very ill and it turned out, at the end of the day, that their health was severely compromised.

So there was an inquiry held in Australia when this whole thing came out and it determined that the culture of safety only extended to part of the operation. It didn't extend to the whole of the operation, and a report was issued which changed entirely the safety culture of the Royal Australian Air Force. It was interesting that before this happened, the person in charge of aircraft and pilot safety was a very high ranking officer, a wing commander. The person in charge of safety at the other end where the trouble occurred was a much, much lower ranking officer, in other words did not have the clout anyway of the higher, and they changed all that, so that safety throughout the organization became very, very important.

So we will look at the culture of safety, but fortunately, in the Newfoundland and

Page 21 - Page 24

public inquiry that was held in Australia in

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

19

20

21

22

23

24

25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

We will receive all that later. It's being

prepared now, the topics that were dealt with.

But at the top of their graphs was individual

human error as being a cause of accidents.

Then came organizational error, and then on

Page 27

Page 28

Page 25 Labrador Canada offshore petroleum industry, 1 2 we don't have to start from scratch. There is a good and sound safety culture in the 3 4 Newfoundland offshore industry and that is borne out by the accident figures which have 5 6 occurred which are much better, I am told, 7 than the norm for the offshore oil industry. So we don't start from scratch. We look, as 8 we're directed by the Terms of Reference, to 10 look for ways in which in respect to helicopters safety can be improved and perhaps 11 the culture can be improved. That is all part 12 of our mandate. But fortunately, we start 13 from a very good base, which has been 14 historical since the oil companies, starting 15 16 with the HMDC platform, began operations in 17 our offshore. 18

The other thing that I began to learn about, as I started the work of this Inquiry, is the risk management process. That was not something that I knew well, but I've read a lot in between the organizational process of setting up the Inquiry about risk management and risk management, one of the foremost people in risk management area has been

down the line to design errors and other lesser things in terms of contribution to accidents. So therefore, managing the risk of organizational accidents is something that we have to deal with, and as I say, fortunately, we deal with it from a good record in safety, but we will deal with that and we will hear expert evidence on that from a woman who has formed a company, has extensive experience in this field, and qualifies, I think, as a world expert, an Australian woman. The head office of the company, Aerosafe, is in Australia, but she has offices in China, in all sorts of countries, in Southeast Asia. She has done work in North America and particularly a very, very large project which she managed in terms of organizational safety recommendations which was the Helicopter Emergency Medical

Page 26

Professor James Reason of the UK and I'm looking at a book which I am working my way through now and it's called "Managing the Risks of Organizational Accidents." Now I should digress for a moment in talking about that.

Inquiry counsel and I, in the last month, it's about a month ago now, attended the International Helicopter Safety Symposium in Montreal. I think there were about countries represented at that symposium, and it was all about helicopter safety, and it became clear from what they said and told us and what we listened to that the helicopter industry, in terms of accidents, had remained flat three years ago, remained flat for years, and by remaining flat, it meant that the frequency of mishaps and accidents had not decreased. So the industry itself worldwide decided to do something about this and they formed this organization and we attended the meeting which was the third meeting which three years after the process began, and it's interesting to note, from their statistics,

helicopters and they got this lady to do that work, and I think that says something about her competence in the field and you will hear from her in due course.

Evacuations in the United States, and that,

these entities together operate more than 900

Again, coming back to culture and organizational things, I want to refer just in a word or two to the Piper Alpha disaster, because that was a huge tragedy which occurred around 1992 in the North Sea, and what happened there was that there were a lot of natural gas that was coming out of the North Sea and comes out of the North Sea, and a lot of it was funnelled through the Piper Alpha station, and pumped on and eventually pumped ashore, in Scotland I understand.

Anyway, there was a crew working on the auxiliary pump in a certain large pipe during the day and at 6:00--and they sought permission--they weren't finished, they had taken the pump out. They had sought permission to leave it until the next day when they started work again in the morning. They put a metal plate over the opening in the pipe and they went on about their business. The night shift found that the main pump had

because they had a huge amount of materials.

Page 31

Page 32

Page 29 ceased working. So they decided, well, we'll switch to the auxiliary pump, but what they didn't know was that the auxiliary pump wasn't there. So they turned the gas into the pipe in which the auxiliary pump was supposed to be. It wasn't there. The gas escaped in considerable volume and there was a gigantic explosion and then a series of explosions over a period of 22 minutes, after which the rig was destroyed and just slid into the sea.

In terms of the tragedy, I think some 75 or 80 people were rescued. The explosion blew down the walls between that working area and the living area and of course, the fire was intense and the people in the living area who were, some of--most of whom, I suppose, were asleep at the time, had only one choice. They couldn't get out any other way because of the fire, so those who survived broke out the windows of the rooms which they occupied and jumped into the sea. 182 people, I believe, lost their lives. That again brought the culture of safety to the fore, and Lord Cullen, a Scottish judge, held an inquiry which revolutionized the approach to safety in

factors involving accidents and industrial accidents, any accidents, on the highways, in the air, commercial aviation where great strides have been made, on trains and especially on the highways, and I read a study from the United Kingdom which described the relative dangers and it started with the trains were perhaps the safest mode of transportation. Commercial airliners were next in line. They were very safe. Helicopters and road accidents were very closely in the same bracket, with helicopter accidents being slightly greater, and the most dangerous interestingly, transportation activity was to be a pedestrian. So that we can reduce risks, but we cannot eliminate risks, and it's important, as I say, that can't be sugar coated. So we must proceed also on the basis that over the years, accidents of some kind will perhaps happen. We hope they will not.

That brings us to the other aspect of these things, which is survival training, rescue, all that goes with if an accident occurs and a helicopter goes down, how best

Page 30

the North Sea.

I'll leave that topic now and the topic of risk management, which you'll hear more about, and say this. It is, I think, quite clear in human affairs that although people like the International Helicopter Safety Association have the objective and believe that they can reduce worldwide the incidents of accidents and disasters, but accidents with helicopters, can reduce it by 80 percent from what it was three years ago. Already the graph shows, just in three years, a decline and they hope to reduce the frequency of accidents worldwide by 80 percent by 2016, and I think it's an excellent initiative, but it's important for us to recognize that in human events, nothing could be accomplished absolutely and definitively so that no accident will ever happen. So the risk management and safety cultures can reduce accidents and reduce them sharply, and we'll hear about these concepts, but I don't think, and I think we can't sugar coat this, I don't think it's possible to say that accidents can

can the risk then be attacked, because the safety features have obviously not prevented the accident, but how do we deal with the accident after it occurs. Now as we know, helicopters have a tendency, when they go down in water, to tip over because the weight of the engines and the rotor is on top and theynot always, and there are means to try to keep them upright, but they do tip over, so that when they sink, they sink very--usually, on their sides or completely upside down. That makes things very difficult, in terms of escape.

The other thing I want to talk about briefly, and Newfoundlanders, I suppose, like people in various parts of the world, are always talking about the weather, but our climate and weather make escape from a downed helicopter very difficult. There's discussion about whether the northern part of the North Sea may be more difficult or whether we here in Newfoundland and Labrador offshore are more difficult. Who knows? But we are among the most difficult, if not the most difficult, and of course, and we know why, but I will mention

be eliminated entirely. There are so many

Octo	ber 19, 2009 Mu	ılti-Page ^{TI}	Offshore Helicopter Safety Inquiry
	Page 3		Page 35
1	some factors.	1	making that possible. It was very, very
2	We know, of course, that climate is	2	interesting, not only the helicopter ride out
3	determined initially by ocean currents and by	3	and back, but I went thinking to come back the
4	things like the jet stream. Well, ocean	4	same day, on a Thursday. Well, the weather
5	currents bring the Labrador current, which is	5	became more difficult here in the St. John's
6	essentially ice water, down the coast of	6	area and I, along with other people, were in
7	Labrador and down the coast of Newfoundland	7	the boat of waiting to get back. Not in the
8	until it begins to peter out much further	8	boat, but on the platform waiting to get back,
9	south. What that does, as we know, is forces	9	and I experienced some of the frustration or
10	the Gulf stream to turn to the right, at least	10	wondering, "well when am I going to get back?"
11	from where I'm visualizing it, to turn towards	11	When I woke up on Saturday morning and looked
12	Europe. So that our water close in, and when	12	at the seas and gauged the wind in my own
13	I say close in, three or four hundred	13	mind, I thought "well, I'm here for Saturday
14	kilometres, is bitterly cold at all times of	14	also, so I'll talk to people and make the best
15	the year, whereas the climate in Europe is	15	of it," but the helicopters flew, to my
16	warmed by the Gulf stream, and I'm told that	16	surprise. There was no fog, but the winds
17	even 60 or 70 kilometres from the Hibernia	17	were high, but they operated, and when the
18	rig, you can encounter water which is 15 or 18	18	helicopter that picked me up and two others,
19	or even 20 degrees at times. But we don't get	19	it was coming from Sea Rose, landed, I was
20	that water, and that changes everything in our	20	outside the door watching and you talk about
21	offshore.	21	the skills that are involved in helicopters.
22	The other thing, of course, if you look	22	Helicopters are very complex machines.
23	at the Weather Channel, which happens to be a	23	Complex to design, complex to build, complex
24	hobby of mine, I wouldn't want you to think	24	to fly, and when that helicopter, in these
25	I'm strange, but I can watch the Weather	25	winds, which were high, approached that pad
	Page 3		Page 36
1	Channel at some length. If you'll notice, the	1	and set down on it, I thought myself, as a
1 2	low pressure systems come up from the coast.	2	layperson, what a marvellous piece of flying,
3	They come from central Canada. They come from	3	and it was. But these are the sort of things
4	the north, but they're picked up by the jet	4	we have to contend with.
5	stream which pulls them in and if you watch	5	Well, how do we contend with frigid
	these things, you'll note that the jet stream	6	waters, high winds, high seas? We contend
6			with them by training, and that leads me to
7	is very often over or in the vicinity of the island of Newfoundland. In summer, it may go	7 8	the subject of training, because, as I have
8			-
9	north. In winter, it may go south, but it affects our winds and our winds are very	9	said when interviewed by the media, I don't
10	•	10	think anybody who is untrained in survival
11	strong. Helicopters can operate in strong	11	should go on a helicopter out over these
12	winds. There is no question about that,	12	waters, and these are dangerous waters, to
13	although there is a point beyond which they	13	offshore installations, and the training is
14	would not be operating. But strong winds	14	done, for the most part, in Foxtrap by
15	bring high seas and that is something else we	15	Memorial University's offshoot, the Marine
16	have to contend with in our offshore.	16	Institute, and the training, we are going to
17	Speaking of winds and helicopters, I	17	look at. We're going to hear from experts in
18	should say to you that ten days ago, I went	18	training. We're going to hear what they do
19	offshore at my choice and request of HMDC to	19	out there. I experienced that and it was a
20	visit the Hibernia platform, and I noticed	20	very worthwhile experience because it will

22

23

24

25

help--and Ms. Fagan also did the training. It

will help us understand what people are

talking about in a way which we could not

understand if we hadn't experienced it. At

least that's how I see it, and the same with

when I heard when the people stood up that Mr.

Paul Sacuta is here. I had never met Mr. Paul

Sacuta, nor seen him, until now, but he made

and I express my thanks to him and to HMDC for

it possible for me to take that trip offshore

21

22

23

24

Octo	ber 19, 2009	Multi-Page ^{TI}	M Offshore Helicopter Safety Inquiry
	P	Page 37	Page 39
1	the helicopter ride.		very, very great interest, as great as anybody
2	The interesting thing, everyone who has	2	sitting in the room probably, in helicopter
3	dealings offshore gets offshore on these	3	safety, because there are children in school
4	helicopters. We have the workers, the Union	4	now, perhaps people, children not even born
5	members. We have senior management. We have	ve 5	yet, who will go offshore and make careers in
6	professionals in one way or another,	6	an industry which provides a very good living,
7	geologists, all sorts of people, and you know,	7	which is important to Newfoundland and
8	when you go offshore by helicopter, there are	8	Labrador, which provides a huge amount of
9	no distinctions. In the survival suit,	9	revenue, relative to our size and population,
10	everybody looks the same and everybody watche	es 10	to the Government of Newfoundland and Labrador
11	the video and everybody goes single file out	11	and to Canada. So it is important, the
12	along a defined track, led by somebody else,	12	industry, and it's important to the province
13	and onto the helicopter, and you're belted in	13	and to the country, both as a source of
14	and the noise is fairly loud and you have ear	14	revenue and as a source of jobs.
15	protection. It's not a flight in which you	15	If we can, by helping the industry, by
16	can sit and chat. It's not that way, and	16	making recommendations, and this is a
17	there are no distinctions, and the level of	17	collaborative effort, it's not an adversarial
18	safety is the same for everyone, no matter	18	effort we are engaged here. If in this
19	what they're going out there for.	19	collaborative effort, we can come up with
20	So we're going to examine carefully	20	measures which will improve safety and bring
21	evacuation matters and everything that goes	21	down the likelihood of an accident or
22	with it and escape from helicopters and we're	22	accidents, we will be doing a tremendous
23	going to have people who are world class	23	service to the industry and to the population
24	experts and we're going to have people who are	24	of Newfoundland and Labrador and perhaps to
25	experts here in Newfoundland and Labrador and	25	the wider country, and that is what makes this
	F	Page 38	Page 40
1	who are going to be able to also contribute to) 1	so important and that is why I will always,
2	this, but we're going to go further and have	2	during the course of the Inquiry, be aware
3	independent, completely independent peop	ole 3	that not only there are people in the room who
4	talk about survival and escape and matters of	f 4	are listening to us, but there are people
5	that sort. So I'll leave that subject now.	5	outside the room who are listening to us,
6	I'll turn finally to the public. This is	6	people who have a very real interest in what
7	a public inquiry and that, ever since I was	7	we're doing.
8	asked to do this, has never been far from my	8	So I don't think I'll go on any longer.
9	mind. Well, who is the public? There is a	9	These are the concepts which are important to
10	wider public generally, and I believe that the	10	me, and after the five and a half months of
11	wider public has an interest in this Inquiry,	11	preparation which leads us here today, I am
12	but I also am sure that the families of	12	very pleased and very happy to see this
13	deceased persons, that the families of those	13	Inquiry start the formal hearing process. So
14	who work offshore, that the people themselv	res 14	I don't know if we want to break. Usually we
15	who go offshore by helicopter, and their	15	intend, and we've told everybody we'll take a
16	extended families and friends, and that's a	16	break mid morning. It's now about half past
17	large number of people in a province with a		ten. What do you think, Mr. Roil?
18	small population, a large number of people	e 18 ROIL	L, Q.C.:

21

22

23

24

25

Q. Yeah.

20 COMMISSIONER:

Q. All right. We'll take a 15-minute break and

evidence at the Inquiry. Thank you.

then come back and you'll hear from Mr. Roil

and from Ms. Fagan as to the more detailed

progress and witnesses that will be presenting

have a very, very substantial and direct

interest in this matter. So when we speak to

you, counsel and I, about various things, we

interest, watching on Rogers Cable TV

television broadcast, these people have a

know that you in the room know most of this,

but the people who are watching, who have an

19

20

21 22

23

24

Multi-Page TM October 19, 2009 Offshore Helicopter Safety Inquiry Page 41 Page 43 comparing our processes to those of other 1 (BREAK) 2 COMMISSIONER: 2 models, I caution everybody to remember that the mandate drives the process. o. Mr. Roil. 3 3 4 ROIL, Q.C.: So we are, as we understand it, to look 4 Q. Thank you, Commissioner. Anne and I have into the subject matter of helicopter 5 5 divided up--Anne Fagan and I have divided up transportation and look at it thoroughly and 6 6 7 the two issues that we want to speak to you systematically and not to necessarily look at 7 and more, perhaps, focus the public this every piece of paper that has been exchanged 8 8 morning into two areas. I'll talk about the over the past five or ten or more years. We 9 10 processes and the details of how we're going 10 are to look at the current operational regime to do things. Anne will speak more, in a more for helicopter transportation and the current 11 11 detailed way, about the actual evidence and regime for the retrieval of personnel if, as 12 12 information that's going to come out in the 13 you say, the worst case scenario happens and a 13 early part of this Inquiry. helicopter lands on the water, to see where 14 14 the opportunities for improvement exist and to 15 COMMISSIONER: 15 16 Q. Before you go on, Mr. Roil, on a practical 16 try to capitalize on those, and so our matter. Can everybody hear down at the back? objective or our purpose is not to criticize 17 17 Can you hear well? All right then, thank you. the current system, but rather to learn from 18 18 where the current system is. 19 ROIL, O.C.: 19 Q. I understand I have to stand facing forward to With that in mind, we went forward and 20 20 record into the microphone, so I'll try to developed the processes that I'll tell you 21 21 speak slowly and as clearly as I can. Mr. 22 22 about today, the processes that you have 23 Commissioner, as you know, one of the early endorsed, as the Commissioner for this 23 challenges that we had when we were confronted 24 24 with the Terms of Reference that I read The Terms of Reference, which I read out 25 25 Page 42 Page 44 earlier this morning was to interpret those earlier, you will recall include the ability 1 1 2 and to come up with actual practical steps 2 to have public hearings, written submissions, 3 that would take us from beginning to end. One interviews, research studies, consultations, 3 of the first conclusions that we made, as you inspections and investigations. It is a large 4 4 5 and I and Anne Fagan worked collaboratively 5 tool kit that is available to you and we together, was that the mandate was very intend to use most, if not all of them. As 6 6 positive in its focus. Although it arises out 7 7 Commissioner, you are also entitled to retain of a very tragic incident, we are to seek and rely upon the advise of experts and 8 8 9 improvements. We are to look for something consultants, and we've already retained a 9 good to make the transportation by helicopter number and one you spoke about earlier, and I 10 10 will speak about a little more in the course 11 more safe and not to focus on what went wrong 11 12 with the March 12 flight. of my comments here this morning. 12 As you know, when you and Anne and I went But underlying the entire process was a 13 13 to the Transportation Safety Board in Ottawa, fundamental principle of transparency that 14 14 we were impressed with the kind of technology you, as Commissioner, quite correctly dictated 15 15 and the expertise of the people that they from the outset. The public and all the 16 16

17

18

19

20

21

22

23

24

25

have, and quite clearly, our Inquiry would not and should not and cannot get into those technical things. So we quickly concluded that this Inquiry

is really not forensic in scope. Unlike some of the more well-known inquiries in Newfoundland in recent years, we're not out to perform like a Court of law and we aren't out to find out what went wrong. So when

stakeholders should be given a fair opportunity to be engaged and to understand and be involved and informed at all phases of this Inquiry. In one interview, I believe you used the expression, Mr. Commissioner, nobody will be blindsided, and I think that you used that with obviously some thought given to it. The object here is not to have surprises. The object is to understand and to bring everybody

17

18

19

20

21

22

23

24

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Page 45

1

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Page 47

Page 48

along with us so that everybody understands where the opportunities for improvement exist. We will engage as many stakeholders as we possibly can in the pursuit of those opportunities for improvement.

In the Terms of Reference, there are two distinct phases. Phase 1, which deals with the general improvement in offshore safety overall and then Phase 2, which deals with responding to the Transportation Safety Board report. But the Terms of Reference say what you can do. They don't tell you exactly how to do it, and so working with both of us, you have come up with the following phases and details of the phases that I think everybody should understand from the outset.

First of all, in Phase 1, we have divided it into an A, B, and C. There are three internal phases. 1A is the public hearings phase, which we are involved in this morning. It starts today and it will continue, with obviously breaks from time to time, until it is completed, and how long that takes will depend on the amount of evidence, depend on the amount of information, the number of

large podium section here, and we've had another safety moment on that unfortunately. The corner here has now been highlighted in orange, or in green, because a number of people have unfortunately tripped over it. This is set up to allow more than one person to give evidence in a panel type process. We will have PowerPoint presentations. We will have slides. We'll have all sorts of things. Anne will speak about them. We're using modern technology to bring this information forward in as informative a way as is possible.

But taking information without an understanding of its impact on safety is really not useful, and so to give structure and purpose to this information, as you have already said, we've chosen to adopt a risk management approach to this assignment. As you have said, all human activity involves some risk. You cannot get up and go to work in the morning without the risk of doing some harm to yourself. But to improve safety, the risks inherent in an activity must be assessed, measured and minimized, and it is,

Page 46

as you have said, clear that travelling in the offshore of Newfoundland is an activity which does bring with it some significant risks because of weather and the like.

One of the consultants that you have already mentioned that we have retained is the company known as Aerosafe Risk Management. For those who wish to access the website for that company, it is www.aerosafe, one word lower case, .com.au. The .au is because it's an Australian company and the domain is registered initially there. Kimberly Turner, who is the CEO of that company, will come forward in early November and explain to us the process and the information necessary to develop a risk profile for the helicopter transportation industry for offshore Newfoundland. Kimberly's company, as you have said, has developed a significant expertise in this area and has been recognized by the helicopter industry as being a company with a skill that is worthy of utilizing in the

appropriate circumstances, and the Health

Emergency Services industry in the USA is her

most recent assignment. She has worked for

questions that come from people here, and the number of issues that we encounter as we go along the path. At the end of the process, the concept or the idea is that we will look for issues for possible improvement or change, and those ideas or those issues can be identified by anyone of: you, yourself, Mr. Commissioner; Anne and I, as Inquiry counsel; the parties with standing who are before you; the presenters who will come forward during the hearing; or, in fact, a member of the general public. You have--as is well known, you have invited the general public to write to you and to indicate to you issues of concern for them.

In this first hearing process, we will bring forward evidence, and I hate to use that word because it is a lawyer word, we will bring forward information, and Anne Fagan will, in her presentation this morning, outline some of the information and evidence that we intend to bring forward over the next number of months. But because this is not a trial, we have available different technology and tools that are available. You will see a

Page 49

Page 51

other aviation providers all over the world.

The risk profile will help us establish where the greater risks lie, where our focus should be and where better opportunities exist for improvement. So as we go through this, the issues will be identified and tabled for further investigation in Phases 1B or 1C, or and 1C. But they will not be extensively argued or debated at this time. And again, this is perhaps where we may differ from some other inquiries. When we get to a threshold level and we say that is worthy of investigation further, we will stop talking about it. We will table it and we'll move it into part 1B.

The whole process here is what is known, I guess, as a lessons learned exercise. We are not looking at what we are currently doing to criticize those who have done it, if it isn't perfect, but what lessons can we learn to make it better.

At the end of Phase 1A, there will be a series of issues and you will have a draft issues list, which you will have to look at and decide where the priorities and the

Page 50

opportunities lie best. You have said that you will engage the parties in a discussion on them and a ranking of them, but at the end of the day, it is clear that you accept, as you must, the responsibility to decide what are the issues that you are going forward to investigate further on.

Phase 1B is what we have called the investigative phase. This will follow immediately after Phase 1 and will involve another period of months, possibly three or four months. The timing of that will depend obviously on the number of issues and on the availability of personnel to investigate them worldwide. Once the issues are moved into Phase 1B, you will and we will rely on the information that is already presented in the earlier phase. We may have some more of our own investigations, which we will continue through our consultants. We may speak with consultants and with parties, with stakeholders that are not even before us today. All of this is to assist in finding solutions to improve safety that are, and once again, Mr. Chairman, I adopt your words, which are both sensible and achievable. It is no point in us coming up with concepts that don't have a chance to work in the real world. We have to find sensible and achievable opportunities.

The parties with standing who are here before us and other stakeholders with whom we may become involved will be aware of the consultants that we are talking to, what methodology is being used and they'll have an opportunity to work with us. They'll even have an opportunity to suggest other resources, if we haven't located them ourselves, other resources who may be able to help us to get to the best possible future scenarios.

So at the end of Phase 1B, we will have a series of possible recommendations for improvement which will then become the subject of more public examination and discussion as we move into Phase 3. So while some of this work may be done in private by us and our consultants, nothing learned will be relied upon without full disclosure to the parties and the stakeholders.

Page 52

Finally, as we move into Phase 1C, this is the response to the investigative phase, and this will probably just take a shorter period of time, perhaps one or two months maximum. We will provide to the parties and to the general public all consultants' reports that are being relied upon and all possible solutions that were gathered in Phase B. We will then resume some form of public hearings. They may take place in a format like this or you may decide that an open forum in an auditorium somewhere with a panel of people at the front talking about it, that may be the technology and the approach that we use. Those exact processes we will determine, depending on the kinds of information that we have and the best way to make it open to disclose to and challenged by the parties.

The fact is that, as you have said, all of these things must bear scrutiny from the parties, from the public and from us within the Inquiry.

And finally, at the very end of the Phase 1, all of the parties of standing who are here before us will have an opportunity to make a

2

3

4

Page 53

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Page 55

final submission to you, probably in a format very much like this.

You then, Mr. Commissioner, have to decide on those recommendations which you believe best advance worker safety in helicopter transportation in our offshore area, and which of those opportunities are the most sensible and achievable.

Phase 2 is then our opportunity to respond to and deal with the Transportation Safety Board report, and of course, the timing of that report is something over which we here in this Inquiry have no real control. If the Transportation Safety Board has remitted or submitted its report before the end of Phase 1, then obviously we will have to determine-you will have to determine, sir, what additional public consultations appropriate on that. But if that report does not come down prior to your report going into the C-NLOPB, then obviously this Inquiry will have to adjourn until that report comes down. Once it comes down, then we'll resume activity and you will determine the processes that are necessary for you to make recommendations on much to you as to the public and to other who are in the room who may not have heard about

this before, and now Ms. Fagan will provide a synopsis of evidence that we intend to bring

forward during Phase One A. 5

6 COMMISSIONER:

Q. Thank you, Mr. Roil. Ms. Fagan.

8 MS. FAGAN:

Q. Well, I've been asked to summarize the 10 evidence that the Inquiry will hear in Phase One A. Phase One A is the data collection 11 phase. This phase is to describe the current 12 situation for helicopter transportation of 13 workers to the offshore of Newfoundland and 14 Labrador. The first evidence will be from the 15 16 regulators. We will start with the Canadian Newfoundland and Labrador Offshore Petroleum 17 Board. It's referred to guite often as C-18 NLOPB. Then we'll hear from Transport Canada, 19 and finally rounding out the regulators will 20 be the Transportation Safety Board. The 21 Canada Newfoundland and Labrador Offshore 22 Petroleum Board regulates the offshore oil 23 industry in Newfoundland and Labrador. The 24 Board was created by the Federal Government of 25

Page 54

2

3

11

12

13

14

15

16

19

20

24

25

that report.

So that is the process that we have developed in conjunction with you, Mr. Commissioner. Inquiry counsel are excited about the opportunity to work with you on this important challenge. Improving safety in offshore transportation is vital to the growth of that industry in this province and we do want the industry to grow. Restoring some degree of confidence in the workers is an also important part of what will come out of this Inquiry process, I sincerely hope.

And finally, as you have said earlier, Anne Fagan and I are Inquiry counsel. We are here to assist you to bring information forward and to represent the public interest, but we're not here as a prosecutor, but neither are we here to advance the private interests of any one party or any company or any entity that's already here. Our role is to help you, Mr. Commissioner, find the best opportunities to make improvements in helicopter safety. Thank you, Mr. Commissioner, for the

opportunity to explain the processes, not so

Page 56 Canada, and the Provincial Government of 1

Newfoundland and Labrador, pursuant to the

Accords Implementation Act. Nova Scotia has a

similar board. Representatives from the C-4 5

NLOPB will explain how legislation,

regulation, and the Board's own guidelines 6

help them oversee the offshore oil industry 7

for Newfoundland and Labrador. The C-NLOPB 8

will provide an explanation of the 9

authorizations given to oil operators and the 10

safety plans that all oil operators must have

in place for the entire offshore operation,

and the Board's representatives will then

focus on how these safety plans apply to

helicopter transportation of workers. The C-

NLOPB will also explain how it monitors the

oil operators and the helicopter operator to 17

ensure they are in compliance with the safety 18

plans. Once we have heard from the C-NLOPB,

we will hear from Transport Canada. Transport

Canada certifies the helicopter, it certifies 21

the helicopter operator, and the dispatch 22

system used. Transport Canada also licenses 23

pilots, maintenance engineers, and the

dispatchers. We will hear from Michael

Octob	er 19, 2009 Mu	ti-Page	Offshore Helicopter Safety Inquiry
	Page 5	7	Page 59
1	Stephenson, the Regional Director General for	1	Board's facilities, professionals, and
2	Transport Canada on Transport Canada's	2	investigation procedures. The Chair will also
3	mandate, legislation, and regulations. Mr.	3	explain who else is involved in a TSB
4	Stephenson will explain how helicopters like	4	investigation and why they are involved, and
5	the Sikorsky S-92A are certified. The	5	the role that those other parties have in the
6	coordination between the manufacturing	6	investigation. Madam Tadrose will explain the
7	country, such as the United States, and	7	Transportation Safety Board's safety
8	Canada, where the helicopter is used. The	8	communications and solutions. She will also
9	Regional Director for Transport Canada will	9	suggest what TSB recommendations the Inquiry
10	also explain the rules that apply to	10	could consider. The Transportation Safety
11	helicopter operators, such as Cougar. He will	11	Board has not completed its investigation into
12	also explain the procedures and safety plans	12	the Cougar Flight 491 accident, and,
13	that helicopter operators must have to obtain	13	therefore, the Chair of the Transportation
14	an air operators certificate. Commercial	14	Safety Board will only speak in general terms
15	aircraft are required to be maintained by a	15	about the facts that the Safety Board has
16	Transport Canada approved maintenance	16	published to date on the accident. As you
17	organization. This will be explained, along	17	have heard, the Inquiry will consider the
18	with the audit and inspection processes of	18	Transportation Safety Board's recommendations
19	Transport Canada for helicopter operators.	19	on Cougar Flight 491 accident after the TSB
20	Transport Canada also licenses pilots,	20	issues its report on the accident. We will
21	maintenance engineers, and dispatchers. The	21	also receive a written submission from the
22	Regional Director will explain the different	22	Government of Newfoundland and Labrador on the
23	types of licences for pilots. He will explain	23	legislative framework of the offshore oil and
24	the differences between a private, a	24	gas industry in Newfoundland. In addition, as
25	commercial, and an airline transport pilot	25	you've already stated, Commissioner, the
	Page 5	8	Page 60
1	licence. Transport Canada will then describe	1	Inquiry will have a written submission from
2	the requirements to become an engineer that	2	the Department of National Defence on search
3	maintains helicopters. The Regional Director	3	and rescue. The Department of National
4	will also provide a description of the	4	Defence in its written statement will describe
5	procedure to dispatch an aircraft in	5	search and rescue being provided by the
6	controlled air space, such as the airport at	6	Department of National Defence generally to
7	Torbay, and what is necessary for the	7	Newfoundland and Labrador, and in particular,
8	certification of a dispatch system being used	8	it will focus on what is provided to the
9	by helicopter operators such as Cougar to	9	offshore of Newfoundland and Labrador oil
10	dispatch helicopters to the offshore oil	10	facilities. As Mr. Roil has described,
11	facilities in Newfoundland and Labrador. Once	11	Kimberly Turner is an expert that the Inquiry
12	we have heard from Transport Canada, we will	12	has retained, and once we have completed the
13	have a presentation from the Transportation	13	submissions from the regulators, she will make
14	Safety Board. The Transportation Safety Board	14	a presentation on the information that the
15	is often referred to as the TSB. The Chair of	15	Inquiry should consider in establishing a risk
16	the Transportation Safety Board is Wendy	16	profile, and what stakeholders should be
17	Tadrose, and she will make a presentation on	17	involved in the risk profile. The next
18	the Transportation Safety Board. Madam	18	witness after Kimberly Turner will be Robert
19	Tadrose will describe the role of the TSB and	19	Decker. Robert Decker is the sole survivor of
20	describe its ability to influence safety. She	20	Flight 491 which crashed 30 nautical miles
21	will provide us with an overview of the	21	east of St. John's on March 12th, 2009,
22	Transportation Safety Board's independent	22	killing seventeen of the eighteen people on
23	accident investigation process. She will	23	board. Mr. Decker will explain his job as a
24	provide the Inquiry with a video which will be	24	weather observer on the Hibernia Platform, and
25	shown to show the Transportation Safety	25	his experience as an offshore worker. He will
	Transportation burley	1	Dece 57 Dece 60

Octo	ober 19, 2009 M	Iulti-Page™	M Offshore Helicopter Safety Inquiry
	Page	e 61	Page 63
1	also describe March 12th, 2009. He will	1	of offshore workers to ensure best industry
2	describe the weather, the check in for the	2	practices are being followed. It has also
3	flight, the donning of the suits, the	3	recently developed an Escape Evacuation and
4	preparation briefing, and the boarding of the	4	Rescue Guide for the offshore oil facilities,
5	helicopter and flight out. He will describe	5	which includes using helicopter transport as
6	the flight back towards land, the crash of the	6	an escape. Finally, CAPP is also involved in
7	helicopter into the ocean, his escape and	7	a UK Oil and Gas Helicopter Task Force. This
8	ascent to the surface. Mr. Decker will	8	task force was established after a helicopter
9	explain how the cold water affected his	9	crashed off Scotland on April 1st, 2009,
10	ability to access features of the survival	10	killing all sixteen people on board. CAPP will
11	suit, such as the gloves, face hood, and	11	provide the industry in Newfoundland and
12	floatation collar. Mr. Decker will explain	12	Labrador and this Inquiry with information
13	the rescue by Cougar Search and Rescue	13	obtained by the UK Task Force on improving
14	helicopter, and we will hear about his injury	14	helicopter safety for the offshore workers
15	and recuperation. Mr. Decker is still	15	travelling by helicopter to the oil platforms
16	recovering, and although this will be	16	in the UK. Once CAPP is finished its
17	difficult for him, he believes it's important	17	presentation, the Inquiry will have a
18	to provide the Inquiry and the public,	18	submission from Helley Hansen. Helley Hansen
19	especially the families, with this	19	Canada Limited is a large international
20	information. Mr. Decker has asked that his	20	company that manufactures the suits that are
21	privacy be respected and he does not wish to	21	currently being worn by the passengers on the
22	be interviewed by the media. Once the Inquiry	22	helicopters that are travelling to the
23	has had the information from Mr. Decker, it	23	offshore of Newfoundland and Labrador. Mark
24	will then receive a submission from CAPP.	24	Collins, the Operation Manager for Helley
25	CAPP stands for the Canadian Association of	25	Hansen Canada, will describe Helley Hansen's
	Page	e 62	Page 64
1	Petroleum Producers. CAPP represents 130	1	experience and expertise in the manufacture of
2	companies whose activities focus on	2	survival type clothing. He will also explain
3	exploration, development, and production of	3	the survival suits that are currently being
4	crude oil and natural gas in Canada. CAPP	4	worn by the passengers travelling offshore by
5	member companies produce about 90 percent of	of 5	helicopter, and how they have to meet a dual
6	Canada's natural gas and crude oil. Mr. Paul	6	standard; the flight standard which is

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Canada's natural gas and crude oil. Mr. Paul 7 Barnes, the Manager for Atlantic Canada 8 division of CAPP, will provide the Inquiry 9 with a description of the Canadian Association of Petroleum Producers, and its initiatives 10 11 and involvement in helicopter safety for the 12 offshore oil workers in the Atlantic Region. 13 CAPP has been involved in a review of the standards for the survival suits worn by 14 15 workers travelling offshore by helicopter, and it has coordinated the development of a new 16 17 leakage testing protocol for the suits. CAPP has also been involved in the implementation 18 19 and training of the underwater emergency breathing apparatus for helicopter transit. 20 21 This breathing device is now attached to all 22 suits being worn by workers travelling by 23 helicopter to the oil facilities offshore 24 Newfoundland and Labrador. CAPP also conducts

standard; the flight standard which is required for Transportation, and the marine immersion standard which is required for emergency use on board the offshore facilities. Helley Hansen will bring in one of the survival suits to help explain and demonstrate how they suit meets the dual standard and this will help show the features of those suits. Mr. Collins will also explain how these specifications of having to have a dual standard impact design and performance of their survival suits. Mr. Collins will address some of the problems identified by the workers, such as the sizing, comfort, leakage, and wearing practices on transit, such as having the zippers down. Once we have heard from Helley Hansen who provides the suits for the workers, we will hear from the Training Institute that trains 90 percent of the workers. The Offshore Safety and Survival

quality reviews of the basic survival training

	D		5 (5
	Page 65		Page 67
1	Centre, which is a part of the Fisheries and	1	Safety and Survival Centre, there will be time
2	Marine Institute of Memorial University, will	2	for other presenters. When we have completed
3	make a presentation. The Offshore Safety and	3	this presentation, other presenters who have
4	Survival Centre offers a comprehensive range	4	indicated that they wish to make presentations
5	of courses in safety and emergency response	5	will be heard. Some of those presenters are
6	training for a number of industries. The	6	Lorraine Michael, Bill Parsons, and Jack
7	Centre provides training not only to the	7	Harris, who will all speak on helicopter
8	offshore petroleum industry, but also in	8	transportation issues and what issues they
9	marine transportation, the fishing, and other	9	would like the Inquiry to consider. Other
10	land based industries. The Centre has a	10	presenters may also wish to speak at this
11	particular expertise in training for operation	11	time, and presenters and individuals may come
12	in cold and harsh environments, and for this	12	forward as the Inquiry unfolds. The Inquiry
13	reason provides training to the workers on the	13	will then break for Christmas and after the
14	offshore oil facilities off the coast of	14	Christmas break, we will hear from the oil
15	Newfoundland and Labrador. The Offshore	15	operators, Cougar Helicopters, Communications
16	Safety and Survival Centre has also provided	16	Energy and Paperworkers Union, Local 2121, and
17	services to offshore petroleum projects in	17	any of the families of the deceased passengers
18	other cold environment locations, such as the	18	and crew of Flight 491 who wish to speak. We
19	Sakhalin Island off Russia, and the North	19	will first start with the offshore oil
20	Caspian Sea in Russia. The Inquiry will hear	20	operators. The offshore oil operators must
21	from Bob Rutherford, who is the Director of	21	obtain an authorization from the Canada
22	the Offshore Safety and Survival Centre, and	22	Newfoundland and Labrador Offshore Petroleum
23	from one of the Centre's trainers. Mr.	23	Board before working offshore Newfoundland and
24	Rutherford will describe the training facility	24	Labrador. Over the years different companies
25	and the training practices in other areas of	25	have worked in this industry, and new
	Page 66		Page 68
1	Page 66 the world. One of the Centre's trainers will	1	Page 68 companies will appear in the future. For
1 2	· · · · · · · · · · · · · · · · · · ·		_
	the world. One of the Centre's trainers will	1	companies will appear in the future. For
2	the world. One of the Centre's trainers will provide detail on the training program for the	1 2	companies will appear in the future. For efficiency, we have chosen to examine three
2 3	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the	1 2 3	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives
2 3 4	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and	1 2 3 4	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil
2 3 4 5	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at	1 2 3 4 5	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and
2 3 4 5 6	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank,	1 2 3 4 5 6	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and
2 3 4 5 6 7	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape	1 2 3 4 5 6 7	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be
2 3 4 5 6 7 8	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and	1 2 3 4 5 6 7 8	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil
2 3 4 5 6 7 8 9	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts,	1 2 3 4 5 6 7 8	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of
2 3 4 5 6 7 8 9	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment.	1 2 3 4 5 6 7 8 9	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of
2 3 4 5 6 7 8 9 10	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts,	1 2 3 4 5 6 7 8 9 10	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is
2 3 4 5 6 7 8 9 10 11 12	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains	1 2 3 4 5 6 7 8 9 10 11 12	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity
2 3 4 5 6 7 8 9 10 11 12 13	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that	1 2 3 4 5 6 7 8 9 10 11 12 13	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250
2 3 4 5 6 7 8 9 10 11 12 13 14	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by	1 2 3 4 5 6 7 8 9 10 11 12 13	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees
2 3 4 5 6 7 8 9 10 11 12 13 14 15	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes	1 2 3 4 5 6 7 8 9 10 11 12 13 14	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers and others, but as you have said, all workers
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes instruction on the equipment that I just	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes instruction on the equipment that I just described, and the recently introduced	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers and others, but as you have said, all workers are normally transported to and from the
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes instruction on the equipment that I just described, and the recently introduced helicopter underwater escape breathing	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers and others, but as you have said, all workers are normally transported to and from the platform by helicopter originating from St. John's. So whether they're an employee or a
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes instruction on the equipment that I just described, and the recently introduced helicopter underwater escape breathing apparatus. The presentation by the Offshore Safety and Survival Centre will include a	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers and others, but as you have said, all workers are normally transported to and from the platform by helicopter originating from St. John's. So whether they're an employee or a contract service provider, or a consultation,
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes instruction on the equipment that I just described, and the recently introduced helicopter underwater escape breathing apparatus. The presentation by the Offshore Safety and Survival Centre will include a video showing its facilities and training.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers and others, but as you have said, all workers are normally transported to and from the platform by helicopter originating from St. John's. So whether they're an employee or a contract service provider, or a consultation, or professional, they are all transported by
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes instruction on the equipment that I just described, and the recently introduced helicopter underwater escape breathing apparatus. The presentation by the Offshore Safety and Survival Centre will include a video showing its facilities and training. They will also bring into the Inquiry the	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers and others, but as you have said, all workers are normally transported to and from the platform by helicopter originating from St. John's. So whether they're an employee or a contract service provider, or a consultation,
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes instruction on the equipment that I just described, and the recently introduced helicopter underwater escape breathing apparatus. The presentation by the Offshore Safety and Survival Centre will include a video showing its facilities and training. They will also bring into the Inquiry the helicopter underwater escape breathing	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers and others, but as you have said, all workers are normally transported to and from the platform by helicopter originating from St. John's. So whether they're an employee or a contract service provider, or a consultation, or professional, they are all transported by helicopter the same way. Once we have heard from HMDC, the next will be Suncor. Suncor
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	the world. One of the Centre's trainers will provide detail on the training program for the workers travelling by helicopter to the offshore facilities off Newfoundland and Labrador. The Centre's training facility at Foxtrap includes a large survival tank, complete with a Helicopter Underwater Escape Trainer, a HUET, and various marine and offshore evacuation devices, as well as a helicopter fire simulator, and rescue crafts, and a large inventory of training equipment. The Offshore Safety and Survival Centre trains approximately 90 percent of the workers that travel offshore to the oil facilities by helicopter. This training includes instruction on the equipment that I just described, and the recently introduced helicopter underwater escape breathing apparatus. The presentation by the Offshore Safety and Survival Centre will include a video showing its facilities and training. They will also bring into the Inquiry the	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	companies will appear in the future. For efficiency, we have chosen to examine three current and large entities as representatives of the Newfoundland and Labrador offshore oil industry. These are Hibernia Management and Development Company, HMDC; Suncor Energy, and Husky Energy. The first presentation will be from HMDC. HMDC was the first to produce oil offshore Newfoundland starting in November of 1997 from the Hibernia Oil Field which is located about 315 kilometres east southeast of St. John's. HMDC operates a large gravity based structure, housing between 200 and 250 personnel. These workers are HMDC employees and employees of contracted service providers and others, but as you have said, all workers are normally transported to and from the platform by helicopter originating from St. John's. So whether they're an employee or a contract service provider, or a consultation, or professional, they are all transported by helicopter the same way. Once we have heard

		- ugc	Offshore Hencopter Surety Inquity
	Page 69		Page 71
1	Suncor operates a floating production storage	1	will also hear how the oil operators
2	and offloading vessel. You will often hear	2	coordinated an effort called "Helicopter
3	the term "FPSO". The FPSO operated by Suncor	3	Operations Task Force" to review many aspects
4	Energy is the Terra Nova, and the Terra Nova	4	of helicopter safety before flights resumed
5	operates on the Terra Nova Oil Field. First	5	after the Flight 491 tragedy on March 12th.
6	oil was in January of 2002, and the Terra Nova	6	Each company will also present through a
7	FPSO accommodates approximately 120 people.	7	company panel on how their particular
8	Suncor also conducts exploration work within	8	operation is unique and their individual
9	the Newfoundland and Labrador offshore area	9	approach to safety plans, safety management,
10	using the Henry Goodridge. The Henry	10	and operational issues. Once the oil
11	Goodridge is a mobile offshore drilling unit.	11	operators have made their presentations, we
12	These floating platforms are different	12	will hear from Cougar Helicopters. Cougar
13	facilities than HMDC's gravity based	13	Helicopters is the company that the oil
14	structure, and Suncor's operations, plans, and	14	operators have contracted with to transport
15	procedures are different. However, like HMDC	15	their workers to the offshore oil facilities
16	personnel, workers on the Terra Nova and the	16	off Newfoundland and Labrador. Cougar has been
17	Henry Goodridge are also transported to these	17	providing helicopter services to the offshore
18	facilities by helicopter using approximately	18	oil and gas sector since 1989, starting in
19	five scheduled flights per week. Husky, the	19	Nova Scotia. In 1997, Cougar set up its
20	final oil operator to present on its	20	operation in St. John's to service the
21	operation, operates under the name Husky	21	Hibernia Platform. Cougar is part of VIH
22	Energy. Husky operates the FPSO Sea Rose.	22	Aviation Group, and provides helicopter
23	This is another floating production platform.	23	services around the world. Apart from its
24	The Sea Rose produces oil from the White Rose	24	operations in Eastern Canada, Cougar provides
25	Oil Field. The White Rose Oil Field is	25	specialized emergency and first response air
	Page 7()		Page 72.
1	Page 70 located 350 kilometres east of St. John's.		Page 72 services to offshore oil and gas industry in
1 2	located 350 kilometres east of St. John's.	1	services to offshore oil and gas industry in
2	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984,	1 2	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and
2 3	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea	1 2 3	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's
2 3 4	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the	1 2 3 4	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a
2 3 4 5	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have	1 2 3 4 5	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview
2 3 4 5 6	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the	1 2 3 4 5 6	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a
2 3 4 5 6 7	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter	1 2 3 4 5 6 7	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its
2 3 4 5 6 7 8	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the	1 2 3 4 5 6 7 8	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's
2 3 4 5 6 7 8 9	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and	1 2 3 4 5 6 7 8	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight
2 3 4 5 6 7 8 9	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and	1 2 3 4 5 6 7 8 9	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also
2 3 4 5 6 7 8 9 10	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six	1 2 3 4 5 6 7 8 9 10	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of
2 3 4 5 6 7 8 9 10 11 12	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to	1 2 3 4 5 6 7 8 9 10 11	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a
2 3 4 5 6 7 8 9 10 11 12	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The	1 2 3 4 5 6 7 8 9 10 11 12 13	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the
2 3 4 5 6 7 8 9 10 11 12 13 14	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators	1 2 3 4 5 6 7 8 9 10 11 12 13	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the
2 3 4 5 6 7 8 9 10 11 12 13 14 15	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have	1 2 3 4 5 6 7 8 9 10 11 12 13 14	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to obtain this information because these	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe and give a good picture of exactly what a
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to obtain this information because these companies work together. We will hear how	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe and give a good picture of exactly what a typical flight is for a worker travelling to
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to obtain this information because these companies work together. We will hear how these companies work together to provide	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe and give a good picture of exactly what a typical flight is for a worker travelling to the offshore by helicopter. Cougar will also
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to obtain this information because these companies work together. We will hear how these companies work together to provide helicopter transportation to the offshore	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe and give a good picture of exactly what a typical flight is for a worker travelling to the offshore by helicopter. Cougar will also demonstrate its system from monitoring the
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to obtain this information because these companies work together. We will hear how these companies work together to provide helicopter transportation to the offshore workers to their facilities, how they share	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe and give a good picture of exactly what a typical flight is for a worker travelling to the offshore by helicopter. Cougar will also demonstrate its system from monitoring the helicopters while they are on route to the
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to obtain this information because these companies work together. We will hear how these companies work together to provide helicopter transportation to the offshore workers to their facilities, how they share flights to go to more than one facility, how	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe and give a good picture of exactly what a typical flight is for a worker travelling to the offshore by helicopter. Cougar will also demonstrate its system from monitoring the helicopters while they are on route to the offshore facilities of Newfoundland and
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to obtain this information because these companies work together. We will hear how these companies work together to provide helicopter transportation to the offshore workers to their facilities, how they share flights to go to more than one facility, how they use common equipment, such as the	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	services to offshore oil and gas industry in Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe and give a good picture of exactly what a typical flight is for a worker travelling to the offshore by helicopter. Cougar will also demonstrate its system from monitoring the helicopters while they are on route to the offshore facilities of Newfoundland and Labrador. It will also demonstrate its data
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	located 350 kilometres east of St. John's. The White Rose Field was discovered in 1984, and first oil was in 2005. Although the Sea Rose is an FPSO, a floating platform like the Terra Nova, both floating platforms have different designs. They are attached to the ocean floor differently and their helicopter landing pads are in different locations on the vessels. Husky has its own safety plans and procedures to suit its facilities and operation. Husky uses approximately six scheduled flights per week from St. John's to transport its personnel to the Sea Rose. The information we obtain from the oil operators will come by way of industry panel. We have seen that it's the most efficient way to obtain this information because these companies work together. We will hear how these companies work together to provide helicopter transportation to the offshore workers to their facilities, how they share flights to go to more than one facility, how	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Louisiana and Alaska in the United States, and in Darwin in Northern Australia. Cougar's presentation to the Inquiry will include a corporate overview and an industry overview from its President. We will also have a description of the St. John's operation by its Manager, and presentations from Cougar's Directors of safety and quality, flight operations, and maintenance. We will also have a presentation from Cougar's Manager of search and rescue. Cougar will present a video showing the check in for the flight, the distribution of the transportation suits, the suit check, the preparation briefing, and the boarding of the helicopter, to help describe and give a good picture of exactly what a typical flight is for a worker travelling to the offshore by helicopter. Cougar will also demonstrate its system from monitoring the helicopters while they are on route to the offshore facilities of Newfoundland and

Oc	tober 19, 2009	Multi-Page ^T	Offshore Helicopter Safety Inquiry
	P	Page 73	Page 75
1	Once we have had the presentation from Cougar,	1	had installed some very high tech equipment
2	an opportunity and presentation will be made	2	because public inquiries nowadays are required
3	by the Communications Energy and Paperworker		not only to record, as used to be in the past
4	Union, Local 2121. CEPU is the acronym for	4	and transcribed, but by electronic means, IT
5	this union, and it has exclusive right to	5	and IM, everything is fed into an electronic
6	bargain on behalf of the employees employed on	6	computerized system and during the course of
7	the Hibernia Platform, and the Terra Nova	7	this Inquiry, our plan is, and the technology
8	FPSO. A number of the offshore oil workers	8	allows, that materials of the day, the
9	will provide testimony on their experience and	9	exhibits and whatever, is information, as
10	concerns with travelling by helicopter to the	10	someone said, but it's hard for me to depart
11	offshore. The workers will tell the Inquiry	11	from the word "evidence", but, anyway, all
12	what issues they think the Inquiry should	12	this will be fed into the system so that by
13	consider. Once the union has made its	13	perhaps 8 o'clock at night you'll be able to
14	presentation, time will be allotted for the	14	go on computers and see, those who wish to,
15	families of the deceased passengers and pilots	15	the day's evidence. This is important not
16	if they wish to provide testimony. The	16	only for Newfoundland and Labrador, and the
17	families of the deceased passengers and pilots	17	rest of Canada who may be interested, but also
18	can either provide testimony or written	18	people in the offshore oil industry in other
19	submissions on the issues that they think the	19	countries will have an interest with what
20	Inquiry should consider. The families have	20	we're doing. I mention this because we will
21	been invited to provide the Inquiry with their	20 21	now know, having had the morning doing these
22	views and some have indicated they feel	21 22	presentations, if there are any glitches or
23	•	22 23	anything that should be rectified before
24	obliged to speak, however, they will not be compelled to speak. The families have	23 24	tomorrow morning when the evidence and
25	standing and are represented by counsel at the	25	information giving starts. I think it's wise
23			
		age 74	Page 76
1	Inquiry. As the Inquiry unfolds, the familie		that we do that. So thank you very much for
2	will make their final decisions as to how the	·	your attention and we'll see you tomorrow
3	wish to participate. After we have heard from		morning at 9:30.
4	the families of the passengers and the pilots.	, 4 Upo	n conclusion at 11:41 a.m.
5	time has been allotted for others and their		
6	response. There may be other people who v		
7	to come forward or may be identified during	-	
8	Phase One to make presentations. This is a		
9	public Inquiry and the public are welcome	to	
10	either provide presentations in writing or to		
11	make submissions through this hearing proc	ess.	
12	As well, as issues are raised during Phase		
13	One, this data collection phase, some of the		
14	presenters may need to respond with additio		
15	information. In closing, I look forward, as I		
16	am sure you and the others here, in hearing	5	
17	all of the evidence described, and we will	_	
18	begin tomorrow with the evidence from the		
19	Canada Newfoundland and Labrador Offs	shore	
20	Petroleum Board. Thank you.		
	COMMISSIONER:		
22	Q. Thank you, Ms. Fagan. Ladies and gentlen	nen,	
23	this will conclude the presentations for		
124	today. There is a reason for that and that	1	

today. There is a reason for that, and that

is we have over the past three or four months

24

74:14

address [1] 64:18

au [1] 48:10 .com.au [1] 48:10 -1- 1 [5] 45:7,17 50:10 52:24 53:16 11:41 [1] 76:4 12 [1] 42:12 120 [1] 69:7 12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9 -2- 2 [3] 22:6 45:9 53:9
-1- 1 [5] 45:7,17 50:10 52:24 53:16 11:41 [1] 76:4 12 [1] 42:12 120 [1] 69:7 12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
-1- 1 [5] 45:7,17 50:10 52:24 53:16 11:41 [1] 76:4 12 [1] 42:12 120 [1] 69:7 12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
1 [5] 45:7,17 50:10 52:24 53:16 11:41 [1] 76:4 12 [1] 42:12 120 [1] 69:7 12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
1 [5] 45:7,17 50:10 52:24 53:16 11:41 [1] 76:4 12 [1] 42:12 120 [1] 69:7 12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
53:16 11:41 [1] 76:4 12 [1] 42:12 120 [1] 69:7 12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
11:41 [1] 76:4 12 [1] 42:12 120 [1] 69:7 12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
12 [1] 42:12 120 [1] 69:7 12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
120 [i] 69:7 12th [3] 60:21 61:1 71:5 130 [i] 62:1 14 [i] 16:12 15 [i] 33:18 15-minute [i] 40:21 18 [i] 33:18 182 [i] 29:21 19 [i] 1:1 1984 [i] 70:2 1989 [i] 71:18 1992 [i] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [i] 63:9
12th [3] 60:21 61:1 71:5 130 [1] 62:1 14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
14 [1] 16:12 15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
15 [1] 33:18 15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
15-minute [1] 40:21 18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
18 [1] 33:18 182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
182 [1] 29:21 19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9 -2-
19 [1] 1:1 1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
1984 [1] 70:2 1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
1989 [1] 71:18 1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
1992 [1] 28:9 1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
1997 [2] 68:10 71:19 19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
19th [2] 77:4,10 1A [2] 45:19 49:22 1B [5] 49:7,15 50:8,16 51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
1B _[5] 49:7,15 50:8,16 51:17 1C _[3] 49:7,8 52:1 1st _[1] 63:9
51:17 1C [3] 49:7,8 52:1 1st [1] 63:9
1C [3] 49:7,8 52:1 1st [1] 63:9
1st [1] 63:9 -2-
-2-
2 _[3] 22:6 45:9 53:9
20 [2] 26:16 33:19
200 [1] 68:13
2002 [1] 69:6
2005 [1] 70:3
2009 [6] 1:1 60:21 61:1 63:9 77:4,10
2010 _[1] 11:17
2016 [1] 30:14
2121 [4] 17:4,9 67:16
73:4
213 [1] 77:5
22 [1] 29:9
250 [1] 68:13
-3-
3 _[1] 51:21
30 [2] 13:12 60:20
31 [2] 11:17 77:5
315 [1] 68:11
350 [1] 70:1
401 5 25 16 12 50 12
491 [7] 5:25 16:13 59:12 59:19 60:20 67:18 71:5
-6-

_	60 [1] 33:17
	62 [1] 26:10
_	6:00 [1] 28:18
	-7-
_	70 [1] 33:17
-	75 [1] 29:11
	73 [1] 29.11
	-8-
	8 [1] 75:13
	80 [3] 29:12 30:10,14
	90 [3] 62:5 64:24 66:13
	900 [1] 27:25
	9:30 [1] 76:3
	-A-
	a.m [1] 76:4
	ability [4] 44:1 58:20
	61:10 77:7
	able [3] 38:1 51:14 75:13
	above [3] 9:1 10:10 14:12
	absolutely [1] 30:18
	accept [1] 50:4
	accepted [1] 1:11
	access [2] 48:8 61:10
	accident [12] 6:1 25:5
	30:19 31:24 32:3,4 39:21
_	58:23 59:12,16,19,20
_	accidents [19] 6:4 26:4
	26:15,18 27:4,8,9 30:9,9
	30:14,21,24 31:1,2,2,11 31:13,20 39:22
	accommodate [1] 3:5
	accommodates [1] 69:7
	accomplished [1] 30:17
	Accord [8] 5:7,8 6:3,12 6:13 7:6 9:10,11
	accordance [1] 15:2
	Accords [1] 56:3
	accountability [1] 7:22
	accumulating [1] 4:3
	achievable [3] 51:1,4
	53:8
	achieve [2] 14:22 15:6
_	acronym [1] 73:4
	act [6] 1:25 9:10,11,13
	9:14 56:3
	acting [3] 15:17 16:7
	18:19
	actions [2] 12:1,4
	activities [3] 5:9,20 62:2
	activity [8] 5:14,15 7:6
	31:15 47:20,24 48:2
-	53:23
	Acts [4] 5:8 6:3,13 7:6
	actual [2] 41:12 42:2
_	addition [1] 59:24
-	additional [2] 53:18

addressed [1] 10:21 **adjourn** [1] 53:22 adopt [2] 47:18 50:25 **advance** [2] 53:5 54:18 adversarial [1] 39:17 advise [2] 11:25 44:8 **advising** [1] 1:24 Aerosafe [2] 27:17 48:7 **affairs** [1] 30:5 **affected** [1] 61:9 **affects** [1] 34:10 **afterwards** [1] 18:25 **again** [5] 28:5,22 29:22 49:9 50:25 **agencies** [1] 12:6 agency [1] 10:22 agent [1] 17:5 **ago** [4] 26:8,16 30:11 34:18 **agreed** [1] 20:25 **air** [7] 23:1,3 24:13 31:3 57:14 58:6 71:25 aircraft [7] 8:21 21:3 23:13,13 24:15 57:15 58:5 **airline** [1] 57:25 **airliners** [1] 31:9 **airport** [1] 58:6 airworthiness [1] 8:20 **alarmed** [1] 2:20 **Alaska** [1] 72:2 **Alexander** [1] 17:17 **Allan** [1] 18:20 **allotted** [2] 73:14 74:5 **allow** [2] 13:5 47:6 **allowed** [1] 21:10 **allows** [1] 75:8 **almost** [1] 4:15 **along** [6] 15:21 35:6 37:12 45:1 46:3 57:17 **Alpha** [2] 28:7,13 **always** [3] 32:8,17 40:1 **amend** [1] 9:19 **America** [1] 27:20 among [1] 32:23 amount [4] 26:25 39:8 45:24,25 **amounts** [1] 3:8 Amy [1] 16:21 **analyzes** [1] 72:24 **Andrews** [1] 16:25 **Angela** [1] 15:13 **Anne** [10] 1:19 41:5,6,11 42:5,13 46:8,19 47:10 54:14 announce [2] 13:9 15:16 anyway [3] 24:21 28:16 75:11

Apart [1] 71:23 **apparatus** [4] 62:20 66:19,24 77:8 **appear** [3] 11:13 17:13 **appeared** [1] 19:17 **appearing** [4] 15:22 16:18.21 18:2 **applied** [1] 12:11 **apply** [3] 5:6 56:14 57:10 **appointed** [2] 2:4 22:11 appreciated [1] 1:11 approach [4] 29:25 47:19 52:14 71:9 **approached** [1] 35:25 appropriate [8] 10:7.18 10:25 13:5,18 21:1 48:23 53:19 approval [1] 5:21 **approved** [2] 8:9 57:16 **April** [1] 63:9 **area** [21] 4:22 5:5,10 6:2 6:8.11.16.23 7:8.16 8:1 10:2 12:18 25:25 29:13 29:14,15 35:6 48:20 53:7 69.9 areas [2] 41:9 65:25 **argued** [1] 49:9 **arises** [1] 42:7 arms-length [1] 5:2 **ascent** [1] 61:8 **ashore** [1] 28:15 **Asia** [1] 27:19 asleep [1] 29:17 aspect [1] 31:22 **aspects** [1] 71:3 **assessed** [1] 47:25 **assignment** [2] 47:19 48:25 **assist** [2] 50:23 54:15 associated [1] 6:21 **Association** [4] 18:7 30:7 61:25 62:9 **Atlantic** [4] 5:7,8 62:7 62:12 attached [2] 62:21 70:6 **attacked** [1] 32:1 attended [2] 26:8,21 attention [4] 10:23 14:13 14:15 76:2 audience (11 1:6 audit [1] 57:18 **auditorium** [1] 52:12 **Australia** [4] 22:25 24:7 27:17 72:3 Australian [4] 23:1 24:13 27:16 48:11 authorization [3] 5:14 7:5 67:21 authorizations [1] 56:10

authorized [1] 22:5

auxiliary [4] 28:17 29:2 29:3,5 **availability** [1] 50:14 **available** [6] 21:14,16 21:16 44:5 46:24,25 **aviation** [3] 31:3 49:1 71:22 aware [2] 40:2 51:8 -B**b** [4] 8:11 12:3 45:18 52:8 **bailiwick** [1] 20:15 **bargain** [1] 73:6 bargaining [1] 17:4 **Barnes** [3] 18:5,6 62:7 **base** [1] 25:14 based [3] 65:10 68:13 69:13 **basic** [1] 62:25 **basis** [3] 19:8,20 31:19 bear [1] 52:20 became [4] 24:3,23 26:13 35:5 become [7] 3:12 11:18 15:17 23:16 51:8,19 58:2 **becoming** [1] 24:4 began [3] 25:16,18 26:23 **begin** [3] 18:24 22:17 74:18 **beginning** [1] 42:3 begins [1] 33:8 **behalf** [3] 16:18,21 73:6 **behove** [1] 2:16 **believes** [1] 61:17 **belted** [1] 37:13 benefit [2] 1:20 20:16 **best** [11] 8:2 10:15 31:25 35:14 50:1 51:15 52:17 53:5 54:21 63:1 77:7 **better** [3] 25:6 49:4,21 between [7] 19:22 20:8 25:22 29:13 57:6,24 68:13 **beyond** [2] 1:13 34:13 Bill [1] 67:6 bit [1] 3:12 **bitterly** [1] 33:14 **Blair** [1] 18:18 blew [1] 29:12 **blindsided** [1] 44:22 **board** [40] 4:24 7:12 8:10 8:23 11:5,16,21 13:25 14:5.8.14.18.20 15:1.2 16:23 20:1,3,6 42:14 45:10 53:11,14 55:18,21 55:23,25 56:4 58:14,14 58:16,18 59:11,14,15 60:23 63:10 64:9 67:23 74:20 **Board's** [6] 56:6,13 58:22 59:1,7,18 **boarding** [2] 61:4 72:16

boat [2] 35:7,8 **Bob** [1] 65:21 body [1] 15:10 book [1] 26:2 born [1] 39:4 borne [1] 25:5 **bracket** [1] 31:12 **break** [6] 40:14,16,21 41:1 67:13,14 breaks [1] 45:22 breathing [4] 62:20,21 66:18,23 **briefing** [2] 61:4 72:15 **briefly** [1] 32:15 **bring** [14] 14:13 33:5 34:15 39:20 44:25 46:17 46:19.22 47:11 48:3 54:15 55:4 64:10 66:22 **brings** [1] 31:22 **broadcast** [2] 1:10 38:25 **broader** [1] 1:6 **broadly** [1] 22:21 broke [1] 29:19 brought [2] 10:23 29:22 Brown [1] 18:20 **build** [1] 35:23 **building** [5] 2:14,19,19 3:19 4:9 **business** [1] 28:24

-Cc [8] 5:5 8:14 10:23 19:23

45:18 55:18 56:4,15

C-NLOPB [17] 4:24
5:12,19 6:5,8,12,24 8:14
10:21 11:25 12:2 13:20
16:24 19:15 53:21 56:8
56:19

Cable [1] 38:24

Canada [40] 4:22,25 9:4
9:13 11:5,21 16:5,7,22
20:24 21:4,6,9 22:2 25:1
34:3 39:11 55:19,22 56:1
56:20,21,23 57:2,8,9,16
57:19,20 58:1,12 62:4,7
63:19,25 67:21 68:24
71:24 74:19 75:17

Canada's [3] 8:24 57:2 62:6

Canadian [4] 18:7 55:16 61:25 62:9

cannot [3] 31:17 42:18 47:21

capability [1] 21:9 **capitalize** [1] 43:16 **CAPP** [11] 61:24,25 62:1

62:4,8,13,17,24 63:6,10 63:16 careers [1] 39:5

careful [1] 39:5 careful [1] 3:10 carefully [1] 37:20 carrying [1] 6:9 case [2] 43:13 48:10 Caspian [1] 65:20 caution [2] 3:7 43:2 ceased [1] 29:1 Cecily [1] 18:11 central [1] 34:3 Centre [10] 18:3 65:1,4 65:7,10,16,22 66:12,20 67:1

Centre's [3] 65:23 66:1 66:5

CEO [1] 48:13 CEP [1] 17:9 CEPU [1] 73:4

certain [2] 23:13 28:17 **certificate** [2] 57:14 77:1

certification [1] 58:8 certified [1] 57:5 certifies [2] 56:21,21

certify [1] 77:2

Chair [3] 58:15 59:2,13 **Chairman** [1] 50:25

challenge [1] 54:6 **challenged** [1] 52:18 **challenges** [1] 41:24

chance [1] 51:3 **change** [1] 46:5

changed [2] 24:12,21 **changes** [1] 33:20

Channel [2] 33:23 34:1 **charge** [2] 24:15,17

chat [1] 37:16 **check** [4] 2:25 61:2 72:13

72:15 **children** [2] 39:3,4 **China** [1] 27:18

choice [2] 29:17 34:19 **chosen** [2] 47:18 68:2

Christmas [2] 67:13,14

Cindy [1] 77:11

circumstances [1] 48:23

civil [1] 15:9 **clarifying** [1] 14:1

clarifying [1] 14: **class** [1] 37:23

clean [1] 23:18 **cleaning** [1] 23:14

clear [5] 20:7 26:13 30:5 48:1 50:4

clearly [3] 19:19 41:22 42:17

clients [1] 15:23

climate [3] 32:18 33:2 33:15

close [2] 33:12,13 **closely** [2] 20:2 31:12

closer [1] 3:16 **closest** [1] 3:22 **closing** [1] 74:15

clothing [1] 64:2 clout [1] 24:20 co [1] 18:13 **coast** [6] 17:21 18:21 33:6,7 34:2 65:14

coat [1] 30:23

coated [1] 31:18

coating [3] 23:15,19,19 **cold** [4] 33:14 61:9 65:12 65:18

collaborative [2] 39:17

collaboratively [1] 42:5 collar [1] 61:12

collection [2] 55:11 74:13

Collins [3] 63:24 64:14 64:17

comfort [1] 64:19 **coming** [4] 28:5,11 35:19 51:2

commander [1] 24:17 **comments** [1] 44:12 **commercial** [6] 12:13 12:16 31:3,9 57:14,25

Commission [2] 6:20 11:14

Commissioner [74] 1:2 1:24 2:12 4:12 6:24 7:2 8:4 9:9,11,16,22,24 10:7 10:8,18,19,25 11:3,7,12 11:13,15,23 12:7,14,18 12:21,24 13:2,4,8,15,18 13:20,21,23 14:4,7,13 14:20,21,23 15:3,7,11 15:25 16:3,8,10,14,17 17:2,12,17 18:11,17,22 40:20 41:2,5,15,23 43:23 44:7,15,21 46:8 53:3 54:4,21,24 55:6 59:25 74:21

Commissioner's [7] 7:18 8:18 9:2 13:22,24 14:7,15

common [1] 70:23 **communication** [1] 11:4

communications [4] 17:3 59:8 67:15 73:3

companies [7] 25:15 62:2,5 67:24 68:1 70:18 70:19

company [17] 7:4 17:23 18:13 27:14,17 48:7,9 48:11,13,18,21 54:19 63:20 68:6 71:6,7,13

comparing [1] 43:1 compelled [1] 73:24

competence [1] 28:3 **complete** [1] 66:7

completed [4] 45:23 59:11 60:12 67:2 **completely** [2] 32:11

completion [2] 11:16 11:20

complex [4] 35:22,23,23 35:23

compliance [4] 5:11 8:1 8:15 56:18

components [1] 5:17 comprehensive [1] 65:4 compromised [1] 24:6 computerized [1] 75:6 computers [1] 75:14 concept [1] 46:4 concepts [5] 19:2 22:9

30:22 40:9 51:2 **concern** [1] 46:15 **concerns** [1] 73:10 **conclude** [1] 74:23 **concluded** [1] 42:20

conclusion [1] 76:4 conclusions [1] 42:4

conduct [2] 7:6 9:18 conducted [2] 10:4,12 conducts [2] 62:24 69:8

conferred [1] 9:12 **confidence** [1] 54:10

configured [1] 3:3 **confined** [2] 23:22,25

confronted [1] 41:24 conjunction [1] 54:3

connection [1] 1:8 **consider** [7] 5:15 59:10

59:17 60:15 67:9 73:13 73:20

considerable [1] 29:7 consideration [1] 11:2 Consistent [1] 9:10 consult [3] 13:25 14:4,8 consultants [6] 44:9

48:5 50:20,21 51:9,23 **consultants'** [1] 52:6

consultation [4] 10:13 13:19 15:1 68:20

consultations [2] 44:3 53:18

contend [4] 34:16 36:4,5 36:6

context [1] 7:21 **continue** [2] 45:21 50:19 **contract** [1] 68:20

contracted [2] 68:15 71:14

contractual [1] 8:12 contribute [1] 38:1 contribution [1] 27:7 control [1] 53:13 controlled [1] 58:6 cooperative [1] 20:7

cooperative [1] 20:7 **coordinated** [2] 62:16 71:2

coordination [1] 57:6 copied [1] 21:23

corner [1] 47:3 **corporate** [1] 72:5

correct [1] 77:3

correctly [1] 44:15 corridors [1] 3:17 Cougar [20] 5:25 8:24 11:6,21 17:13 57:11 58:9 59:12,19 61:13 67:15 71:12,12,16,19,21,24 72:12,19 73:1

Cougar's [3] 72:3,8,11 counsel [19] 1:18,19,23 15:15,20 18:8,12,14 19:7 19:8 20:5 21:15,24 26:7 38:21 46:8 54:4,14 73:25

countries [3] 26:11 27:19 75:19

country [3] 39:13,25 57:7

course [11] 2:15 21:8 28:4 29:14 32:25 33:2 33:22 40:2 44:11 53:11 75:6

75:6 courses [1] 65:5 Court [1] 42:24

Courts [1] 22:13

crafts [1] 66:10 **crash** [5] 5:24 8:25 11:7 11:22 61:6

crashed [2] 60:20 63:9 **crawl** [1] 23:17

created [1] 55:25

crew [3] 16:19 28:16 67:18

crews [1] 8:21 **criminal** [1] 15:9

criteria [1] 12:15 **criticize** [2] 43:17 49:19

Crosbie [2] 16:20,21

cross-examination [1]

crude [2] 62:4,6 **Cullen** [1] 29:24 **culture** [14] 22:12,14,19 22:19,23 23:3,8 24:9,13

24:24 25:3,12 28:5 29:23 **cultures** [1] 30:20 **current** [7] 33:5 43:10 43:11,18,19 55:12 68:3

currents [2] 33:3,5

-D-

daily [1] 22:15 danger [1] 23:5 dangerous [2] 31:14 36:12 dangers [1] 31:7

Darwin [1] 72:3 data [4] 55:11 72:23,24 74:13

date [1] 59:16

Dated [1] 77:9 **dates** [1] 13:9 **day's** [1] 75:15

days [3] 13:12 22:1 34:18

deal [9] 2:2 4:6 19:7 22:10 27:10,11,12 32:3 53:10 **dealing** [1] 22:20 **dealings** [1] 37:3 deals [3] 9:15 45:7,9 **dealt** [2] 21:17 27:2 debated [1] 49:9 deceased [5] 16:18 38:13 67:17 73:15,17 decide [4] 49:25 50:5 52:11 53:4 decided [2] 26:20 29:1 **decisions** [1] 74:2 **Decker** [9] 17:7 60:19 60:19,23 61:8,12,15,20 61:23 decline [1] 30:12 decreased [1] 26:19 deems [4] 10:7,18,25 13:18 **Defence** [3] 60:2,4,6 **Defense** [1] 9:4 **define** [1] 13:22 **defined** [2] 19:19 37:12 **definitions** [2] 7:1,8 definitively [1] 30:18 **degree** [1] 54:10 degrees [1] 33:19 deliberations [1] 20:18 demonstrate [3] 64:12 72:20.23 **Denis** [1] 18:17 depart [1] 75:10 Department [5] 9:4 16:4 60:2,3,6 **depend** [3] 45:24,24 50:12 **depending** [1] 52:16 describe [11] 55:12 58:1 58:19,20 60:4 61:1,2,5 63:25 65:24 72:16 described [6] 9:1 10:10 31:6 60:10 66:17 74:17 description [3] 58:4 62:9 72:7 **design** [4] 9:16 27:6 35:23 64:16 **designs** [1] 70:6 **destroyed** [1] 29:10 detail [2] 22:21 66:2 detailed [4] 13:9 20:10 40:23 41:12 **details** [2] 41:10 45:15 determine [7] 5:22 7:11 7:13 52:15 53:16,17,24 **determined** [3] 6:5 24:9 33:3 **determines** [1] 11:14 **develop** [1] 48:16

developed [5] 4:5 43:21

48:19 54:3 63:3

development [5] 5:3 18:13 62:3,16 68:6 device [1] 62:21 devices [1] 66:9 **dictated** [1] 44:15 differ [1] 49:10 **differences** [1] 57:24 different [8] 3:4 46:24 57:22 67:24 69:12,15 differently [1] 70:7 **difficult** [9] 23:25 32:12 32:19,21,23,24,24 35:5 61:17 digress [1] 26:5 direct [1] 38:19 **directed** [2] 2:13 25:9 **Director** [5] 57:1,9,22 58:3 65:21 **Directors** [1] 72:9 **disaster** [1] 28:7 **disasters** [1] 30:9 **discard** [1] 24:1 **disclose** [1] 52:18 disclosure [1] 51:24 **discovered** [1] 70:2 **Discoveries** [1] 77:12 **discussing** [1] 14:9 **discussion** [3] 32:19 50:2 51:20 dispatch [4] 56:22 58:5 58:8.10 dispatchers [2] 56:25 57:21 **distinct** [1] 45:7 **distinctions** [2] 37:9,17 **distributed** [1] 21:24 distribution [1] 72:14 divided [4] 9:21 41:6,6 45:17 **division** [1] 62:8 **DND** [2] 21:8,13 **domain** [1] 48:11 **Don** [1] 17:23 **done** [8] 2:2 19:4,7 20:4 27:19 36:14 49:19 51:22 **donning** [1] 61:3 door[1] 35:20 **down** [14] 27:6 29:13 31:25 32:5,11 33:6,7 36:1 39:21 41:17 53:20 53:22.23 64:21 downed [1] 32:18 draft [1] 49:23 **drilling** [1] 69:11 **drives** [1] 43:3 dual [3] 64:5,12,16 due [1] 28:4 duplication [1] 11:1 during [9] 10:20 14:15

-Eear [1] 37:14 **Earle** [2] 17:1,3 early [3] 41:14,23 48:14 east [5] 17:21 18:21 60:21 68:11 70:1 **Eastern** [1] 71:24 **effectively** [2] 14:22 efficiency [1] 68:2 **efficient** [1] 70:16 **effort** [4] 39:17,18,19 71:2 **efforts** [1] 11:1 **eight** [1] 9:15 **eighteen** [1] 60:22 either [6] 3:14.18.22 13:1 73:18 74:10 **electronic** [2] 75:4,5 **elevator** [2] 3:24,24 **eliminate** [1] 31:17 **eliminated** [1] 30:25 **emergency** [7] 3:25 27:23 48:24 62:19 64:9 65:5 71:25 **employ** [1] 14:25 **employed** [1] 73:6 **employee** [1] 68:19 **employees** [5] 17:5,23 68:14,15 73:6 **encounter** [2] 33:18 46:2 encourage [1] 4:7 end [13] 3:18 22:5,8 23:8 24:5,18 42:3 46:3 49:22 50:3 51:17 52:23 53:15 endorsed [11 43:23 **Energy** [9] 17:3 18:18 67:16 68:6,7,25 69:4,22 enforce [1] 9:17 engage [3] 15:3 45:3 50:2 engaged [2] 39:18 44:18 **engineer** [1] 58:2 **engineers** [2] 56:24 57:21 **engines** [1] 32:7 ensure [2] 56:18 63:1 **ensuring** [2] 8:8,15 entered [1] 3:21 entire [2] 44:13 56:12 entirely [2] 24:12 30:25 entities [4] 19:23 22:3 27:25 68:3 entitled [1] 44:7 **entity** [1] 54:20 **entries** [1] 3:13 environment [2] 17:24 65:18

environments [1] 65:12

equipment [7] 5:18 23:6

error [2] 27:4,5 errors [1] 27:6 **escape** [11] 7:22 32:13 32:18 37:22 38:4 61:7 63:3,6 66:7,18,23 **escaped** [1] 29:6 **especially** [2] 31:5 61:19 essential [1] 6:8 essentially [1] 33:6 **establish** [1] 49:2 established 131 4:24 6:20 63:8 establishing [1] 60:15 establishment [1] 6:19 Europe [2] 33:12,15 evacuate [2] 2:23 3:15 evacuation [5] 3:23 7:23 37:21 63:3 66:9 **Evacuations** [1] 27:24 **event** [3] 3:15,25 23:2 events [1] 30:17 **eventually** [1] 28:14 everybody [11] 15:22 19:11 37:10,10,11 40:15 41:17 43:2 44:25 45:1 45:15 everybody's [1] 1:20 evidence [19] 13:3,6 19:14,24 27:13 40:25 41:12 45:24 46:17,21 47:7 55:4,10,15 74:17 74:18 75:11.15.24 **exact** [1] 52:15 **exactly** [3] 21:21 45:12 72:17 examination [3] 8:19 9:3 51:20 **examine** [3] 21:10 37:20 68:2 **example** [3] 22:22,23,24 **excellent** [1] 30:15 except [1] 8:25 exchanged [1] 43:8 **excited** [1] 54:4 **exclusive** [1] 73:5 **exercise** [1] 49:17 **exhibits** [1] 75:9 exist [3] 43:15 45:2 49:4 exists [1] 3:14 **exit** [1] 3:16 expeditious [1] 11:2 experience [5] 27:14 36:20 60:25 64:1 73:9 experienced [3] 35:9 36:19.24 expert [4] 19:6 27:13,16 60:11 **expertise** [5] 20:9 42:16

48:19 64:1 65:11

23:10 66:11,16 70:23

equipped [1] 20:12

75:1

experts [4] 36:17 37:24 37:25 44:8 **explain** [22] 2:7 19:16 19:20 20:24 48:14 54:25 56:5.16 57:4.10.12.22 57:23 59:3,6 60:23 61:9 61:12 64:2,11,14 66:24 **explained** [1] 57:17 explanation [1] 56:9 **exploration** [3] 5:3 62:3 **explosion** [2] 29:8,12 explosions [1] 29:8 **express** [2] 15:8 34:25 **expression** [2] 7:3 44:21 extend [2] 1:4 24:11 **extended** [2] 24:10 38:16 **extension** [1] 11:18 **extensive** [1] 27:14 extensively [1] 49:8 extent [2] 8:25 10:25 **extremely** [1] 20:7 **eye**[1] 3:12 -Fface [1] 61:11 facilitates [1] 11:2 facilities [20] 5:18 9:5,6 58:11 59:1 60:10 62:23

63:4 64:10 65:14 66:4 66:14,21 69:13,18 70:10 70:21,25 71:15 72:22 facility [3] 65:24 66:5 70:22 **facing** [1] 41:20 **fact** [2] 46:11 52:19 **factored** [1] 20:18 factors [2] 31:1 33:1 facts [1] 59:15 **Fagan** [12] 1:19 19:1 36:21 40:23 41:6 42:5 46:19 54:14 55:3.7.8 74:22 **fair** [1] 44:17 **fairly** [1] 37:14 **families** [12] 16:12 38:12 38:13.16 61:19 67:17 73:15,17,20,24 74:1,4 **far** [1] 38:8 features [3] 32:2 61:10 64:13 **fed** [2] 75:5,12

features [3] 32:2 61:10 64:13
fed [2] 75:5,12
Federal [3] 6:12 9:10 55:25
felt [2] 21:11 23:5
field [7] 27:15 28:3 68:10 69:5,25,25 70:2
figures [1] 25:5
file [1] 37:11
final [4] 20:19 53:1 69:20 74:2
finally [8] 3:25 14:19

28:17 40:2 46:10 55:5

74:7,12 75:6

graph [1] 30:12

graphs [1] 27:3

gravity [2] 68:12 69:13

great [4] 2:2 31:3 39:1,1

greater [2] 31:13 49:3

grasp[1] 22:4

green [1] 47:4

grow [1] 54:9

Group [1] 71:22

growth [1] 54:7

Guide [1] 63:4

H1N1 [1] 4:4

hand [1] 4:7

64:10,22

Hank [1] 17:14

guess [2] 4:9 49:17

guidelines [1] 56:6

half [3] 2:3 40:10,16

Hansen [5] 63:18,18,25

Hansen's [1] 63:25

happy [1] 40:12

hard [1] 75:10

harm [1] 47:23

Harris [1] 67:7

harsh [1] 65:12

hate [1] 46:17

head [1] 27:16

48:23

71:1,12

headed [1] 13:19

heading [2] 12:12 13:7

hear [22] 18:25 27:12

28:3 30:3,22 36:17,18

56:20.25 61:14 64:23

heard [11] 34:21 55:2

65:20 67:14 69:2 70:18

56:19 58:12 59:17 64:21

66:25 67:5 68:22 74:3

hearing [7] 14:25 40:13

46:11,16 74:11,16 77:4

hearings [6] 1:15 10:6

40:22 41:17,18 55:10,19

health [4] 8:2 17:24 24:6

-H-

Gulf [2] 33:10,16

38:6 52:1,23 54:13 55:20 63:6 **finding** [2] 15:8 50:23 findings [3] 11:25 12:1 12:4 **fine** [1] 20:10 finished [2] 28:19 63:16 **fire** [5] 2:20,24 29:14,19 66:10 firm [1] 18:19 **first** [13] 2:14 19:1,15 42:4 45:17 46:16 55:15 67:19 68:7,8 69:5 70:3 71:25 **Firstly** [1] 1:17 **Fisheries** [1] 65:1 **fishing** [1] 65:9 five [5] 2:3 19:4 40:10 43:9 69:19 **flat** [3] 26:16,16,17 flew [1] 35:15 flight [20] 5:25 8:21,21 16:13,18 37:15 42:12 59:12.19 60:20 61:3.5.6 64:6 67:18 71:5 72:9,13 72:18,25 **flights** [4] 69:19 70:12 70:22 71:4 **floatation** [1] 61:12 **floating** [5] 69:1,12,23 70:4,5 **floor** [4] 2:18 3:11 23:9 70:7 flv [1] 35:24 **flying** [2] 23:7 36:2 focus [7] 41:8 42:7.11 49:3 56:14 60:8 62:2 fog [1] 35:16 **follow** [1] 50:9 **followed** [1] 63:2 following [1] 45:14 follows [2] 8:4 9:24 **force** [7] 23:1,3 24:14 63:7,8,13 71:3 forces [1] 33:9 **fore** [1] 29:23 foregoing [1] 77:3 **foremost** [1] 25:24 **forensic** [1] 42:21 form [1] 52:9 **formal** [3] 10:6,17 40:13 format [3] 10:24 52:10 53:1 formed [2] 26:21 27:14 **fortunately** [3] 24:25 25:13 27:10 forum [1] 52:11 **forward** [15] 2:17 41:20 43:20 46:10.17.19.22 47:12 48:14 50:6 54:16 55:5 67:12 74:7,15 **forwarded** [1] 21:22 found [2] 20:6 28:25

four [4] 7:17 33:13 50:12 74:25 Foxtrap [2] 36:14 66:6 **FPSO** [8] 17:6,7 69:3,3 69:7,22 70:4 73:8 **framework** [1] 59:23 fraved [11 3:12 Freeman [2] 16:6,7 **frequency** [2] 26:18 30:13 frequent [1] 11:4 **friends** [1] 38:16 frigid [1] 36:5 front [1] 52:13 Frost [1] 17:22 frustration [1] 35:9 fulfil [2] 14:21 15:5 full [1] 51:24 **function** [1] 11:9 **functions** [1] 12:9 **fundamental** [1] 44:14 **funding** [1] 14:21 **funnelled** [1] 28:13 future [2] 51:15 68:1 -G-

gas [10] 5:4 28:11 29:4,6 59:24 62:4,6 63:7 71:18 72:1 gather [1] 10:8 gathered [2] 10:19 52:8 **gauged** [1] 35:12 gear [1] 23:21 general [7] 7:17 45:8 46:12,13 52:6 57:1 59:14 **generally** [2] 38:10 60:6 **gentlemen** [2] 15:12 74:22 geologists [1] 37:7 **gigantic** [1] 29:7 given [4] 23:24 44:17,23 56:10 **giving** [1] 75:25

Glen [1] 16:11

18:17 25:3,14 27:11 39:6

Goodridge [3] 69:10,11

Government [8] 4:25

4:25 9:3 21:8 39:10

55:25 56:1 59:22

gradually [1] 24:2

granted [1] 12:20

61:11

37:21

69:17

42:10 72:17

glamorous [1] 23:7 **glitches** [1] 75:22 **gloves** [3] 23:24 24:1 **goes** [4] 31:24,25 37:11 **good** [15] 15:25 16:3,17 16:21 17:2,12 18:6,11

10:17 44:2 45:19 52:9 **held** [3] 22:25 24:7 29:24 **helicopter** [82] 4:20 5:25 6:7,15,22 7:13,24 8:10 8:12,24 10:1 11:6,22 12:17 26:9,12,14 27:23 30:6 31:12,25 32:19 35:2 35:18,24 36:11 37:1,8 37:13 38:15 39:2 42:10 43:5,11,14 48:16,21 53:6 54:23 55:13 56:15,17,21 56:22 57:8,11,13,19 58:9 61:5,7,14 62:11,15,20 62:23 63:5,7,8,14,15 64:5 66:3.7.10.15.18.23 67:7 68:18,22 69:18 70:7

70:20 71:2,4,17,22 72:16 72:19,25 73:10 helicopters [21] 21:5 25:11 28:1 30:10 31:11 32:5 34:11,17 35:15,21 35:22 37:4,22 57:4 58:3 58:10 63:22 67:15 71:12 71:13 72:21 Hellev [6] 63:18,18,24 63:25 64:10,22 **help** [9] 36:21,22 49:2 51:15 54:21 56:7 64:11

64:13 72:16 **helpful**[1] 21:12 **helping** [1] 39:15 **Henry** [3] 69:10,10,17 hereby [1] 77:2 **herein** [1] 6:17 **Hibernia** [11] 17:5,10

60:24 68:5,10 71:21 73:7 Hickman [1] 17:18 **high** [7] 24:16 34:15 35:17,25 36:6,6 75:1

18:12,15 33:17 34:20

higher [1] 24:21 highlighted [1] 47:3 **highways** [2] 31:2,5 **historical** [1] 25:15 **HMDC** [10] 25:16 34:19 34:25 68:6,8,8,12,14,23 69:15

HMDC's[1] 69:13 hobby [1] 33:24 **hold** (1) 13:15 Hollett [2] 18:1,2 home [1] 4:11 Honourable [1] 6:25 hood [1] 61:11 **hope** [3] 30:13 31:21 54:12

housing [1] 68:13 HUET [1] 66:8 huge [3] 26:25 28:8 39:8 human [4] 27:4 30:5,16 47:20

hundred [1] 33:13 Husky [8] 17:19,21 68:7 69:19,21,22 70:9,11

-I-

Ian [1] 18:14 ice [1] 33:6 idea [1] 46:4 **ideas** [1] 46:6 identified [5] 10:9 46:7 49:6 64:18 74:7 **identifies** [1] 15:22 **identify** [1] 13:13 **ill** [1] 24:5 **immediate** [1] 14:16 **immediately** [1] 50:10 **immersion** [1] 64:8

impact [2] 47:15 64:16 implementation [5] 5:8 5:22 6:3 56:3 62:18 implemented [1] 12:3 **important** [13] 22:20 24:23 30:16 31:17 39:7 39:11,12 40:1,9 54:6,11

impressed [1] 42:15 **improve** [3] 39:20 47:23 50:24

61:17 75:15

improved [2] 25:11,12 **improvement** [7] 43:15 45:2,5,8 46:5 49:5 51:19 improvements [3] 7:12

42:9 54:22

improving [2] 54:6 63:13

Inc [1] 77:12 incident [1] 42:8 incidents [2] 9:6 30:8 include [8] 8:19 9:2 10:4 10:12 23:9 44:1 66:20 72:4

included [1] 8:23 includes [3] 63:5 66:6 66:15

including [1] 5:17 independent [7] 5:2 11:8,11 12:8 38:3,3 58:22

indicate [1] 46:14 **indicated** [2] 67:4 73:22 individual [2] 27:3 71:8 **individuals** [2] 24:3 67:11

industrial [1] 31:1 **industries** [2] 65:6,10 industry [28] 2:8 8:3 25:1,4,7 26:15,19 39:6 39:12,15,23 48:17,21,24 54:8,9 55:24 56:7 59:24 63:1.11 65:8 67:25 68:5 70:15 72:1,5 75:18

influence [1] 58:20 informal [2] 10:6.17 **information** [26] 10:8 10:19 11:10,10 13:14 14:5 41:13 45:25 46:19 46:21 47:11,14,17 48:15 50:17 52:16 54:15 60:14 61:20,23 63:12 70:14,17 74:15 75:9,25

informative [1] 47:12 **informed** [1] 44:19 **informs** [1] 15:13 **inherent** [1] 47:24 **initiative** [1] 30:15 **initiatives** [1] 62:10 injury [1] 61:14 **inquire** [4] 7:18 8:5 21:10,20 **inquiries** [5] 9:13,14

42:22 49:11 75:2

inquiry [91] 1:4,18,19 1:23 2:3,16 4:2,19 6:3,5 6:13,19,20 7:11 9:15,18 9:21 10:3,11,20 11:11 12:23 13:11 14:2,4,6,10 14:15,23 15:7,15,18,20 19:2,11,23 20:10,12,16 21:14 22:8.16.25 24:7 25:19,23 26:7 29:24 38:7 38:11 40:2,13,25 41:14 42:17,20 43:24 44:20 46:8 52:22 53:13,21 54:4 54:12.14 55:10 58:24 59:9,17 60:1,11,15 61:18 61:22 62:8 63:12,17 65:20 66:22 67:9,12,12 72:4 73:11,12,20,21 74:1 74:1,9 75:7 inside [1] 23:15

inspection [1] 57:18 inspections [2] 10:15 44:4

Inspector's [1] 2:25 installations [2] 7:25 36:13

installed [1] 75:1 Institute [4] 18:4 36:16 64:24 65:2

instruction [1] 66:16 intend [4] 40:15 44:6 46:22 55:4

intense [1] 29:15 interconnection [1] 19:22

interest [13] 1:6,14 2:1 12:14,16,24 38:11,20,24 39:1 40:6 54:16 75:19

interested [1] 75:17 interesting [4] 24:14 26:24 35:2 37:2

interestingly [1] 31:14 **interests** [1] 54:19

internal [1] 45:19 international [3] 26:9 30:6 63:19

interpret [3] 5:6 11:10 42:1

interview [1] 44:20 interviewed [2] 36:9 61:22

interviews [2] 10:4 44:3 introduce [1] 1:17

introduced [1] 66:17 **inventory** [1] 66:11

investigate [2] 50:7,14 investigation [10] 8:24

11:6,21 49:7,13 58:23 59:2,4,6,11

investigations [3] 10:16 44:4 50:19

investigative [2] 50:9

invited [2] 46:13 73:21 **involve** [1] 50:10 involved [11] 21:12

35:21 44:19 45:20 51:8 59:3,4 60:17 62:13,18 63:6

involvement [1] 62:11 involves [1] 47:20 **involving** [1] 31:1

island [2] 34:8 65:19

issue [2] 4:1,6 **issued** [4] 4:14 7:5 13:12 24:12

issues [25] 8:20 10:10 11:3,11 12:22 13:14 14:17 41:7 46:2,5,6,14 49:6,23,24 50:6,13,15 59:20 67:8,8 71:10 73:12 73:19 74:12

issuing [1] 5:13 itself [1] 26:19

-J-

Jack [1] 67:6 **James** [1] 26:1 **Jamie** [1] 16:11 **January** [1] 69:6 jet [3] 33:4 34:4,6 jets [1] 23:14 **job** [1] 60:23 jobs [1] 39:14 John [2] 1:17 16:24 **John's** [11] 17:15 35:5 60:21 68:12,19 70:1,12 71:20 72:7 77:5,9 ioint [1] 5:1 **Jonathan** [1] 16:3 judge [1] 29:24

-K-

jurisdictions [1] 10:14

jumped [1] 29:21

14:17

jurisdiction [2] 6:24

Karen [1] 18:2 Kate [1] 16:17 keen [1] 1:14 **keep** [2] 3:12 32:8 **kept** [1] 23:10 **killing** [2] 60:22 63:10 **kilometres** [4] 33:14,17 68:11 70:1 Kimberly [3] 48:12 60:11,18 **Kimberly's** [1] 48:18 **kind** [3] 20:15 31:20 42:15 **kinds** [2] 20:14 52:16 Kingdom [1] 31:6 **kit** [1] 44:5 knew [1] 25:21 known [5] 9:16 22:12

46:12 48:7 49:16

knows [2] 19:11 32:23

-L-

Labrador [52] 1:13 4:22 4:23 5:1,5,10 6:2,7,11 6:15,23 7:7,16,25 9:8 12:18 13:17 16:1,22 21:6 25:1 32:22 33:5,7 37:25 39:8,10,24 55:15,17,22 55:24 56:2,8 58:11 59:22 60:7.9 62:24 63:12.23 65:15 66:5 67:22,24 68:4 69:9 71:16 72:23 74:19 75:16 77:6

Ladies [2] 15:12 74:22 **lady** [1] 28:1 **land** [2] 61:6 65:10 landed [11 35:19 landing [1] 70:8 lands [1] 43:14 large [13] 1:12 4:3 27:21 28:17 38:17,18 44:4 47:1

63:19 66:6,11 68:3,12 larger [1] 3:5 **last** [3] 19:4 20:11 26:7

law [1] 42:24 **Lawrence** [1] 17:7 **lawver** [1] 46:18

layperson [1] 36:2 leads [2] 36:7 40:11

leakage [2] 62:17 64:19 learn [3] 25:18 43:18 49:20

learned [2] 49:17 51:23 **least** [2] 33:10 36:25

leave [4] 4:16 28:21 30:2 38:5

led [1] 37:12 **left** [1] 18:20 **legal** [1] 3:2

legislation [3] 5:13 56:5

legislative [4] 8:13,16 12:6 59:23

length [1] 34:1 lesser [1] 27:7

lessons [2] 49:17,20

level [3] 5:23 37:17 49:12 **Lewis** [1] 18:9

liability [1] 15:9 **liaise** [1] 20:2

licence [1] 58:1

licences [1] 57:23

license [2] 21:3,3 licenses [2] 56:23 57:20

lie [2] 49:3 50:1 **life** [1] 22:13

likelihood [1] 39:21 **limitation** [1] 8:18

Limited [2] 17:19 63:19 **limits** [1] 3:3 line [2] 27:6 31:10

list [1] 49:24 **listened** [1] 26:14 **listening** [3] 4:18 40:4,5 lives [1] 29:22 **living** [3] 29:14,15 39:6 **Local** [4] 17:4,9 67:16 73:4 located [3] 51:13 68:11 70:1 **location** [1] 9:6 locations [4] 13:10.16 65:18 70:8 longer [1] 40:8 look [13] 24:24 25:8.10 33:22 36:17 42:9 43:4,6 43:7,10 46:4 49:24 74:15 looked [2] 23:10 35:11 looking [2] 26:2 49:18 **looks** [1] 37:10 Lord [1] 29:23 **Lorraine** [1] 67:6 lost[1] 29:22 loud [1] 37:14 **Louisiana** [1] 72:2

-M-

low [3] 5:23 7:14 34:2

lower [2] 24:19 48:10

MacDonald [2] 17:16 17:17 machines [1] 35:22 Madam [2] 58:18 59:6 Mahoney [2] 18:16,17 main [2] 3:19 28:25 **maintain** [1] 11:3 **maintained** [2] 8:10 57:15

maintains [1] 58:3 maintenance [4] 56:24 57:16,21 72:10 makes [2] 32:12 39:25

managed [1] 27:21 management [12] 18:12 25:20,23,24,25 30:3,20 37:5 47:19 48:7 68:5 71:9

manager [6] 2:21 17:25 62:7 63:24 72:8,11

managing [2] 26:3 27:8 mandate [16] 5:6 6:9 7:17,18 8:3,19 9:2 10:9 12:23 14:6,22 15:6 25:13 42:6 43:3 57:3

mandated [1] 20:1 mandatory [1] 6:4 **Manning** [1] 18:9 manufacture [1] 64:1 manufactures [1] 63:20 manufacturing [1] 57:6 March [6] 11:17 20:11

42:12 60:21 61:1 71:5

marine [7] 9:5 18:3 36:15 64:7 65:2,9 66:8 **Mark** [3] 16:7 17:22 63:23

Marshall [2] 16:9,10 Martin [1] 16:11 **marvellous** [1] 36:2 materials [2] 26:25 75:8 matter [6] 1:7 21:7 37:18 38:20 41:17 43:5

matters [15] 1:16 4:20 6:6,14,20 7:20 8:22 14:1 14:3,6,9,14 22:20 37:21 38.4

maximum [1] 52:5 **may** [35] 3:11 4:14 9:19 10:4,12 11:7,12 12:7,25 13:2,5,25 14:4,25 15:3 22:7 32:21 34:8,9 49:10 50:18,20 51:8,14,22 52:10,11,13 55:2 67:10 67:11 74:6,7,14 75:17

McCloskey [1] 17:20 mean [1] 22:22 **meaning** [1] 4:17 means [4] 7:4 32:8 75:4 77:7

meant [1] 26:17 **meantime** [1] 4:7 **measured** [1] 47:25 **measures** [1] 39:20 **mechanisms** [2] 10:3 10:10

media [2] 36:9 61:22 **Medical** [1] 27:23 meet [1] 64:5

meeting [2] 26:22,22 meets [1] 64:12

member [2] 46:11 62:5 **members** [1] 37:5 **Memorial** [3] 18:4 36:15

65:2 **mention** [4] 1:20 21:7 32:25 75:20

mentioned [2] 22:3 48:6 merged [1] 68:24

met [1] 34:22 **metal** [1] 28:23

methodology [2] 9:15 51:10

Michael [2] 56:25 67:6 **microphone** [1] 41:21 mid [1] 40:16

middle [1] 3:20 might[1] 21:12 miles [1] 60:20

military [1] 21:17

mind [3] 35:13 38:9 43:20

mine [1] 33:24 minimized [1] 47:25 **minimum** [1] 13:12

minutes [1] 29:9 mishaps [1] 26:18 mobile [1] 69:11 mode [1] 31:8 **models** [1] 43:2 modern [1] 47:11 moment [7] 2:8,12,16 4:12 19:13 26:5 47:2 **monitoring** [2] 72:20 72:24 **monitors** [1] 56:16 month [2] 26:7,8 months [9] 2:3 19:4 24:2 40:10 46:23 50:11.12 52:4 74:25 **Montreal** [1] 26:10 morning [25] 1:16 3:22 15:25 16:3,17,21 17:2,6 17:12 18:6,11,17 19:9 28:22 35:11 40:16 41:9 42:1 44:12 45:20 46:20 47:22 75:21.24 76:3 most [11] 21:2 29:16 31:14 32:24,24 36:14 38:22 44:6 48:25 53:8 70:16 move [3] 49:14 51:21 52:1 moved [1] 50:15 **Ms** [12] 1:18 15:13 16:16 16:20 18:1,25 36:21

-N-

must [7] 31:19 47:24 50:5

52:20 56:11 57:13 67:20

40:23 55:3,7,8 74:22

name [4] 17:12 18:9 68:25 69:21 **namely** [1] 20:10 names [1] 15:16 narrow [1] 23:18 **National** [4] 9:4 60:2,3 **natural** [3] 28:11 62:4,6 nature [1] 14:16 **nautical** [1] 60:20 necessarily [1] 43:7 necessary [12] 3:6 7:9 9:19 11:18 15:1 19:18 20:23 23:11.16 48:15 53:25 58:7 need [6] 2:22 3:15 4:2,9 7:2 74:14 needed [3] 11:8 12:7 23:14

neither [1] 54:18

67:25 68:25

never [2] 34:22 38:8

new [4] 23:19 62:16

Newfoundland [59]

1:12 4:21,23 5:1,4,9 6:1

6:7,10,15,22 7:7,16,25

16:22 21:5 24:25 25:4

9:7,14 12:17 13:17 16:1

32:22 33:7 34:8 37:25 39:7,10,24 42:23 48:2 48:18 55:14,17,22,24 56:2,8 58:11 59:22,24 60:7.9 62:24 63:11.23 65:15 66:4 67:22,23 68:4 68:9 69:9 71:16 72:22 74:19 75:16 77:6 Newfoundlanders [1] 32:15 next [9] 12:12 13:7,19 21:25 28:21 31:10 46:22 60:17 68:23 **night** [2] 28:25 75:13 NL [1] 77:9 **NLOPB** [6] 5:6 10:24 19:24 55:19 56:5,16 **nobody** [1] 44:21 noise [1] 37:14 nor[1] 34:23 norm [1] 25:7 **normally** [1] 68:17 Norman [1] 17:13 **north** [9] 27:20 28:9,11 28:12 30:1 32:20 34:4,9 65:19 **northern** [2] 32:20 72:3 note [2] 26:24 34:6 **noted** [1] 24:3 **nothing** [2] 30:17 51:23 **notice** [3] 13:8,11 34:1 noticed [1] 34:20 **notified** [1] 2:20 Notwithstanding [1] 14:12

Nova [10] 17:7 56:3 69:4 69:4,5,6,16 70:5 71:19 73:7

> **November** [2] 48:14 68:9

now [18] 4:12 6:11 15:19 22:9 26:3,4,8 27:2 30:2 32:4 34:23 38:5 39:4 40:16 47:3 55:3 62:21 75:21

nowadays [1] 75:2 **number** [15] 1:12 3:1,5 4:3 6:18 38:17.18 44:10 45:25 46:2,23 47:4 50:13 65:6 73:8

numbered [1] 6:18

-O-

O'Brien [2] 16:16,17 o'clock [1] 75:13 **object** [2] 44:24,25 **objective** [2] 30:7 43:17 **objectives** [2] 14:23 15:6 obligations [1] 8:11 **obliged** [1] 73:23 **observer** [1] 60:24 **obtain** [5] 19:6 57:13 67:21 70:14,17

obtained [1] 63:13 **obviously** [7] 20:14 32:2 44:23 45:22 50:13 53:16 53:21

Occupational [1] 8:1 occupied [1] 29:20 occupy [1] 14:24 **occupying** [1] 2:23 occurred [7] 20:12,21 20:23 23:2 24:19 25:6 28:8

occurs [2] 31:25 32:4 ocean [4] 33:3,4 61:7 70:7

October [3] 1:1 77:4,10 off [7] 23:19,23 63:9 65:14,19 66:4 71:16 **offer** [1] 1:10 **offered** [1] 1:9 **offers** [1] 65:4 **office** [2] 2:25 27:16 **officer** [2] 24:16,20 **offices** [3] 14:24 22:14 27:18

offloading [1] 69:2 **offshoot** [1] 36:15 offshore [92] 4:22,23 5:5 5:10.20 6:2.8.11.16.23 7:7,14,16,21 8:1 10:2,13 12:18 16:23 18:2 21:6 25:1,4,7,17 32:22 33:21 34:16,19,24 36:13 37:3 37:3,8 38:14,15 39:5 45:8 48:2.17 53:6 54:7 55:14,17,22,23 56:7,12 58:10 59:23 60:9,25 62:12,15,23 63:1,4,14 63:23 64:4,9,25 65:3,8 65:14,15,17,22 66:4,9 66:12,14,19,25 67:19,20 67:22,23 68:4,9 69:9,11 70:20 71:15,17 72:1,19 72:22 73:8,11 74:19 75:18

often [5] 23:22 34:7 55:18 58:15 69:2

oil [43] 5:4 17:19 25:7,15 55:23 56:7,10,11,17 58:10 59:23 60:9 62:4.6 62:12,23 63:4,7,15 65:14 66:14 67:14,19,20 68:4 68:8,10 69:5,6,20,24,25 69:25 70:3,14 71:1,10 71:13,15,18 72:1 73:8 75:18

old [1] 23:18 once [13] 50:15,24 53:23 56:19 58:11 60:12 61:22 63:16 64:21 68:22 71:10 73:1.13

one [35] 2:7 3:14,14,18 3:22.23 6:18 7:2 9:21.23 10:20 11:16 12:10 18:23 25:24 29:17 37:6 41:23 42:3 44:10,20 47:6 48:5 48:9 52:4 54:19 55:5,11 55:11 64:10 65:23 66:1

70:22 74:8,13 onto [1] 37:13 open [2] 52:11,17 **opening** [3] 1:3 15:14 28:23

operate [2] 27:25 34:11 **operated** [2] 35:17 69:3 operates [6] 68:12,25 69:1,5,21,22

operating [2] 5:18 34:14 **operation** [11] 17:15 24:10,11 56:12 63:24 65:11 69:21 70:11 71:8 71:20 72:7

operational [2] 43:10 71:10

operations [7] 17:19,21 25:16 69:14 71:3,24 72:10

operator [7] 5:11 7:4,4 17:14 56:17,22 69:20 **operator's** [2] 5:21 7:22

operators [20] 5:9 8:7,8 8:10,12 56:10,11,17 57:11,13,14,19 58:9 67:15,20,20 70:14 71:1 71:11.14

opportunities [8] 43:15 45:2,5 49:4 50:1 51:5 53:7 54:22

opportunity [8] 44:18 51:11,12 52:25 53:9 54:5 54:25 73:2

oral[1] 13:2 orange [1] 47:4 organization [5] 15:10 19:5 24:23 26:21 57:17

organizational [8] 22:12.14 25:22 26:4 27:5 27:9,22 28:6 **originating** [1] 68:18

Ottawa [1] 42:14 ourselves [1] 51:14 **outline** [1] 46:21 **outlining** [1] 12:22 outset [5] 2:7 19:18 20:4 44:16 45:16

outside [2] 35:20 40:5 overall [2] 19:21 45:9 oversee [2] 5:10 56:7 overseeing [1] 6:10 oversees [1] 5:19 overview [3] 58:21 72:5

72:5 own [4] 35:12 50:19 56:6

70:9

-P-

pad [1] 35:25 **pads** [1] 70:8 panel [4] 47:7 52:12 70:15 71:7 paper [1] 43:8

Paperworkers [3] 17:4 67:16 73:3

paragraph [7] 7:10,17 8:18 9:1,9,14 14:19 paragraphs [1] 6:18

Parsons [1] 67:6 part [11] 15:17 22:15 24:10 25:12 32:20 36:14 41:14 49:15 54:11 65:1 71:21

participate [1] 74:3 participation [2] 12:12

particular [4] 11:24 60:7 65:11 71:7

particularly [1] 27:20 parties [17] 12:13,20,24 12:25 21:15,24,25 46:9 50:2,21 51:6,24 52:5,18 52:21,24 59:5

partner [1] 17:18 parts [1] 32:16 party [1] 54:19

passenger [2] 4:20 16:12 passengers [6] 63:21

64:4 67:17 73:15,17 74:4 **past** [6] 2:3 40:16 43:9 68:24 74:25 75:3

path [1] 46:3 **Paul** [6] 17:20 18:6,15 34:22,22 62:6

Peet [1] 77:5

Peddle [1] 17:8 pedestrian [1] 31:16

people [42] 1:12 2:13 3:1 3:6 4:3 19:19 21:2.17 23:9,17 25:25 29:12,15 29:21 30:5 32:16 34:21 35:6,14 36:22 37:7,23 37:24 38:3,14,17,18,23 38:25 39:4 40:3,4,6

42:16 46:1 47:5 52:12 60:22 63:10 69:7 74:6 75:18 per [2] 69:19 70:12

percent [5] 30:10,14 62:5 64:24 66:13 **perfect** [1] 49:20

perform [1] 42:24 performance [1] 64:16 **performed** [1] 24:4

perhaps [15] 1:13 2:13 4:1 15:20,21 23:6 25:11 31:8,20 39:4,24 41:8 49:10 52:4 75:13

period [4] 3:11 29:9 50:11 52:4

permission [2] 28:19,21 **person** [4] 15:10 24:15 24:17 47:6

personnel [7] 5:19 20:13 43:12 50:14 68:14 69:16 70:13

persons [1] 38:13

peter [1] 33:8 **Petro** [1] 68:24 **petroleum** [12] 4:23 16:23 18:7 25:1 55:17 55:23 62:1,10 65:8,17 67:22 74:20 phase [37] 9:21,22,23 10:3,11,20 11:16,19 12:10,11 22:6 45:7,9,17 45:20 49:22 50:8.9.10 50:16,18 51:17,21 52:1 52:2,8,23 53:9,15 55:5 55:10,11,12,12 74:8,12 74:13 **phases** [7] 9:21 44:19 45:7,14,15,19 49:7 picked [2] 34:4 35:18 **picture** [1] 72:17 piece [2] 36:2 43:8 **pilot** [2] 24:16 57:25 **pilots** [8] 21:3 23:4 56:24 57:20,23 73:15,17 74:4 **pipe** [3] 28:17,23 29:4 **Piper** [2] 28:7,13 **place** [5] 1:15 8:17 52:10 56:12 77:5 placed [1] 4:8 **places** [2] 3:8 4:15 plan [2] 8:6 75:7 **planes** [1] 23:4 **plans** [9] 5:21 8:9 56:11 56:14,19 57:12 69:14 70:9 71:9 **plate** [1] 28:23 **platform** [11] 17:5,10 25:16 34:20 35:8 60:24 68:18 69:23 70:4 71:21 **platforms** [3] 63:15 69:12 70:5 play [1] 8:8 **pleased** [1] 40:12 **podium** [1] 47:1 **point** [2] 34:13 51:2 **policies** [1] 15:2 **policy** [1] 4:5 **population** [3] 38:18 39:9,23 positive [1] 42:7 **possible** [8] 30:24 34:24 35:1 46:5 47:13 51:15 51:18 52:7 **possibly** [2] 45:4 50:11 **PowerPoint** [1] 47:8 powers [2] 9:9,12 practicable [2] 5:24 7:15 practical [2] 41:16 42:2 practices [9] 8:3 9:17 9:19,25 10:15 15:3 63:2 64:20 65:25 **premises** [2] 19:5 20:5 preparation[3] 40:11 61:4 72:15

prepared [2] 21:19 27:2 **preparing** [1] 2:2 present [4] 2:7 69:20 71:6 72:12 **presentation** [15] 46:20 58:13,17 60:14 63:17 65:3 66:19,25 67:3 68:7 72:4,11 73:1,2,14 presentations [9] 13:2 47:8 67:4 71:11 72:8 74:8,10,23 75:22 presented [2] 13:4 50:17 **presenters** [7] 46:10 67:2,3,5,10,11 74:14 **presenting** [1] 40:24 president [5] 17:9,21 18:14,21 72:6 **pressure** [1] 34:2 **presume** [1] 23:14 prevented [1] 32:2 **principle** [1] 44:14 principles [1] 8:2 **priorities** [1] 49:25 **Pritchard** [2] 15:24,25 **Pritchett** [1] 18:18 privacv [1] 61:21 **private** [3] 51:22 54:18 57:24 **problems** [1] 64:18 procedure [1] 58:5 **procedures** [11] 5:18 7:23 8:22 9:17,20 12:19 57:12 59:2 69:15 70:10 70:25 proceed [2] 4:13 31:19 proceedings [1] 1:10 process [16] 14:2 25:20 25:22 26:23 40:13 43:3 44:13 46:3,16 47:7 48:15 49:16 54:2,12 58:23

processes [8] 41:10 43:1 43:21.22 52:15 53:24 **-Oproduce** [2] 62:5 68:8 **Q.C** [11] 1:18 2:11 6:25 16:9 17:1.11.16 18:10 **Producers** [3] 18:8 62:1 40:18 41:4,19 **produces** [1] 69:24

production [4] 5:3 62:3 72:9 69:1,23 professional [5] 12:13 12:16 15:4 20:13 68:21

professionals [2] 37:6 59:1

54:25 57:18

62:10

Professor [1] 26:1 **profile** [4] 48:16 49:2 60:16,17

program [1] 66:2 progress [1] 40:24 **project** [1] 27:21 **projects** [1] 65:17 **proper** [1] 9:18 property [1] 2:21

prosecutor [1] 54:17 **protection** [1] 37:15 **protocol** [1] 62:17 **provide** [25] 11:9,15 12:14,19,21 13:3,8 14:5 14:20 52:5 55:3 56:9 58:4.21.24 61:18 62:8 63:11 66:2 70:19 73:9 73:16,18,21 74:10 provided [6] 11:17 21:13 23:20 60:5,8 65:16 provider [1] 68:20

providers [2] 49:1 68:15 **provides** [7] 39:6,8 64:22 65:7,13 71:22,24 **providing** [1] 71:17 **province** [6] 9:7 13:16 16:1 38:17 39:12 54:8

Provincial [3] 6:13 9:11

provision [2] 9:3 14:12 **provisions** [2] 5:7.12 **public** [34] 1:3,16,22,25 7:3 9:13,25 13:10 15:4 19:12 21:17 22:25 38:6 38:7.9.10.11 41:8 44:2 44:16 45:19 46:12.13 51:20 52:6,9,21 53:18 54:16 55:1 61:18 74:9,9 75.2

published [1] 59:16 **pulls** [1] 34:5 **pump** [6] 28:17,20,25

29:2,3,5

pumped [2] 28:14,14 **purpose** [6] 7:10,11 14:9 14:10 43:17 47:17

purposes [2] 13:25 21:4 pursuant [4] 6:2.12 7:5 56:2

pursuit [1] 45:4 put [4] 19:4,5 23:19 28:23

qualifies [1] 27:15 quality [3] 17:24 62:25 **questions** [1] 46:1 quickly [1] 42:20 quite [4] 30:4 42:17 44:15 55:18

-R-

raised [2] 11:3 74:12 **Randell** [1] 17:2 range [1] 65:4 ranking [3] 24:16,19 50:3 rather [1] 43:18 read [12] 2:9 4:13,15 7:3

15:15 19:10 22:17.24 25:21 31:5 41:25 43:25 real [3] 40:6 51:3 53:13 really [5] 7:8 13:22 22:15 42:21 47:16 reason [4] 2:22 26:1 65:13 74:24 reasonably [2] 5:24 7:15 receive [3] 27:1 59:21 61:24 **received** [1] 2:5 recent [2] 42:23 48:25 recently [3] 21:23 63:3 66:17 **recognize** [1] 30:16 **recognized** [1] 48:20 recommendations [13] 7:19 8:6 14:11 15:8 20:19 22:7 27:22 39:16 51:18 53:4.25 59:9.18 recommended [2] 12:2 record [5] 2:10 15:18 27:11 41:21 75:3 **recorded** [1] 72:25 **recovering** [1] 61:16 rectified [1] 75:23 recuperation [1] 61:15 **reduce** [7] 10:1 30:8,10 30:13,20,21 31:16 reduced [1] 5:23 reduces [1] 11:1 refer [11 28:6 **Reference** [15] 2:5,9 4:13.19 6:16 8:17 11:19 14:2 19:10 20:2 25:9 41:25 43:25 45:6,11 referred [2] 55:18 58:15 reflect [1] 2:17 reflected [1] 4:2 **regarding** [1] 15:9 **regime** [2] 43:10,12 **Region** [1] 62:12 **Regional** [4] 57:1,9,22 58:3 **registered** [1] 48:12 **registrar** [1] 15:13 regular [2] 11:4 19:20 regulates [1] 55:23 regulation [1] 56:6 regulations [1] 57:3 regulator [2] 5:2 19:16 regulators [5] 8:15 10:14 55:16,20 60:13 regulatory [3] 8:13 10:22 12:6 **related** [1] 8:20 **relates** [1] 6:9 **relating** [3] 7:20 14:3,16 **relation** [1] 14:5 **relations** [1] 15:4

relative [2] 31:7 39:9

relatively [2] 2:18,23 relevant [1] 11:11 relied [2] 51:23 52:7 **rely** [3] 44:8 50:16 70:24 **remained** [2] 26:15,16 **remaining** [1] 26:17 **remember** [2] 1:21 43:2 remitted [1] 53:14 **repair** [3] 23:11,16,17 repeated [1] 19:7 report [16] 7:19 8:5 11:15,17,24 20:20 24:12 45:11 53:11,12,15,19,20 53:22 54:1 59:20 reports [2] 13:1 52:6

represent [2] 16:12 54:16

representative [2] 16:24 17:22

representatives [3] 56:4,13 68:3

represented [3] 8:9 26:11 73:25

represents [1] 62:1 **request** [5] 11:8 12:8,25 21:18 34:19

requested [1] 11:13 **required** [5] 5:13 57:15 64:7,8 75:2

requirements [4] 8:7 8:14,16 58:2

rescue [12] 7:23 8:11 9:5 21:9 31:24 60:3.5 61:13 61:13 63:4 66:10 72:12

rescued [1] 29:12 **research** [2] 10:12 44:3 **resources** [3] 5:4 51:13 51:14

respect [13] 4:11 7:20 8:6 8:16 9:25 10:9.14 12:10 12:11 14:1 23:1,4 25:10

respected [1] 61:21 **respecting** [6] 4:20 6:6 6:14,21 13:10 14:10 respective [1] 20:8 respiratory [1] 23:21 **respond** [2] 53:10 74:14

responding [1] 45:10 **response** [4] 52:2 65:5

71:25 74:6

responsibility [1] 50:5 rest [1] 75:17

Restoring [1] 54:9 **result** [3] 12:1,4 22:24 resume [2] 52:9 53:23 resumed [1] 71:4

retain [3] 11:7 12:7 44:7 retained [4] 11:12 44:9 48:6 60:12

retrieval [1] 43:12 revenue [2] 39:9.14 review [4] 5:20 11:23

62:13 71:3 **reviewing** [1] 5:16 reviews [1] 62:25 revolutionized [1] 29:25 ride [2] 35:2 37:1 rig [2] 29:9 33:18 right [4] 33:10 40:21 41:18 73:5 risk [16] 25:20,23,24,25 27:8 30:3,19 32:1 47:18 47:21.22 48:7.16 49:2 60:15,17 risks [9] 5:22 7:13 10:1 26:4 31:16,17 47:24 48:3 49:3 road [1] 31:11 Robert [3] 6:25 60:18 60:19 **Roebothan** [1] 16:11 Rogers [2] 1:9 38:24 **Roil** [15] 1:18 2:6,10,11 15:12 18:25 40:17,18,22 41:3,4,16,19 55:7 60:10 role [9] 1:24,25 8:7,14 19:17 20:24 54:20 58:19 59:5 roles [4] 19:18,19 20:8 22:4 **Rolf** [1] 15:25 **room** [12] 1:5 3:1,7,13 3:16 17:8,19 38:22 39:2 40:3,5 55:2 rooms [5] 2:24,25 3:3 14:25 29:20 Rose [8] 35:19 69:22,24 69:24,25 70:2,4,13 rotor [1] 32:7 **rounding** [1] 55:20 route [2] 3:23 72:21 Royal [2] 23:1 24:13 **rules** [3] 9:17,19 57:10 runs [1] 17:14 **Russia** [2] 65:19,20 **Rutherford** [2] 65:21 65:24 -S-

S-92A [5] 5:25 8:25 11:7 11:22 57:5 **Sacuta** [3] 18:15 34:22 34:23 **safe** [2] 31:10 42:11 **safest** [1] 31:8 safety [99] 2:8,12,15,17 4:12,21 5:15,20 6:6,10 6:14,21 7:20 8:2,6,8,17 8:23 10:13 11:5,20 14:17 17:24 18:3 19:25 20:3,6 22:14,19,19,20,22 23:3 23:7 24:9,13,16,18,22 24:24 25:3,11 26:9,12 27:11,22 29:23,25 30:6 30:20 32:2 37:18 39:3

39:20 42:14 45:8,10 47:2 47:15,23 50:24 53:5,11 53:14 54:6,23 55:21 56:11,14,18 57:12 58:14 58:14.16.18.20.22.25 59:7,7,10,14,15,18 62:11 63:14 64:25 65:3,5,16 65:22 66:12.20 67:1 70:9 71:4,9,9 72:9 **Sakhalin** [1] 65:19 sanitizers [1] 4:8 **Saturday** [2] 35:11,13 says [3] 9:23 15:23 28:2 **scenario** [1] 43:13 **scenarios** [1] 51:16 **schedule** [1] 13:9 **scheduled** [2] 69:19 70:12 Scheduling [1] 13:7 school [1] 39:3 scope [1] 42:21 **Scotia** [2] 56:3 71:19 **Scotland** [2] 28:15 63:9 **Scottish** [1] 29:24 scratch [2] 25:2,8 **scrutiny** [1] 52:20 sea [13] 28:9,12,12 29:10 29:21 30:1 32:21 35:19 65:20 69:22,24 70:3,13 search [7] 8:11 9:5 21:9 60:2.5 61:13 72:12 **seas** [3] 34:15 35:12 36:6 **second** [1] 2:18 **Secretariat** [1] 13:21 **section** [2] 13:19 47:1 **sector** [1] 71:18 see [6] 36:25 40:12 43:14 46:25 75:14 76:2 seek [1] 42:8 **senior** [2] 17:14 37:5 **sensible** [3] 51:1,4 53:8 series [5] 6:18 7:1 29:8 49:23 51:18 **serious** [3] 6:1,4 23:2 service [4] 39:23 68:15 68:20 71:20 **services** [8] 11:8 12:8 15:4 48:24 65:17 71:17

share [1] 70:21 **sharply** [1] 30:21 **Sheldon** [1] 17:8 **shift** [1] 28:25 **shorter** [1] 52:3 **show** [2] 58:25 64:13 **showing** [2] 66:21 72:13 **shown** [1] 58:25 **shows** [1] 30:12 side [2] 3:14 23:7 **sides** [1] 32:11 **significant** [2] 48:3,19 **Sikorsky** [5] 5:25 8:25 11:6,22 57:5 **similar** [1] 56:4 **simulator** [1] 66:10 **sincerely** [1] 54:12 **single**[1] 37:11 sink [2] 32:10,10 **sit** [1] 37:16 **sitting** [1] 39:2 **situation** [1] 55:13 **six** [2] 8:18 70:11 **sixteen** [1] 63:10 **size** [1] 39:9 **sizing** [1] 64:19 **skill** [1] 48:22 skills [2] 20:14 35:21 **slid** [1] 29:10 **slides** [1] 47:9 **slightly** [1] 31:13 slowly [1] 41:22 small [4] 2:19 3:8 4:4 38:18 **smaller** [1] 2:23 **sole** [1] 60:19 **solicit** [1] 9:24 **solutions** [3] 50:24 52:8 59:8 **someone** [1] 75:10 **sometimes** [2] 23:21 24:1 **somewhere** [1] 52:12 Sooley [1] 77:11 sort [2] 36:3 38:5 sorts [3] 27:18 37:7 47:9 **sought** [3] 13:15 28:18

28:20

68:11

34:17

sound [2] 25:3 77:7

source [2] 39:13,14

south [2] 33:9 34:9

southeast [2] 27:19

23:21,22,24 58:6

speak [15] 1:15 9:23

67:10,18 73:23,24

speaking [3] 1:21,22

space [7] 4:4 14:24 23:18

38:20 41:7,11,22 44:11

47:10 50:20 59:14 67:7

specialized [1] 71:25 **specific** [3] 8:3 13:9,14 **specifically** [3] 8:4 9:1 specifications [1] 64:15 **spent** [1] 22:13 **spoke** [1] 44:10 **St** [11] 17:15 35:5 60:21 68:12,18 70:1,12 71:20 72:7 77:5.9 **staff** [4] 13:23,24 14:8 14:25 **stage** [1] 20:19 **stairwell** [2] 3:19,20 stairwells [1] 3:18 stakeholders [6] 44:17 45:3 50:22 51:7,25 60:16 **stand** [2] 15:15 41:20 standard [5] 64:6,6,8 64:13,16 **standards** [1] 62:14 **standing** [7] 12:15,20 12:21 46:9 51:6 52:24 73:25 **stands** [1] 61:25 **start** [8] 13:13 19:14 25:2 25:8,13 40:13 55:16 67:19 started [4] 22:16 25:19 28:22 31:7 **starting** [4] 15:21 25:15 68:9 71:18 **starts** [2] 45:21 75:25 **statement** [5] 9:8 21:13 21:19,22 60:4 **States** [3] 27:24 57:7 72:2 **station** [1] 28:14 **statistics** [1] 26:24 **statutory** [1] 5:11 stay [1] 4:11 **Stephanie** [1] 17:18 **Stephenson** [2] 57:1,4 steps [1] 42:2 **Steve** [1] 16:10 **still** [1] 61:15 **stood** [1] 34:21 stop [1] 49:13 **storage** [1] 69:1 storey [1] 2:19 **strange** [1] 33:25 **stream** [5] 33:4,10,16 34:5,6 **Street** [1] 77:5 **Strickland** [2] 18:10,12 strides [1] 31:4 **strong** [3] 34:11,11,14 **structure** [3] 47:16 68:13 69:14

structures [1] 5:17

specialists [3] 11:9,12

studies [2] 10:12 44:3 **study** [1] 31:5 **subject** [5] 1:7 36:8 38:5 43:5 51:19 **submission** [5] 53:1 59:21 60:1 61:24 63:18 submissions [8] 10:5 10:17 12:22 13:1 44:2 60:13 73:19 74:11 **submitted** [1] 53:15 **substantial** [1] 38:19 substantive [1] 14:9 **such** [19] 9:6,19 12:23,25 13:6,16,17 14:24,25 22:18 57:7,11 58:6,9 61:11 64:19,20 65:18 70:23 sugar [2] 30:23 31:18 suggest [2] 51:12 59:9 **suggestion** [1] 15:19 **suit** [5] 37:9 61:11 64:12 70:10 72:15 **Suite** [1] 77:5 **suits** [12] 61:3 62:14.17 62:22 63:20 64:3,11,14 64:17,22 70:24 72:14 **summarize** [1] 55:9 summer [2] 34:8 68:24 **Suncor** [10] 18:18,19,21 68:6,23,23,25 69:1,3,8 Suncor's [11 69:14 **support** [5] 13:23,24 14:3,7,19 **suppose** [2] 29:16 32:15 **supposed** [2] 19:11 29:5 **surface** [1] 61:8 **surprise** [1] 35:16 **surprises** [1] 44:24 **surveys** [1] 10:5 survival [20] 18:3 31:23 36:10 37:9 38:4 61:10 62:14,25 64:2,3,11,17 64:25 65:4,16,22 66:6 66:12,20 67:1 survived [1] 29:19 **survivor** [1] 60:19 **switch** [1] 29:2 **symposium** [2] 26:9,11 **symptoms** [1] 4:10 **synopsis** [1] 55:4 **system** [9] 5:16 43:18,19 56:23 58:8 72:20,24 75:6 systematically [1] 43:7 **systems** [1] 34:2 -T-

table [1] 49:14 tabled [1] 49:6 tables [1] 3:4 **Tadrose** [3] 58:17,19 59:6

71:23 72:1

13:16

71:19

session [1] 1:3

sessions [4] 13:3,11,13

set [4] 6:17 36:1 47:6

seventeen [1] 60:22

shall [22] 6:25 8:5 9:11

9:16,24 10:8,23 11:3,15

11:17,23,25 12:9,14,19

12:21 13:13 14:8,13,20

severely [1] 24:6

setting [1] 25:23

seven [1] 9:9

14:24 15:7

-U-

takes [1] 45:23 taking [2] 1:14 47:14 tank [1] 66:6 tanks [3] 23:12,15,18 tape [1] 3:11 taped [1] 3:10 **Tara** [1] 77:5 **Tarlton** [2] 16:2,4 task [4] 63:7,8,13 71:3 tech [1] 75:1 technical [2] 20:13 42:19 technology [6] 15:5 42:15 46:24 47:11 52:14 television [3] 1:8,9 38:25 ten [4] 14:19 34:18 40:17 43:9 tenants [1] 2:21 tendency [1] 32:5 term [1] 69:3 terms [23] 2:5,9 4:13,17 4:19 6:16 7:10 8:17 11:19 14:1 19:10 20:1 25:9 26:15 27:7,21 29:11 32:12 41:25 43:25 45:6 45:11 59:14 **Terra** [8] 17:7 69:4,4,5 69:6,16 70:5 73:7 **testimony** [3] 73:9,16 73:18 **testing** [1] 62:17 thank [12] 2:12 15:12 16:15 18:23 40:25 41:5 41:18 54:24 55:7 74:20 74:22 76:1 thanks [1] 34:25 themselves [2] 15:23 38:14 **therefore** [3] 6:11 27:8 59:13 **therefrom** [1] 11:24 thinking [1] 35:3 **third** [1] 26:22 **thoroughly** [1] 43:6 thought [4] 20:22 35:13 36:1 44:23 threat [1] 4:5 three [12] 3:13 7:10 22:1 26:16,23 30:11,12 33:13 45:18 50:11 68:2 74:25 threshold [1] 49:11 through [6] 26:3 28:13 49:5 50:20 71:6 74:11 throughout [2] 4:8 24:22 **Thursday** [1] 35:4 times [3] 13:17 33:14,19 timing [2] 50:12 53:11 tip [2] 32:6,9 today [12] 3:2,6 4:2,19 17:20 18:8,13 40:11 43:22 45:21 50:23 74:24

27:25 42:6 70:18,19 tomorrow [3] 74:18 75:24 76:2 too [1] 22:21 tool [1] 44:5 **tools** [1] 46:25 tooth [1] 20:10 top [2] 27:3 32:7 **topic** [2] 30:2,2 **topics** [2] 13:10 27:2 **Torbay** [1] 58:7 touch [1] 20:25 towards [2] 33:11 61:6 track[1] 37:12 tracked [1] 3:9 tragedy [4] 20:11 28:8 29:11 71:5 **tragic** [1] 42:8 **Trainer** [1] 66:8 trainers [2] 65:23 66:1 training [23] 8:21 31:23 36:7,8,13,16,18,21 62:19 62:25 64:23 65:6.7.11 65:13,24,25 66:2,5,11 66:15,21 70:25 **trains** [4] 31:4,8 64:24 66:12 transcribed [2] 75:4 77:6 **transcript** [1] 77:3 **transit** [2] 62:20 64:20 transparency [1] 44:14 **transport** [23] 6:6,14 12:17 16:4,7 20:24 22:2 55:19 56:20,20,23 57:2 57:2,9,16,19,20,25 58:1 58:12 63:5 70:13 71:14 transportation [41] 6:22 7:14 8:23 10:2 11:5 11:20 19:15.25 20:3.6 31:9,15 42:10,14 43:6 43:11 45:10 48:17 53:6 53:10.14 54:7 55:13.21 56:15 58:13,14,16,18,22 58:25 59:7,10,13,18 64:7 65:9 67:8 70:20,24 72:14 transported [3] 68:17 68:21 69:17 **travel** [1] 66:14 **travelling** [10] 7:24 48:1 62:15,22 63:15,22 64:4 66:3 72:18 73:10 **tremendous** [1] 39:22 trial [1] 46:24 **trip**[1] 34:24 **tripped** [1] 47:5 **trouble** [1] 24:18 **true** [1] 77:3 try [4] 3:12 32:8 41:21 43:16 **TSB** [5] 58:15,19 59:3,9 59:19 turn [4] 11:19 33:10,11 utilizing [1] 48:22

turned [3] 23:8 24:5 29:4 **Turner** [3] 48:12 60:11 60:18 TV [1] 38:24 two [16] 2:6,19 3:18 4:16 4:16 9:21,22 11:19 12:11 22:1 28:7 35:18 41:7,9 45:6 52:4 type [3] 23:13 47:7 64:2 **types** [1] 57:23 **typical** [1] 72:18 UK [4] 26:1 63:7.13.16 under [2] 68:25 69:21 **underlying** [1] 44:13 undersigned [1] 77:2 **understand** [10] 19:21 22:18 28:15 36:22,24 41:20 43:4 44:18,25 45:16 understandable [1] 4:18 understands [1] 45:1 **undertake** [1] 11:23 **undertaken** [2] 12:2,5 undertakings [1] 8:13 **underwater** [4] 62:19 66:7,18,23 **unfolds** [2] 67:12 74:1 unfortunately [2] 47:2 47:5 unintended [1] 23:2 **union** [6] 17:4 37:4 67:16 73:4,5,13 **unique**[1] 71:8 **unit** [1] 69:11 United [4] 27:24 31:6 57:7 72:2 University [2] 18:4 65:2 **University's** [1] 36:15 unless [2] 11:18 19:18 **Unlike** [1] 42:21 **Unlimited** [1] 77:12 **untrained** [1] 36:10 **up** [17] 4:6 15:15 25:23 34:2,4,21 35:11,18 39:19 41:6.6 42:2 45:14 47:6 47:21 51:2 71:19 **upright** [1] 32:9 **upside** [1] 32:11 **urgency** [1] 10:22 USA [1] 48:24 **used** [8] 21:5 44:21,22 51:10 56:23 57:8 58:8 75:3 **useful** [1] 47:16 uses [1] 70:11 using [4] 47:10 63:5 69:10.18

usually [2] 32:10 40:14

wiring [1] 3:9 -V**valuable** [1] 23:6 **various** [4] 22:4 32:16 38:21 66:8 verbatim [1] 4:15 **vessel** [1] 69:2 vessels [1] 70:9 vested [1] 9:12 vice [2] 17:20 18:20 vicinity [1] 34:7 video [4] 37:11 58:24 66:21 72:13 view [2] 9:25 10:21 views [1] 73:22 **VIH** [1] 71:21 visit [1] 34:20 visualizing [1] 33:11 vital [1] 54:7 volume (11 29:7 -W-72:18 waiting [2] 35:7,8 **Wallace** [1] 18:14 walls [1] 29:13 warmed [1] 33:16 watch [2] 33:25 34:5 watches [1] 37:10 **watching** [4] 1:7 35:20 38:23,24 water [8] 7:24 32:6 33:6 33:12,18,20 43:14 61:9 waters [3] 36:6,12,12

ways [2] 3:4 25:10 **wearing** [1] 64:20 weather [8] 32:17,18 33:23,25 35:4 48:4 60:24 61:2 website [2] 15:5 48:8 week [2] 69:19 70:12 weight [1] 32:6 welcome [3] 1:3,4 74:9 well-known [1] 42:22 Wells [2] 6:25 18:11 Wendy [1] 58:16 Whalen [2] 17:11,13 whereas [7] 4:22 5:5,12 5:19,24 6:2 33:15 **White** [3] 69:24,25 70:2 whole [4] 5:16 24:8,11 49:16 wider [3] 38:10,11 39:25 Williams [3] 15:13 17:14,23 wind [1] 35:12 windows [1] 29:20 winds [8] 34:10.10.12.14 34:17 35:16,25 36:6 **wing** [1] 24:17 winter [1] 34:9

wise [3] 15:14,18 75:25 wish [9] 48:8 61:21 67:4 67:10,18 73:16 74:3,6 75:14 within [13] 2:14 3:2,7 6:23 7:7 9:7 12:23 13:16 14:6,17 21:25 52:21 69:8 without [3] 47:14,22 51:24 witness [2] 18:6 60:18 witnesses [2] 19:6 40:24 woke [1] 35:11 woman [2] 27:13,16 **wondering** [1] 35:10 word [7] 4:16 13:22 28:7 46:18,18 48:9 75:11 **wording** [1] 12:10 words [2] 24:20 50:25 **worked** [3] 42:5 48:25 67:25 worker [7] 5:15 6:21 8:16 17:9 53:5 60:25

workers [25] 4:21 7:14 7:21 37:4 54:10 55:14 56:15 62:12,15,22 63:1 63:14 64:19,23,25 65:13 66:3.13 68:14.16 69:16 70:21 71:15 73:8,11

works [1] 66:24 **world** [7] 27:15 32:16 37:23 49:1 51:3 66:1 71:23

worldwide [4] 26:19 30:8,14 50:15

worn [4] 62:14,22 63:21 64:4

worst [1] 43:13 **worthwhile** [1] 36:20 worthy [2] 48:22 49:12 write[1] 46:13 writing [1] 74:10

written [9] 10:5,16 12:22 13:1 44:2 59:21 60:1,4 73:18

wrong [2] 42:11,25 **www.aerosafe** [1] 48:9

-Y-

year [2] 4:14 33:15 years [10] 22:16 26:16 26:17,23 30:11,12 31:20 42:23 43:9 67:24 yet [1] 39:5

vourself [2] 46:7 47:23

-Z-

zippers [1] 64:21

38:6

together [7] 19:5,6 22:6