OFFSHORE HELICOPTER SAFETY INQUIRY

November 18, 2009
Tara Place, Suite 213, 31 Peet Street
St. John's, NL

November 18, 2009

PRESENT:

John F. Roil, Q.C./
Anne Fagan.....Inquiry Counsel

Amy Crosbie. ..... Canada-Newfoundland and Labrador Offshore
..... Petroleum Board (C-NLOPB)

Ian Wallace/ ..... Hibernia Management and
Cecily Strickland..... Development Company (HMDC)

D. Blair Pritchett .....Suncor (Petro-Canada)

Alexander C. MacDonald, Q.C/
Nicholas M. Crosbie.....Husky Oil Operations Ltd.

Michael Cohen .....Cougar Helicopters Inc.

Laura Brown Laengle .....Government of Newfoundland and Labrador

Geoffrey Spencer.....Helly Hansen Canada Limited

Jamie Martin.....Families of Deceased Passengers

Kate O'Brien.....Davis Estate (Pilot) and
..... agent on behalf of Douglas A. Latto for Lanouette Estate (Co-pilot)

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..... Local 2121

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TABLE OF CONTENTS
November 18, 2009

Page 1

November 18, 2009

COMMISSIONER:

Q. Good morning, ladies and gentlemen. I guess, Mr. Roil, we're ready for the Helly Hansen presentation.

ROIL, Q.C.:

Q. Yes, Commissioner, good morning. We have with us this morning, Mr. Mark Collins of Helly Hansen Canada. I would ask that Mr. Collins be first sworn.

MR. MARK COLLINS, SWORN, EXAMINATION BY JOHN ROIL, Q.C.

REGISTRAR:

Q. Would you state your name, please?

MR. COLLINS:

A. Mark Collins.

ROIL, Q.C.:

Q. Commissioner, there are a proposed list of exhibits for Helly Hansen. They are exhibits numbered--and I don't have the right list in front of me. Thank you. Exhibits numbered 65 through 90.

COMMISSIONER:

Q. Yes.

ROIL, Q.C.:

Q. I would ask that they be admitted into

Page 2

evidence.

COMMISSIONER:

Q. Yes, they can be admitted then as of now.

ROIL, Q.C.:

Q. Oh, sorry. I'm sorry, there's another page, yes. So it's 65 to 92.

COMMISSIONER:

Q. Okay. Yes, okay then.

ROIL, Q.C.:

Q. Exhibit 65 is the PowerPoint presentation which has been prepared by Mr. Collins, and I would ask him to first bring it up like that. Good morning, sir.

MR. COLLINS:

A. Good morning.

ROIL, Q.C.:

Q. You are Mark Collins?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. Mr. Collins, where do you live? What do you do and what is your background, please?

MR. COLLINS:

A. I live in Lower Sackville, Nova Scotia. Our head office is in Dartmouth, Nova Scotia. I'm

Page 3

the operations manager for Helly Hansen Canada and I guess my background is I've been with Helly Hansen for a little over five years.

ROIL, Q.C.:

Q. Okay. Now you're speaking very quickly.

MR. COLLINS:

A. Sorry.

ROIL, Q.C.:

Q. Ask you to try to bring the pace down just a little bit.

MR. COLLINS:

A. So, yeah, I've been with Helly Hansen for a little over five years. I've held several roles at Helly Hansen, both in the sales and marketing and operational sides, with focus on our marine safety business.

ROIL, Q.C.:

Q. And prior to Helly Hansen, with whom were you employed in any way that might be relevant to your testimony here today?

MR. COLLINS:

A. Various positions that I've been involved with in the marine business, boat operators at yacht clubs for doing maintenance and on the water and those types of roles, as well as

Page 4

other sales jobs.

ROIL, Q.C.:

Q. Okay. Now you have prepared, I understand, a PowerPoint presentation for us on behalf of Helly Hansen Canada Limited and if you'd--I don't know if you can see how you can control that with the mouse there. I hope you've had a chance to practice. Yeah, go back to the first page. Explain to us, if you will, the overview of what it is you intend to speak to us about today?

MR. COLLINS:

A. Well, start obviously with the corporate overview of our company, go through our documented Helly Hansen quality management system, go through our aeronautical maintenance organization, so our suit maintenance facilities, talk about some of the staff that we have on board that would have been involved in suit design and development, our involvement with the Canadian General Standards Board, the request for proposal in terms of how we replied to the current request for the current contract of provision and maintenance of helicopter transport suits, the

Page 5

start-up process of that contract, more into the details of our service and maintenance of our suit system. From the start of the contract, we'll go over issues arising. We'll go through some changes as part of the return to flight process and then we'll be open for questions.

ROIL, Q.C.:

Q. I understand that you brought a special guest here this morning, who's hung up on the right-hand side for view?

MR. COLLINS:

A. Yes. This is the Nautilus E-452 helicopter transport suit that is in service today.

ROIL, Q.C.:

Q. Okay. This may not be available to those who are watching on television or through the web, but there is an actual copy of the E-452 which at some point in time I'm sure you'll be asked to go to and describe and make some comments on. It might be possible for us to move that closer to where you're sitting at some point for you to be able to be on the camera while we're doing it, but let's just see how that works out.

Page 6

MR. COLLINS:

A. Okay.

ROIL, Q.C.:

Q. Okay. Tell us then a little bit about who Helly Hansen is.

MR. COLLINS:

A. Helly Hansen Global is based out of Moss, Norway. It is broken into three groups. One is obviously the sport leisure group, which would deal with ski snowboard clothing, technical running clothing, not related to industrial or marine safety. The next section is Helly Hansen Pro, which would deal with industrial work wear globally, and then there's a special products division that does survival suits and other products in the European market.

ROIL, Q.C.:

Q. These are companies that are all owned or controlled by whom?

MR. COLLINS:

A. They are all owned or controlled by the parent company of Helly Hansen.

ROIL, Q.C.:

Q. Okay. Now then we see below that there's

Page 7

Helly Hansen Sport Leisure and then Helly Hansen Canada.

MR. COLLINS:

A. Yes. In the Canadian market, there is a split that there is a corporately-owned sport leisure division office on the west coast and that we are the Canadian licensee for industrial work wear and the North American licensee for marine safety products.

ROIL, Q.C.:

Q. And that license comes from whom?

MR. COLLINS:

A. From Helly Hansen Global, Norway.

ROIL, Q.C.:

Q. Okay, and you are--just I guess, a question, do you have to get special permission from time to time or are you sort of generally authorized to manufacture under the label Helly Hansen? How does that work?

MR. COLLINS:

A. We've been the licensee for Helly Hansen in Canada for 27 years. Obviously our license contracts do have renewal periods and dates and that would be reviewed every few years, and our license allows us to build our

Page 8

industrial work wear products and marine safety products under the Helly Hansen brand and also our company, the licensee, also owns the Nautilus by Protexion brand and also owns the Buoy-O-Boy brand, which we purchased when we purchased Protexion Products in 2006.

ROIL, Q.C.:

Q. Okay, so the trade brands Helly Hansen and I see up in the upper left-hand corner of your slide something called Nautilus by Protexion.

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. That's a trade brand that operates in Canada, is it?

MR. COLLINS:

A. That is a trade brand, yes.

ROIL, Q.C.:

Q. Okay, and the name Buoy-O-Boy, which I think I remember from my childhood on life jackets, that's also a brand that you make?

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. So who is Helly Hansen Canada Limited? Is

Page 9

that a Canadian company, a Nova Scotia company?

MR. COLLINS:

A. It's a Nova Scotia company, owned and operated company, based out of Dartmouth, Nova Scotia.

ROIL, Q.C.:

Q. Okay, and are you an owner of the company or are you a -

MR. COLLINS:

A. I'm an employee.

ROIL, Q.C.:

Q. Thank you.

MR. COLLINS:

A. So in terms of Helly Hansen Canada Limited's operations, Dartmouth Nova Scotia is our head office and Eastern Distribution Centre for retail products. We have a Western Distribution Centre for retail products. We have our Nova Scotia suit maintenance facility in Dartmouth, Nova Scotia, and we also have our Newfoundland suit maintenance facility here in St. John's.

ROIL, Q.C.:

Q. Okay. Now I'm just going to ask you a few questions generally about that. First of all,

Page 10

Helly Hansen Canada Limited with its head office and Eastern Distribution Centre in Dartmouth, Nova Scotia, what number of people approximately are employed there and what happens at that facility?

MR. COLLINS:

A. Okay, at that facility, we have approximately 80 employees. So that would encompass everything from customer service, order entry, distribution, manufacturing. Our design department is based there. Purchasing is based there, both for raw materials and finished goods, and then our operations management staff is based there.

ROIL, Q.C.:

Q. Okay, and what particular pieces of equipment and gear do you manufacture at that facility?

MR. COLLINS:

A. At that facility, we build everything from thermal undergarments, protective rainwear, survival suits, PFDs, life jackets and inflatable PFDs.

ROIL, Q.C.:

Q. From your Western Distribution Centre, does that have any relevance to anything that is

Page 11

before us today?

MR. COLLINS:

A. No.

ROIL, Q.C.:

Q. Okay. Then there's the Nova Scotia Suit Maintenance Facility in Dartmouth. What happens there and how many people are employed and what do you do in that facility?

MR. COLLINS:

A. That facility has a steady state of employees of approximately six people. We would have some manufacturing staff that would shift from our manufacturing plant for clothing into our survival suit room. So that location, we do product testing. We do suit maintenance as we would do here in Newfoundland, and that is where our quality control is based out of for suit production and maintenance.

ROIL, Q.C.:

Q. Okay, and do you have any work in Nova Scotia that relates to the offshore in that province?

MR. COLLINS:

A. We supply the E-452 to the operations of the Sable project and for EnCana as well.

ROIL, Q.C.:

Page 12

Q. And are those serviced by that facility?

MR. COLLINS:

A. They are serviced by that facility, yes.

ROIL, Q.C.:

Q. How long has that facility been in operation?

MR. COLLINS:

A. Since 1993.

ROIL, Q.C.:

Q. Now the Newfoundland Suit Maintenance Facility, which is said to be in St. John's, describe perhaps in a little more detail what happens in that particular facility.

MR. COLLINS:

A. That facility will do suit maintenance, certification and cleaning and inspection of the transport suits that are used offshore, primarily the E-452. So at that location, they would pick up suits coming in from offshore, do liner exchanges, visual inspections and we'll get more into the detail of the individual steps in suit maintenance, but they would maintain the fleet of suits that is used by personnel going offshore Newfoundland.

ROIL, Q.C.:

Page 13

Q. Okay, and how many employees do you have in the Newfoundland facility?
MR. COLLINS:
A. 11 right now.
ROIL, Q.C.:
Q. Just as an aside, not related to this particularly, but so we don't forget it perhaps later on, because it may become relevant, what are the major competitors of your company with respect to the provision of the survival suits and that kind of equipment within Canada?
MR. COLLINS:
A. Mustang, Viking, Fitzwright, White's.
ROIL, Q.C.:
Q. Sorry, Fitzwright, yeah, we've heard some of those names.
MR. COLLINS:
A. Now on the helicopter suit side, the only two that I'm aware of is Mustang and Viking. The others would be primarily universal fit marine abandonment suits.
ROIL, Q.C.:
Q. Okay. We've heard some of these names before and we'll see the names again, so I just

Page 14

wanted to get sort of a general overview. So in your Eastern Distribution Centre, you said you do design and manufacture of the survival suits?
MR. COLLINS:
A. The survival suits and other products as well, so other marine safety products, PFDs, life jackets, thermal clothing, rainwear.
ROIL, Q.C.:
Q. Okay. What checks and balances, in terms of quality control, do you have over the facility that is in Dartmouth?
MR. COLLINS:
A. The first, and this actually quality management system is for all our facilities, that we have registered ISO quality management system.
ROIL, Q.C.:
Q. Okay, again, just can we -
MR. COLLINS:
A. Sorry.
ROIL, Q.C.:
Q. - slow it a little bit, please?
MR. COLLINS:
A. Our current registration is ISO 9001:2008 and

Page 15

that is the latest revision of that ISO quality control procedures.
ROIL, Q.C.:
Q. Okay. Some of us in the room know a little bit about ISO. Some people in the room may know even less, and some people at home may know even less. Could you just give us a brief, your understanding of what ISO is and what it attempts to do by certification of organizations?
MR. COLLINS:
A. This particular certification is regarding the quality management systems of the organization. They will come in and do inspections of your quality management systems. So it is a standard that you can be approved to in all its parts and there are different ISO standards and I'll point to the previous registrations. The difference between our designation from 1998 to 1999 and then onwards from that is that in the ISO 9001, you have quality procedures for design and product development and those would also be audited. So depending on the components that you include in your quality management

Page 16

system would indicate (a) the ISO registration that you would have, and (b) during your audits, the pieces of the business that they would come in and audit.
ROIL, Q.C.:
Q. Okay. So that's 9001. What's 9002?
MR. COLLINS:
A. The 9002, it would be the same, but without the quality procedures for design.
ROIL, Q.C.:
Q. Okay. So product development would be in 9002?
MR. COLLINS:
A. Product development would be in 9001, but not in the 9002.
ROIL, Q.C.:
Q. Okay.
MR. COLLINS:
A. So in our current registration, and registration that we've had since '99.
ROIL, Q.C.:
Q. So what happens once you attain this? Perhaps--I don't know if you have now access to the exhibits. We have Exhibit No. 2.
MR. COLLINS:

Page 17

A. That's this one here. So that's our certification of registration, which is Exhibit 67, and it's for design, manufacture and distribution of cold foul weather gear, flame retardant products, personal floatation device, rainwears, waders, deck boots, helicopter transport survival and survival suit leasing. So it encompasses all the areas of our business.

ROIL, Q.C.:

Q. Okay, and if you scan down to the bottom of that visual, I think it will show a company, something called SAI Global.

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. Who are SAI Global.

MR. COLLINS:

A. SAI Global would be the independent company that would come in and do our audits.

ROIL, Q.C.:

Q. Okay, and so what happens from the time you've been given your registration to when a different registration is brought in? Is there an audit every year, every ten years?

Page 18

MR. COLLINS:

A. The audit system is both internal and external.

ROIL, Q.C.:

Q. Yes.

MR. COLLINS:

A. So we would have an internal audit process that then would be reviewed by the SAI Global externally annually and then there would be feedback based on the results from the audits. So we are--to maintain our registration, we are subject to an annual external audit and we have audits at both facilities done, at our Dartmouth location and at the Airport Road location here in Newfoundland.

ROIL, Q.C.:

Q. Okay, and the requirement to internally audit yourself is one of the requirements of the ISO regime, is it?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. So you must have your own internal audit, but they also do an external audit?

MR. COLLINS:

Page 19

A. Yes.

ROIL, Q.C.:

Q. Now with that particular piece of registration, are you able to manufacture and sell and market survival suits within Canada?

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. You are? Is anything else required for survival suits?

MR. COLLINS:

A. Well, for survival suits in Canada, yes. For the maintenance organization, Transport Canada--and I'll go to the next slide actually of the presentation. So both our service facilities are approved aeronautical maintenance organizations and I'm just going to go to an exhibit. Exhibit 68 is our certification from Transport Canada that we are an approved maintenance organization.

ROIL, Q.C.:

Q. We actually heard some evidence from Transport Canada, when they were in earlier in the process, and they talked about approved maintenance organizations, but we didn't see

Page 20

any certificates. So let's just take a moment to look at these, and so can you take us through the various certificates and what they do or what they enable you to do or what they limit you to do?

MR. COLLINS:

A. Okay. So based on the CARS or the Canadian Aviation Regulations, various certificates would be given to us for certain sections. So this first certificate, which is 4-94, is in regard to maintaining components. So components would include items like lights, PLBs, valves, you know, zippers. So the actual components of the suit, so that would be the individual pieces that make up the suit system.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. So then the next one, which is 399, is manufacture and certification of aeronautical products. Because the approval is on the suits, Transport Canada has approved our maintenance procedures and allow us to manufacture and to certify aeronautical

Page 21

products, and in particular, our suit system. So they focus it down to specific suit systems and on the next page, you'll see that it relies to helicopter passenger transport suits, the E-352 series and E-452 series.

ROIL, Q.C.:

Q. Okay. Now we have, for the first time, we've introduced a new number. We've spoken in our evidence here before your coming today about the E-452 and I believe that's the model that you have with you today.

MR. COLLINS:

A. The E-452, correct.

ROIL, Q.C.:

Q. Yeah. What is the E-352?

MR. COLLINS:

A. The E-352 would be the previous version of a helicopter transport suit and it was approved to the older versions of the standards. So obviously when you do have standards change come in and as part of the requirement for the contracts, we had to approve to the latest standards available, and we developed the E-452 as a basis for testing to those standards.

ROIL, Q.C.:

Page 22

Q. Okay. Was the E-352 ever used in offshore Newfoundland and Labrador?

MR. COLLINS:

A. It would have been used seldomly, just for specific short-term contracts.

ROIL, Q.C.:

Q. Okay. Was it used anywhere else in Canada?

MR. COLLINS:

A. In Nova Scotia, it had been used for seven or eight years.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. The next certificate that we see is our type certificate, AP-22. So that is our approval number pursuant to the Canadian Aviation Regulations for the following products. So there was actually four variations of the E-352 and the E-452 helicopter passenger transport suit system, and this is the latest update of that certificate.

ROIL, Q.C.:

Q. So as I understand it from the evidence of the earlier Transport Canada witnesses, not only does the facility have to be approved by them,

Page 23

but the actual unit itself?

MR. COLLINS:

A. Correct. The approval for the maintenance facility and maintenance procedures is separate from the product.

ROIL, Q.C.:

Q. Okay, and what is required, what do you have to go through, what kind of steps do you go through to seek and get these kinds of approvals and certificates?

MR. COLLINS:

A. For the maintenance procedures, the maintenance procedures are developed by Helly Hansen and approved by Transport Canada, based on the work and the product that you're working on. So we would have to develop all the procedures. We would have to update the procedures as required, and any updates, we would have to seek Transport Canada's approval in that Transport Canada won't give us a direct guideline, "you have to do it this way." What they will do is "yes, your current methodology is correct" and we'll do the work as per the Canadian Aviation Regulations or they will tell you, "no, go back and work on

Page 24

it."

ROIL, Q.C.:

Q. So they don't tell you how to do it? They either approve it or send it back?

MR. COLLINS:

A. They either approve your maintenance procedures or not.

ROIL, Q.C.:

Q. Yes.

MR. COLLINS:

A. As far as the product, the product would be tested as per the Canadian General Standards Board's standard, which we saw that CAPP introduced and we also have as exhibits for helicopter transport suits. So you would have to get a third party to do all the testing for you based on that standard. You would--if your product involves a life jacket, you would also have to have the testing to show compliance with--I'm getting a little ahead of myself here--and we'll go over the standards as well.

ROIL, Q.C.:

Q. Yeah, I think we're going to spend a little more time on the standards, so let's just keep

Page 25

on.
MR. COLLINS:
A. Yeah, later on.
ROIL, Q.C.:
Q. Okay, but in terms of Transport Canada, do they do--do they issue a certificate for all time or do they audit? What are the ongoing requirements with respect to them?
MR. COLLINS:
A. We are subject to annual and unannounced audits by Transport Canada, in being that if Transport Canada happened to be in Halifax next week and wanted to pop in, they could do an audit, but also we are subject to audits of all our maintenance procedures. In terms of the product certificates, if a new standard comes out, you are given a certain amount of time and which will be dictated by Transport Canada that you can continue to build that standard and then you would have to upgrade any new production to the latest standards.
ROIL, Q.C.:
Q. Now what we've spoken about so far is the aviation side of things. There is another exhibit that you've brought, Exhibit No. 70.

Page 26

MR. COLLINS:
A. Okay. Special conditions - Airworthiness. This one in particular has to do with the inflatable on the suit system. Historically and most helicopter transport suit systems have an external inflatable life jacket, so it would be a separate component that would be tested separately to the -- get to my approvals -- to the TSO standard, C13F, which is a technical standing order for inflatable life jackets for aviation.
ROIL, Q.C.:
Q. Okay.
MR. COLLINS:
A. Where we have a special condition as obviously some of the donning requirements in the standard are not feasible to do because our life jacket is integrated into the suit.
ROIL, Q.C.:
Q. By integrated, you mean the life jacket -
MR. COLLINS:
A. Being that it's built into the suit, so rather than having a separate component, and I'll just go up to the suit system, this is your inflatable pull tab which is a CO2 inflated.

Page 27

You also have your oral inflation tube and the inflatable life jacket is actually built into the suit and starts here, goes up around the head, behind the neck, comes back down this side of the suit. So rather than having to put the suit on first and then secondary, put a life jacket on over top of it, you just have to put the suit on and it's built right into the suit.
ROIL, Q.C.:
Q. Yeah, the suit is a life jacket as well?
MR. COLLINS:
A. Yes.
ROIL, Q.C.:
Q. Okay, and so this is the standard, this is the Transport Canada monitoring on that aspect of your suit?
MR. COLLINS:
A. Correct, and that they accepted the testing of the helicopter transport suit of either the M88, so the 1988 version of the standard or the '99 version of the standard and all our testing was done in the '99 or the latest version of the standard. We also have, as Exhibit 71, is the marine approval

Page 28

certificate.
ROIL, Q.C.:
Q. Okay. Now we've been talking, up until now, about aviation approvals?
MR. COLLINS:
A. Yes.
ROIL, Q.C.:
Q. Okay. Why is a marine approval also required?
MR. COLLINS:
A. In the request for proposal from the operators, they requested that we provide a suit that was tested and approved to both the aviation and the marine approvals, or the marine standards, sorry.
ROIL, Q.C.:
Q. And again, if we look at this certificate, at the bottom I think it refers to a date of December of '06?
MR. COLLINS:
A. Correct. It was issued December 18th, 2006, and is effective until December 31, 2011, at which either it can be renewed, if this is still the latest version of the standard, or any new product that we manufacture, we would have to test and build to any updated standard

Page 29

that would be published between now and 2011.
So for the next slide, we move into our industry expert experience and expertise. Our Nova Scotia Suit Maintenance Facility has been supplying and maintaining helicopter transport suit systems since '93 in the Nova Scotia market to the Sable project and other projects, and our Newfoundland facility was established in the fall of 2007, upon award of the current contract from the Grand Bank operators, which is made up of Hibernia Management and Development Corporation, Husky and Suncor.

ROIL, Q.C.:

Q. Suncor being PetroCanada at the time?

MR. COLLINS:

A. PetroCanada at the time, yes.

ROIL, Q.C.:

Q. Yes, okay.

MR. COLLINS:

A. To talk about some key people in our organization. Donald Mah, who is the head of R & D, has 19 years experience in product development design and research, and I'm just going to pull up his CV. So Donald has worked

Page 30

with Mustang Survival, Protexion Products and then he came to us as part of our acquisition of Protexion Products. He has worked on a vast array of life safety systems products as an engineer. That includes products for NASA astronauts, all the way to fighter pilots. So he has a lot of experience in terms of life preserver units, survival suits and immersion suits.

ROIL, Q.C.:

Q. And is he actually a full-time employee of the organization?

MR. COLLINS:

A. He is. Yes, he is.

ROIL, Q.C.:

Q. Okay, working out of your Dartmouth facility?

MR. COLLINS:

A. He actually works on the west coast.

ROIL, Q.C.:

Q. On the west coast of?

MR. COLLINS:

A. Of Canada, so he's based in BC.

ROIL, Q.C.:

Q. Yes, I see. Would he have been involved in the development of the E-452?

Page 31

MR. COLLINS:

A. Yes, he would.

ROIL, Q.C.:

Q. Okay, and yeah, you mentioned--I see by his CV that he was involved with a company called Protexion Products. That's the company -

MR. COLLINS:

A. That's the company that we purchased in '06.

ROIL, Q.C.:

Q. Right, okay.

MR. COLLINS:

A. Brian Farnworth is a senior research scientist. He has over 25 years of industry experience and a variety of Government industrial research institutions in applying science to development of protective clothing and equipment. He also worked for Mustang previously. He has worked for Gore Products. He has worked -

ROIL, Q.C.:

Q. Gore Products, is that the Gore-Tex name that we -

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Page 32

Q. - we hear of and see on recreational clothing?

MR. COLLINS:

A. That's it.

ROIL, Q.C.:

Q. Yeah.

MR. COLLINS:

A. Worked with Government clients in both industrial and recreational markets. So his expertise comes in terms of thermal testing, thermal performance of suits, and cold water protection.

ROIL, Q.C.:

Q. Okay. Again, is he a full-time employee?

MR. COLLINS:

A. No, he is on contract to us probably about 50 percent of the time. And then, last is Larry Spears. He's the manager of floatation products. He also has over 25 years experience in marine safety, including training, testing, helicopter escape training. He was a RIB instructor and also product development. So he brings a lot of experience from the end users perspective into our product development team.

ROIL, Q.C.:

Page 33

Q. Is he a full-time employee?
MR. COLLINS:
A. He is, yes.
ROIL, Q.C.:
Q. Now the next two exhibits I'd ask you to bring up and just have available, we won't talk about them initially, but are the two exhibits which are the CGSB standards for the helicopter passenger transportation suit and the immersion suit. We just have them available.
MR. COLLINS:
A. Okay.
ROIL, Q.C.:
Q. Anybody following our proceedings would have been aware of the evidence that was given yesterday and the day previously by the CAPP organization about their involvement, so tell us what your involvement with and your understanding of the CGSB and how it undertakes the setting of standards and how it enforces it and that sort of thing, just some general information about CGSB and your involvement with it.
MR. COLLINS:

Page 34

A. Okay. Well, the first part of the slide, I just took straight from the CGSB website on October 18th, that "the Canadian General Standards Board is a Federal Government organization that offers client-centred, comprehensive standards development and conformity assessment services in support of economic regulatory procurement, health, safety and environmental interests of our stakeholders, government, industry and consumers." So the CGSB acts as the liaison for the community, and I say community and community would involve manufacturers, operators, end users, scientists, testing facilities, so the broader community can be involved in the CGSB process, and would bring the community together to have discussions and to set standards. So in regards to the standards that are involved with the E-452, the CGSB has published the two standards, immersion suit systems, CAN/CGSB 65.16- 2005 and also the helicopter passenger transport suit system, CAN/CGSB 65.17-99.
ROIL, Q.C.:
Q. Okay, and they are exhibits number 73 and 74 that I think you've brought up?
MR. COLLINS:
A. That we have available, yes.
ROIL, Q.C.:
Q. Yeah, okay. So particularly with respect to this suit and any other suits that you've been involved in, what has been your personal interaction with the CGSB and what has been the interaction of others within your organization that you're aware of?
MR. COLLINS:
A. Our liaison with the CGSB is actually Larry Spears. He's currently in Ottawa for the CGSB meetings that are taking place this week.
ROIL, Q.C.:
Q. We were told yesterday that in fact this week the standard for the helicopter transportation suit is being reviewed?
MR. COLLINS:
A. Correct. This is the first group meeting of the committee members where they're meeting in Ottawa to discuss the current helicopter transport suit standard and commencing the review of that standard for the development of the next version of that standard. So our

Page 35

Page 36

involvement with CGSB is that we provide representatives with subject matter expertise. Obviously with Larry's experience, he is a great person to have on our staff to take part in that committee, at our own expense, to provide input and be part of the community that will develop the standards of which products are tested to, and we actually sit on more than just these two CGSB committees. We also sit on committees for life jackets, PFDs, inflatables. So there are multiple CGSB standards, depending on the type of product for marine safety.
ROIL, Q.C.:
Q. Okay. Does the CGSB have all of the marine safety standards? We know of things like Underwriters Laboratory and CSA as other standards organizations. Do they have -
MR. COLLINS:
A. To the best of my knowledge, they would have them all. In some of their standards, they may reference some UL or Underwriters Laboratory standards out of the US with Canadian amendments to them.
ROIL, Q.C.:

Page 37

Q. I see, but the CGSB has all the marine things in Canada?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. Okay. Now take you to the helicopter transportation suit and just inside the front page, there's a list of the committee members.
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. Now again, we had some evidence from CAPP on this, but there's some companies here like Survival Systems Limited. We're aware of that company in Dartmouth. You're aware of it as well, I take it?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. Okay, and Transport Canada, but I see Mustang Survival Corporation. Is this the company that is a competitor of yours?
MR. COLLINS:
A. It is, yes.
ROIL, Q.C.:

Page 38

Q. Okay, and Fitzwright Company Limited is there.
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. And White's Manufacturing.
MR. COLLINS:
A. It is, yes.
ROIL, Q.C.:
Q. Okay, so how does CGSB choose who to have on their committee, do you know?
MR. COLLINS:
A. My understanding is that it is open to any stakeholders that the standard may apply to. So it is an open process. They obviously do not want to have it stacked, and I say their membership stacked in one direction too much or the other that you don't want a committee that is only made up of manufacturers or only made up of end users. You want to cover the spectrum of people involved in the community, all the way from top down. So everybody from manufacturers to users to operators to regulators to--so that way you have a broader scope of input into the development of the standards.

Page 39

ROIL, Q.C.:
Q. Now if we look at the actual standard itself, and I don't want to take it line by line, but so that again the public understand what is a standard? Is this a blueprint? Is it a pattern? What does the standard set out with respect to the transportation suit?
MR. COLLINS:
A. The standard is really broken into three areas. The first one is individual component testing. So an example I would say is seam strength. So one of the seams of the suits where we attach two pieces of materials must meet a certain strength requirement. So there's individual component testing on durability. There's, you know, testing on zippers. There's testing on all the individual pieces that go into the suit. So there's component requirement testing. There's a section on human subject testing.
ROIL, Q.C.:
Q. Sorry, just stop you there. So the suit we have in front of us has about a three-foot zipper right at the front. Does it tell you that it must have a three-foot zipper?

Page 40

MR. COLLINS:
A. No. What it would tell us is that the--and we can go into the section of the standard, but it would tell us the strength that the zipper has to hold, the diagonal pull strength. There's a salt water spray testing that the zipper cannot corrode and jam in. So there's performance criteria for the zipper, not the zipper has to be made exactly this way.
ROIL, Q.C.:
Q. Okay, so it's performance oriented?
MR. COLLINS:
A. Yes.
ROIL, Q.C.:
Q. Rather than length and diameter?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. Or width or whatever?
MR. COLLINS:
A. Yeah, the only time you'll see length measurements and that is for issues regarding to like snag hazards, where you can't have any loose ends that are more than 100 millimetres or any loops that a 25-millimetre rod could

Page 41

pass through. But that's, once again, based on a performance criteria.

ROIL, Q.C.:

Q. All right.

MR. COLLINS:

A. Moving away from the component testing, you would then have human subject testing. So that is both dryland and in-water testing. So there's mobility testing. There would be life raft--you'd have to turn over a life raft and be able to board a life raft, climb ladders. There's, you know, face plane testing. So there's performance criteria that you actually need an array of subjects to go do and pass the performance level, but that's done with actual live people, both in the pool and on the pool deck, and then the last piece of it is thermal mannequin testing. So the thermal mannequin testing is made up both of human subject performance testing, as well as testing the thermal insulation of the suit.

ROIL, Q.C.:

Q. I'm motioning you to slow down a bit, because I suspect there's people trying to take notes.

MR. COLLINS:

Page 42

A. No worries, no worries.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. I'll blame the French Canadian blood in me for speaking quickly. So yeah, so that really makes up the three parts of the standard, but all performance based. So a standard does not say, you know, the suit has to look or be built like this. It may say, you know, seams need to be this strong. Figure out a way to make it happen.

ROIL, Q.C.:

Q. Right.

MR. COLLINS:

A. It will say that, you know, test subjects must be this range, but it will not tell you to build a suit exactly this long or a zipper three-feet long or so it's all based around performance.

ROIL, Q.C.:

Q. Okay. So if a competitor of yours were to build a suit to the same standard, would it be identical to yours?

MR. COLLINS:

Page 43

A. No.

ROIL, Q.C.:

Q. Okay. Would it look like yours in any way?

MR. COLLINS:

A. It would be similar.

ROIL, Q.C.:

Q. Yes.

MR. COLLINS:

A. Where you could see, you know, specifically one of our competitors products from the content that's publicly available has, as far as I know, the same boots, would use similar zipper combination into it, in terms of a split face seal design, would have neoprene cuffs that would be similar. So I mean the suits would look similar.

ROIL, Q.C.:

Q. Yeah.

MR. COLLINS:

A. But there may be differentiators in terms of specific features.

ROIL, Q.C.:

Q. Okay. Is the bright orange colour something that is dictated?

MR. COLLINS:

Page 44

A. The colour typically has to be orange, yellow or red, one of the primary visible colours for marine safety products.

ROIL, Q.C.:

Q. What about the floatation within the helicopter transportation suit system? What are the issues in terms of floatation?

MR. COLLINS:

A. Well, in terms of floatation, there's a minimum total buoyancy, and I can reference the standard. In terms of the total buoyancy of the suit system with both inherent, i.e. foam buoyancy and the inflatable element, must be above a certain level. But also, in the helicopter transport suit, there's one that's called maximum escape buoyancy. So that is tested so that the suit cannot be so buoyant to impede egress from a submerged helicopter.

ROIL, Q.C.:

Q. Okay, so how would buoyancy affect your ability to get out of the helicopter?

MR. COLLINS:

A. Obviously, the more buoyant you are, the quicker you're going to rise to the surface, and the surface inside an aircraft that's

Page 45

overturned could be -- you know, the floor where you could get pinned, and the example that I would give would be when you travel by airplane and they give you the pre-flight briefing in terms of donning the inflatable, they say inflate when you get to the door, not prior, for the exact same reasons, where if you're trapped in a submerged aircraft and you're now wearing a buoyancy element that is so buoyant that you cannot get down to get out a window or an escape door, you are going to be stuck. So they do have a maximum escape buoyancy test in the standard to show that you'd be under 117 neutons.

ROIL, Q.C.:

Q. And neutons are some sort of a measure of buoyancy?

MR. COLLINS:

A. Yeah, 150 neutons is 33.9 pounds of buoyancy is the conversion, so it's a method of measuring buoyancy.

ROIL, Q.C.:

Q. So buoyancy for a helicopter transportation suit has two aspects. You must have a certain level, but not too much?

Page 46

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. The way a layman might express it?

MR. COLLINS:

A. Yes, that's correct, and in -- I guess, I want to address one of the issues with designing a suit system approved to two standards.

ROIL, Q.C.:

Q. Yes, I was going to take you next to the standard for immersion suit. First of all, what is your understanding of what the immersion suit standard is designed for primarily?

MR. COLLINS:

A. The immersion suit standard is designed primarily for a quick donning suit that will provide protection to the person from wind, waves, and water for marine application for abandoning ship. Whether that ship is a supply boat or a fishing boat, those suits would be used in a wider array of applications and typically it would not be a size suit, it would be a universal fit suit.

ROIL, Q.C.:

Page 47

Q. Okay, we'll get to sizing and things a little later on, but that's okay. Are there any issues with respect to buoyancy in the immersion suit that are different from those in the passenger transportation helicopter suits?

MR. COLLINS:

A. The immersion suit standard calls for a minimum inherent buoyancy, so buoyancy made up by foam or neoprene or a solid buoyant product of 70 neutons. So now what happens is when you're trying to meet a maximum requirement in one standard, and you have a minimum requirement in the other, you now have to work in that gap. So now you have to work very diligently in that gap and that's why, you know, the E-452 suit system has features like the valve on the top of the hood that allows trapped air from inside the suit to escape the suit so that if you go in the water with the suit, it will self vent and allow the air that's trapped in the suit to get out, so your buoyancy is less, and you wouldn't necessarily see that feature in a marine abandonment suit.

ROIL, Q.C.:

Page 48

Q. Okay. You mentioned sizing. Is there -- do the standards dictate the sizes that can or should be made? What is dictated by the standards in terms of sizing?

MR. COLLINS:

A. The standards would dictate the size of the test subjects, so you would have to have a range of test subjects, and that you must obviously provide product that would be worn by those subjects, and that's the aviation standard. The marine standard of the immersion suit systems, and I'm just going to find the page and reference, specifies that typically there would be three sizes being small, universal, and jumbo, and they would give a range for height and mass, but you do not see that in the aviation standard because it opens up to having more than three sizes available. So in our suit system originally there was seven sizes, and now we're up to eleven.

ROIL, Q.C.:

Q. Okay, we'll get into that in more detail as we go through your evidence. So other than the things like buoyancy, are there any other

Page 49

challenges in putting together the two standards into one particular suit?

MR. COLLINS:

A. There are, and you have to work with both regulators to come to an agreement. One would be the buddy line. So the buddy line is located here in the suit. The buddy line's intent is to be deployed so that you can connect multiple people in the water together, so you can stay together as a group, and in the one standard it calls -- in the marine standard it calls for the strength of the buddy line to be between 400 and 1340 neutons. So the strongest it can be is 1340 neutons. In the aviation standard, it says it can not be any weaker than 1350 neutons. So you're into a situation of one standard's minimum is higher than the other standard's maximum.

ROIL, Q.C.:

Q. So what happens when you do that, do you have to get a concession from somebody?

MR. COLLINS:

A. Yes, I mean, we went to both regulators and TC Marine agreed that we would go with the test method for the aviation as it was a more

Page 50

stringent test.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. So that would be one example. Another example of some differences in testing where in other -- you know, the fabric is the same in both suits because it is one suit system, but oil resistance testing, you have more chemicals that the suit has to be protected against. That would be another -- you know, if you approved the one standard, you may have more fabric options than if you could -- if you work towards both standards.

ROIL, Q.C.:

Q. Something that's come up in earlier evidence, and this is not something that you and I have spoken about before, so I'm going to ask the question and see where the answer takes us. There seems to be some evidence that the pilot and co-pilot on helicopters wear a different suit. Are you familiar at all with the suit that they wear?

MR. COLLINS:

A. It is correct that they wear a different suit.

Page 51

Typically they would wear what's called a pilot suit, but Helly Hansen does not manufacture a pilot suit.

ROIL, Q.C.:

Q. Okay. Would the pilot suit be built to a different standard again?

MR. COLLINS:

A. I believe so. I'm not an expert on pilot suits and it's not one of the areas that we've been focusing development.

ROIL, Q.C.:

Q. Okay, the final piece of background documentation that I'd ask you to take yourself to is Exhibit #75, which seems to be something issued by the Federal Aviation Administration in the United States. Can you explain what this document has in terms of relevance to our proceedings? Just close it, and we'll try again.

MR. COLLINS:

A. There we go. This is the technical standing order for FAA. So this is for the inflatable element. So for inflatable jackets used in aviation applications. So this would be the same test method that would be used for life

Page 52

jackets on an airplane.

ROIL, Q.C.:

Q. Yes.

MR. COLLINS:

A. So that would be for the life jacket element of the suit and that is where we earlier saw the SCA, which is Standard Condition of Approval, or Special Conditions Airworthiness, sorry, which is Exhibit 70, in regards to Transport Canada Aviation approving our inflatable to the helicopter transport standard because of certain donning restrictions where it's built into the suit.

ROIL, Q.C.:

Q. Okay, why does the FAA become involved, though, as a federal -- a federal American agency?

MR. COLLINS:

A. That is the standard that is chosen for that specific product and the Canadian authorities have just decided to use the US --

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. The US standard.

Page 53

ROIL, Q.C.:
Q. Now I think in your earlier evidence, you indicate that prior to 2006 you were not involved -- or 2007, you were not involved in Newfoundland?
MR. COLLINS:
A. Correct, we did not have a maintenance facility here in Newfoundland.
ROIL, Q.C.:
Q. Sorry, yeah, you did not have a maintenance facility and you were not manufacturing the then current suit that was used by passengers in the offshore?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. What happened to change that?
MR. COLLINS:
A. The operators -- and we'll go back to the presentation. The next slide is the operators put out a request for proposal in the fall of 2006 for suit services to provide -- and we'll bring up the RFP as an exhibit.
ROIL, Q.C.:
Q. It's Exhibit #76.

Page 54

MR. COLLINS:
A. So how that came about is a request for proposal and the next few slides will through the core blocks of what was requested, was published by the Grand Banks Operators in Newfoundland and Labrador, Exxon Mobil in Nova Scotia, for the provision and maintenance of helicopter transport suits. So we were -- we replied to that request for proposal, and it gave the option to quote on both Newfoundland and Nova Scotia, or just Newfoundland, or just Nova Scotia. Obviously, we already had a suit maintenance facility in Nova Scotia that had been there for many years, and we saw this as an opportunity to build our business and serve a larger part of the market, so we replied to the RFP.
ROIL, Q.C.:
Q. Okay, and was your reply successful? I think it was.
MR. COLLINS:
A. It was. We were notified on April 23rd, 2007, that we were the successful bidder for the RFP. So to go to the next slide, the RFP to cover the scope of work was for the provision

Page 55

and maintenance of helicopter passenger suits to be used at offshore locations in Nova Scotia and Newfoundland and Labrador, including the Sable Project, Hibernia Project, Terra Nova, White Rose Projects, and any other projects as determined by the operators. So this was a maintenance and supply contract.
ROIL, Q.C.:
Q. Okay, so you were to supply and maintain?
MR. COLLINS:
A. Supply and maintain a helicopter -- a suit that was approved to both the helicopter transport standard and the marine standard.
ROIL, Q.C.:
Q. I'd ask you now perhaps to go to the actual exhibit, and I think the scope of work is actually 1.2, which you have already quoted. You head down to 2.2 below that, it specifies what the work is to be within Newfoundland and Labrador which is our focus here today.
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. So this is the job specification for all three projects?

Page 56

MR. COLLINS:
A. This would be -- yes, for the Newfoundland -- well, we've termed Grand Banks Operators, but for the three Hibernia Management -- well, at the time was Petro Canada, is now Suncor and Husky, for any of their operations.
ROIL, Q.C.:
Q. Within Nova Scotia, was Exxon the only operator there or was there a joint effort in that province as well?
MR. COLLINS:
A. At the time, Exxon was the only operator.
ROIL, Q.C.:
Q. Okay. Now under Newfoundland and Labrador, it talks about Petro Canada's persons on board, POB, and the Terra Nova facility is 120, and there's some other numbers there, could be 150/160, and then similarly the White Rose and the Hibernia Platform. What was the understanding that you had of the scope of the amount of work that you were bidding against here?
MR. COLLINS:
A. Well, that information would be relevant as to how many suits we would suggest as part of our

Page 57

bid would be required to service that many persons offshore.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. So that would be the POBs.

ROIL, Q.C.:

Q. So this was necessary information for you to have to do your bid?

MR. COLLINS:

A. Yes, it was. It was necessary information in terms of understanding the size of work and the number of people offshore, so how that would relate to the number of suits in the suit pool.

ROIL, Q.C.:

Q. Right, and did it tell you how many suits that you should supply?

MR. COLLINS:

A. No, it did not. So it allowed the provision for us to come back as part of our proposal to go by -- servicing and maintaining suits this way, and based on the number of people you have offshore, we suggest that your suit pool is 1200 suits.

Page 58

ROIL, Q.C.:

Q. Does 1200 suits mean that there are 1200 people and each person gets their own suit?

MR. COLLINS:

A. No, it does not.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. 1200 suits is a pool of suits that is shared amongst the operators that go through the heliport. It's a number of suits that was based on the number offshore, how many suits obviously would have to be in service, and in maintenance being re-certified, and then how many suits would be required to operate daily flights because those suits are exchanged. So a person flying out, you know, today would do their three week hitch offshore, fly back in in the same suit, turn it in, the suit would go through a maintenance cycle and then when they arrive next time, they would come back and get another suit of that size, but it may not be that specific suit.

ROIL, Q.C.:

Q. Okay. So what would -- a 1200 suit pool, what

Page 59

number of persons would you anticipate could be having access to that many suits? Would it be larger than 1200 or smaller?

MR. COLLINS:

A. Yes. It's based on maintaining the offshore workforce, so we estimate that a 1200 suit pool could cover a workforce of over 3000 people.

ROIL, Q.C.:

Q. Now then in 3.3 there is a particular requirement that, I guess, we need to speak about a little bit.

MR. COLLINS:

A. 3.3 is that the helicopter transport suit supply -- so 3.3 is specific to that the operator has requested that the suit that you were going to supply must meet the current Transport Canada aviation suit standard and the current Transport Canada Marine standard. So you had to supply a suit that had both approvals.

ROIL, Q.C.:

Q. Did you then have a suit in production at that time that would have met both of those requirements?

Page 60

MR. COLLINS:

A. As part of the bid process, you had to submit all your testing reports and your approvals, so when we submitted the bid, we had the E-452 approved to both those standards.

ROIL, Q.C.:

Q. Okay. So how did you -- I guess, would you just do a development of a suit on spec, or how would you come to put the energy into doing that if the RFP wasn't out yet?

MR. COLLINS:

A. The previous suit system was also a dual approved suit, and that the operators had previous to the final RFP had obviously done some documentation in terms of selecting qualified bidders, and it was known that the suit system request would continue to be a dual approved suit.

ROIL, Q.C.:

Q. And so you say you had that 452 actually developed at the time that the bid was put in?

MR. COLLINS:

A. Yes, because as part of the bid process, you had to provide approval certificates as well as all your test data.

Page 61

ROIL, Q.C.:
Q. Now you mentioned the 3.52 as being a predecessor to this suit?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. Were there significant or only minor changes between the two?
MR. COLLINS:
A. The 352 did not have, as you can see on the left chest of the suit or on the right side of the suit looking at the suit, did not have a spot to have an integrated HUEBA unit, breathing unit. Also in the standards test methods the test method for thermal requirement had changed from being flat water to in waves, which also then increased the thermal requirement performance of the suit, so there was obviously changes to the liner, tightening of seals, so the suit was held to a more stringent standard which required changes. Now looking at the suits, the 352 is also a bright orange suit with neoprene wrist cuffs and a similar face shield design to this, but a lot of internal changes in terms

Page 62

of the liner configuration, the inner hoodie of the hood system, and where the PLBs and the HUEBAs are integrated in the suit changed with this version.
ROIL, Q.C.:
Q. The version that we have that you're looking at there has a pair of green rubber boots at the bottom of it.
MR. COLLINS:
A. Yes, it does.
ROIL, Q.C.:
Q. Okay. Is that something that is standard to immersion suits or to helicopter transportation suits?
MR. COLLINS:
A. There are different boot designs. You can go with what's known as a floppy boot, which is typically found on universal fit immersion suits, so the material of the leg continues down, does a bend, and they would glue a hard sole on the bottom, but doesn't really offer a lot of foot protection (a), and also this was a feature, as you can see in Exhibit 3.4 -- sorry, line 3.4.2 in the RFP, insulated boots or equivalent dry suit boots will be part of

Page 63

the suit system. So it was one of the specified pieces within the RFP that, you know, not only does your suit have to meet the standard, there are certain additional features that we want as part of the suit system.
ROIL, Q.C.:
Q. So do I take it that the approval to the standard does allow things like changes in the boot?
MR. COLLINS:
A. The standard would allow you to test different boot configurations.
ROIL, Q.C.:
Q. Yes.
MR. COLLINS:
A. And currently we are allowed to put smaller components on the suit, so we would be able to go to smaller boots, but we would not be able to go to larger components without additional testing.
ROIL, Q.C.:
Q. And why is that?
MR. COLLINS:
A. Primarily because if you go to a larger boot,

Page 64

it equals more volume. More volume could affect things like escape buoyancy, larger seals could affect fit and water ingress, so anything that you go larger will require additional pool testing for on the suit.
ROIL, Q.C.:
Q. Okay. Now I take you to 3.5 of that exhibit. There's something about sizing.
MR. COLLINS:
A. Well, the bidders display a sizing chart which we did as part of our bid, describing the smallest to largest sizes your suit will fit, and the sizes being proposed for this contract, and then small size will fit a 90 pound person, the largest will be 425. The average will be between 140 and 250.
ROIL, Q.C.:
Q. Other than the requirement to fit within this clause of the contract, were you to do any fitting or sizing with respect to individual employees?
MR. COLLINS:
A. Not at the start up of the contract, no.
ROIL, Q.C.:
Q. Okay. 3.6 is bidders must have the ability to

Page 65

change out boots to different sizes. What does -- what did you understand that requirement to relate to?

MR. COLLINS:

A. As part of our bid, exactly as it says, I mean, at the request of the operators, we must be able to change the boots on the suit, and as part of our bid package, we would have indicated that, yes, that is possible, but additional approval work would have been required to keep the certification on the suits to do that.

ROIL, Q.C.:

Q. Then 3.8 calls for the provision of personal locator beacons and there are -- I notice two different beacons; one for Nova Scotia and one for Newfoundland?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. What is that all about?

MR. COLLINS:

A. That would be the choice of the operators. There is -- the individual projects chose to use and asked us to supply two different

Page 66

units.

ROIL, Q.C.:

Q. Okay, and what is that unit intended to do?

MR. COLLINS:

A. The personal locator beacons are an emergency signalling device that when activated will release a signal that can be tracked by Search and Rescue.

ROIL, Q.C.:

Q. And then we move to 3.9.

MR. COLLINS:

A. That is the emergency breathing system or the HUEBA that we would (a) supply; and (b), that we would have our suit approved with this unit on it, and as you can see on the left chest, or if you're looking at the suit on the right side, that unit is installed on the suit.

ROIL, Q.C.:

Q. Now at 3.9.4 there's a reference to 40 units will be supplied per helicopter for passengers travelling offshore. What does that mean in relation to each suit? Did each suit not have a breathing apparatus assigned to it?

MR. COLLINS:

A. No, the breathing systems are swapped out. So

Page 67

while the suit is sitting in a locker offshore, it would not have a breathing system attached to it. So prior to your flight, the breathing system would be attached to your suit at the heliport, you would wear it while you're in the helicopter. When you land and get to heli admin, this breathing system would be taken off and stored.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. And then would be used on in-bound out-bound flights. So what they have assigned was double the amount of units for each helicopter, so that would allow you to have a supply offshore on every installation, a supply at the heliport, and a supply in transit.

ROIL, Q.C.:

Q. And Helly Hansen was to manage that aspect of the --

MR. COLLINS:

A. We were simply to supply and maintain the bottles. The handing out of the bottles would be done by heli admin both offshore and at the

Page 68

heliport. So we would fill the bottles that need to be filled, we would do the maintenance on the bottles, but we would be dropping the bottles off at the heliport, and from that time to the flight it would be managed by either, as I say, the staff onshore at Cougar or the staff offshore at the heli admin.

ROIL, Q.C.:

Q. Okay, you refer to something called "heli admin". Is that -- what is heli admin?

MR. COLLINS:

A. Heli admin would be the person offshore that would meet passengers as they arrive or be with passengers prior to them leaving.

ROIL, Q.C.:

Q. Would that be a Helly Hansen employee?

MR. COLLINS:

A. No, it is not.

ROIL, Q.C.:

Q. But is that person -- who's responsible for supervising that person, if you will?

MR. COLLINS:

A. That person would be employed by the operators in that particular installation.

ROIL, Q.C.:

Page 69

Q. So by the designation, heli admin, it just means that they have that function to do?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. Okay, 3.1.0, bidder shall supply detailed information on your capability for customizing suits.
MR. COLLINS:
A. Yes.
ROIL, Q.C.:
Q. What was at that point in time your ability for customizing suits?
MR. COLLINS:
A. We were able to produce suits with various features. If we had to shorten legs or shorten arms, or for people that were identified by the operators, but once again any changes to the design of the suit to keep approval would require approval from Transport Canada and require testing.
ROIL, Q.C.:
Q. Okay. So the suits you were making already had that approval, did they, the standard suits?

Page 70

MR. COLLINS:
A. The standard suits, the E-452, as we see, had the Transport Canada approval, and if we were going to make different variations of this suit or make changes to the suit, we would have to get those changes approved by Transport Canada.
ROIL, Q.C.:
Q. And what kind of changes would you anticipate in the expression "customizing" that would happen to the suit, by way of example?
MR. COLLINS:
A. By way of example, if you had somebody that had an extremely short leg length, you may need to shorten the leg. If somebody had an extremely large calf, you may have to cut the boot down so it did not interfere with their calf. You know, somebody who had shorter arms, you may have to shorten up the sleeves. So it would be for specific reasons for personnel that were identified by the operators that, you know, we want this changed. It could be a larger boot. It could be somebody that is five foot eight and has a size 16 shoe. That would be one example of we

Page 71

may need to change out the boot and provide them with a custom suit.
ROIL, Q.C.:
Q. Okay, perhaps we can move on to Section 4, and it says the successful bidder shall maintain and service the helicopter suits. So what did you understand by maintain and service?
MR. COLLINS:
A. Well, maintain obviously as part of our maintenance procedures, we have -- which are approved by Transport Canada. We understood that, as it said here, we'll deliver the suits and life jackets, EBS, HUEBA units, and PLBs to the heliport and pick them up when they returned from offshore, that the helicopter provider shall issue the suits, life vests, EBS, HUEBA bottles to all passengers travelling offshore, and that the helicopter would receive them from in-bound flights, and that we would pick them up from the heliport after their one user cycle, and then we would clean the suits, do our inspections and our maintenance, any repairs, and leak testing as per our maintenance procedures, and then --
ROIL, Q.C.:

Page 72

Q. We'll get into the details of that later.
MR. COLLINS:
A. Yeah, and then get the suits ready for service again to be reused on flights.
ROIL, Q.C.:
Q. Okay, and did you at that point in time have a facility in Newfoundland that would enable you to do that?
MR. COLLINS:
A. No, we did not. As part of our bid package, we indicated that we would have to start up a facility.
ROIL, Q.C.:
Q. Okay, finally, I guess, the very bottom in the evaluation clause, there's a -- the last page of this exhibit. Yeah, right down at the very bottom, scan down. Yeah, owners request the bidder to supply a small, medium, large, and extra large suits with the approved aviation life jacket. Date of supply to be determined. Is this -- what did you understand this to mean in terms of what you were required to do?
MR. COLLINS:
A. Well, we would have to supply a finished good or the suit for them for their evaluation of

Page 73

all the bidders.
ROIL, Q.C.:
Q. Oh, okay.
MR. COLLINS:
A. So they could see the suits, touch, feel, not just run off documentation.
ROIL, Q.C.:
Q. Okay, so you actually had to give them four different suits with the life jacket incorporated, which it is in yours?
MR. COLLINS:
A. Yes, it is.
ROIL, Q.C.:
Q. On your slide, just want to take us to RFP work requirements or suit requirements, the second one, just to see whether we've covered off all those different items.
MR. COLLINS:
A. One of the other features that they requested be on the suit that is not required in the standards is a spray hood.
ROIL, Q.C.:
Q. Okay.
MR. COLLINS:
A. And the spray hood is tucked away in the

Page 74

collar of the suit.
ROIL, Q.C.:
Q. I think during the break we'll probably move the suit closer to you, but you can go over there now, but I think we lose the audio portion of your evidence if you stay there long.
MR. COLLINS:
A. So the spray shield is actually stored in this part behind the neck of the suit. You do have the yellow pull tabs to deploy it. It is a shield that you would grab, pull over your head and pull down, which would put a clear shield over your face. It velcros into this area of the suit, so it will give you some additional protection from wind and wave. So that was an additional feature that was requested as part of the bid. You know, we had to attached a reusable nose clip on each suit.
ROIL, Q.C.:
Q. Yeah, what's the nose clip to provide?
MR. COLLINS:
A. The nose clip is an additional piece of equipment that if you're going to be

Page 75

submerged, you can actually put a nose clip -- it's located right here. So the clip can be deployed, for lack of a better -- the clip can be put on your nose to seal off your nose for breathing. So we'll get that stored away properly there. So those were additional features that were requested as part of the suit system that we delivered and had to be integrated into the suit. That is -- really covers off everything in that slide. In terms of the personal locator beacons we already touched on, there was two different units requested and the unit that you see on the suit today is the Sea Marshall 121.5.
ROIL, Q.C.:
Q. And which one -- perhaps just again, so we all understand within the room, which unit it is.
MR. COLLINS:
A. This is the PLB unit. The antenna goes here, goes -- wraps around the back of the neck and down this side. This slide we already covered off is just the delivery of the HUEBA system for contract start up, and they specified the specific system or an equivalent. We decided to bid with the system that they requested,

Page 76

and we do have exhibits actually that have information on both the PLB and the HUEBA unit.
ROIL, Q.C.:
Q. Yeah, we'll get into that in more detail later on.
MR. COLLINS:
A. Okay. So that is the HUEBA unit you see on the suit today.
ROIL, Q.C.:
Q. Okay. To your knowledge, did any other of your competitors bid on this project or would you even know that?
MR. COLLINS:
A. I believe that two of our competitors did.
ROIL, Q.C.:
Q. And perhaps, Commissioner, this would be a good time to take the mid morning break.
COMMISSIONER:
Q. All right then, we'll take the break now.
(RECESS)
ROIL, Q.C.:
Q. Commissioner, during the break we moved the suit to a different location which hopefully will allow the witness to make reference to it

Page 77

and perhaps to stand up, but still be close to the microphone, and hopefully those persons that are controlling the camera that is on him will be able to pick that up as well. I think you can probably see it a little better from there as well.

COMMISSIONER:

Q. Yes.

ROIL, Q.C.:

Q. Mr. Collins, before we move on, I want to go back to one point and I think in your evidence, you indicated that one of the differences between the 452 and the 352 was that it had the pocket for the HUEBA, the breathing device?

MR. COLLINS:

A. That is correct.

ROIL, Q.C.:

Q. And I think you told us that you had that 452 already developed prior to the tender being let?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. The proposal call. So my question to you is

Page 78

how did you know what you needed in terms of that particular facility because I understand that that was a new device for you to be adding to your suits? When did you know and how did you know that that was going to be a part of the requirement?

MR. COLLINS:

A. Obviously our contract in Nova Scotia was ending, so we would have been in contact with the operators as to future requirements and it was indicated that the future suit systems would require the integration of a HUEBA unit. Obviously, to do so, we would have had to either (a) change the exiting suit system or (b) develop a new suit system with that feature.

ROIL, Q.C.:

Q. Okay, and so do I take it that this feature of the sleeve for the HUEBA device was a part of the 452?

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. And right from your first concept of bidding on this contract, you were aware that this was

Page 79

an issue?

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. What year would that have been?

MR. COLLINS:

A. It would have been probably early 2006.

ROIL, Q.C.:

Q. Okay, if I take you then to Exhibit #77, please. Actually, 77, perhaps 78, 79, we should just have up, and perhaps even 80. It's a series of documents, just get them up and have them in reserve down there. Exhibit #77 appears to me to be a document that has been, and I will use the word "redacted". For those that have not heard the word before who are listening publicly, it has had items eliminated from it for various reasons. So what is this letter, who is it from, and what does it tell us?

MR. COLLINS:

A. Okay. Just bear with me for two seconds. I'm just catching up to get all the exhibits open. Okay, so Exhibit 77 would be the contract award letter that was issued to us, notifying

Page 80

us that we were the successful bidder for the job, and it was issued to us from ExxonMobil which was the coordinator for the three operators for this bid.

ROIL, Q.C.:

Q. Okay, so this says, "On behalf of Hibernia Management and Development Company and ExxonMobil Canada's property, we are pleased to award the work". Would you have gotten a similar letter from Husky and Suncor, or is this the only document that you got?

MR. COLLINS:

A. This would be the only document as part of the RFP process. Rather than doing everything in triplicate, the operators indicated that we would be using one point of contact for the administrative side of the RFP, so we only did get one response.

ROIL, Q.C.:

Q. Okay, and this you received some time on or after April 23rd, 2007?

MR. COLLINS:

A. Shortly -- we received it, an electronic version that day.

ROIL, Q.C.:

Page 81

Q. Okay. Now I notice down in the second last paragraph, you say, "Our current estimate of date for commencement of work is [blank]". I take it that was not left blank at the time you did the letter?

MR. COLLINS:

A. No, and the date in there was May 1st. As you can imagine, receiving this letter on April 23rd, to be ready to go for May 1st would have been an impossibility. Obviously, we would have had to manufacture suits. So as part of our -- the pre-job meetings, we came to an agreed start dates for both the Sable Project in Nova Scotia, and for the projects in Newfoundland, and those are indicated in the other exhibits, the contract.

ROIL, Q.C.:

Q. Okay. So in early April, 2007, you were aware that you were the successful bidder. At that point in time you had not made very many of these suits, I take it?

MR. COLLINS:

A. No, obviously without knowing that we were going to get the work, you would not start mass production of suit systems.

Page 82

ROIL, Q.C.:

Q. Right. I'm not asking you your cost to produce, but if one was to go into a store and purchase something with that kind of technology at a retail price, what would one have to pay for something like that?

MR. COLLINS:

A. For the suit system, without the HUEBA, light, or PLB, you would be between $3,500.00 and $4,000.00.

ROIL, Q.C.:

Q. And with the other pieces of technology added in?

MR. COLLINS:

A. We don't retail those other components, so we've only purchased those for use in this contract, and we're not retailers for those products.

ROIL, Q.C.:

Q. Right. So what did you do after receiving this contract?

MR. COLLINS:

A. The contract letter, obviously then our team started to work with the operators, obviously had meetings with them in terms of finalizing

Page 83

the specifics of the contract, start up date, and we would have gone into production of the suit.

ROIL, Q.C.:

Q. And how many suits did you intend to produce? I think there was some redaction of the number of suits for the different projects. You've left some numbers out.

MR. COLLINS:

A. The total suit pool for Newfoundland is 1200 suits.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. So we took out the specifics per operator.

ROIL, Q.C.:

Q. Yes, why did you do that?

MR. COLLINS:

A. Obviously, this was a bid where we had to suggest the amount of suits per operator as part of our bid. It is a five year contract, so we are part way through that contract now, and I did not feel like giving away competitive intelligence to our competitors as to what we bid per locations.

Page 84

ROIL, Q.C.:

Q. Okay, but in any event, you produced 1200 suits --

MR. COLLINS:

A. The overall suit pool in Newfoundland is 1200 suits.

ROIL, Q.C.:

Q. In Newfoundland. How many in Nova Scotia in addition to that?

MR. COLLINS:

A. 500 and change.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. And on top of that, we would have had suits for training facilities, et cetera.

ROIL, Q.C.:

Q. Right. Now you have then the next exhibit, 78, 79, and I guess 80, which are really three contracts, they appear to be extracts from, or extracts from contracts with respect to the three operating companies?

MR. COLLINS:

A. Yes. So after we were the successful bidder, obviously the three operators are independent

Page 85

companies, so we had to have separate contracts with each operator, and those sections are just the scope of work of the contracts which would cover the same items as the RFP document, which we covered earlier, just with specifics to every operator.

ROIL, Q.C.:

Q. Okay, were there any significant or important changes in the contract from what was let to what was actually executed? Sometimes there's negotiation or an amendments phase. Were there any really significant changes to what you were to supply versus what you bid on?

MR. COLLINS:

A. In terms of equipment and maintenance facilities, no. We would have negotiated start up dates. So for the Nova Scotia project, it would have been September 10th, 2007, and in Newfoundland, we would have started up November 1, 2007.

ROIL, Q.C.:

Q. What then interaction, if any, would you have had with the training institutes with respect to the use of this new piece of technology?

MR. COLLINS:

Page 86

A. We would have entered discussions and have contracts with both MI and Survival Systems Limited to supply them with suits for training.

ROIL, Q.C.:

Q. And the suits that you supplied to them were separate from the suits that you supplied to the operators?

MR. COLLINS:

A. Correct. The training suits are not used in flight and are actually labelled with a foot and a half by ten inch label on the back of the suit in yellow so it's very visible, "Training Suit, not for flight use".

ROIL, Q.C.:

Q. Okay, why is that?

MR. COLLINS:

A. Obviously, things like chlorine in pools can damage materials over time. So a suit that was getting heavy use, especially in a pool environment with chlorine, we did not want to put into flight.

ROIL, Q.C.:

Q. Okay. If you go back to your PowerPoint, I think you refer there to on time delivery of

Page 87

the HUEBAs, the breath devices, so they were supplied and delivered as requested?

MR. COLLINS:

A. Yes, we -- for the start ups of both locations, the Sable and the Newfoundland operations, we had the required amounts of PLBs, HUEBAs and suits for contract start up on the start date.

ROIL, Q.C.:

Q. Okay. Your slide says there you were instructed by the high (phonetic) Grand Banks operators not to put them into service?

MR. COLLINS:

A. As we heard yesterday, there was some concerns regarding the training of those -- of training with those units, and until that was rectified, they did not want that to -- the bottles to go in service.

ROIL, Q.C.:

Q. So did they go in service in either Nova Scotia or Newfoundland?

MR. COLLINS:

A. No, they did not.

ROIL, Q.C.:

Q. Okay. What did you understand to be the

Page 88

training issues that were of concern with respect to the breathing device?

MR. COLLINS:

A. Our understanding was there was some concerns around air embolisms in persons during training, for training with compressed air, and that, of course, can be life threatening, so it was being investigated prior to launch of the product.

ROIL, Q.C.:

Q. Do you have any personal knowledge yourself about those kinds of medical issues?

MR. COLLINS:

A. No, I'm not an expert on underwater breathing devices.

ROIL, Q.C.:

Q. Okay. And then there's an indication there was an orientation with staff at the heliport. What had to happen now to integrate your operation with the operations of Cougar at the heliport?

MR. COLLINS:

A. So we would have had staff at the heliport for flights to assist the Cougar staff with, you know, the tracking and issuing of suits. All

Page 89

our suits have a serial number which is located on the right sleeve, all the liners have serial numbers, all the HUEBAs and PLBs have serial numbers. So any person travelling offshore, their name gets entered and suits get - components get assigned to them for travel offshore and back, so obviously how to use those systems. We essentially called it the changing from yellow to orange because the previous flight suit was yellow and the current suit is orange. One of the other steps that was put in right away was making sure that everybody could zip up the suits prior to flight. So they made sure -- our staff was there to assist with any questions anybody had about suit features and that, and I know one of the steps that they implemented was that everybody zip up prior to flight and we heard that in Mr. Decker's testimony that on the morning of his check in, one of the things that they did -- the Cougar staff did prior to flight was ensure that everybody could zip up.

ROIL, Q.C.:

Q. Okay. Now the -- if I take you back to the

Page 90

contract, the one that we just had up, which is Exhibit #78, and I won't take you through all three contracts because they may be similar in very many ways, but Clause 4.4 has to do with sizes, and I'd like to have some evidence from you as to what your understanding was and how people would be fitted into these suits?

MR. COLLINS:

A. This was not a recommendation for fitting. This was a recommendation on the quantity of each size we would have in stock as part of the suit pool. So based on the historical information that we had over the last years of service on the Sable Project, the suit pool would typically be made up of certain percentages, so it would be -- of 1200 units are 400 of those mediums that you would have available for use. So this was not a fitting requirement, this was in terms of how many smalls you would have in stock, how many mediums you would have in stock, how many larges, how many extra larges you would have in stock as part of the suit pool.

ROIL, Q.C.:

Page 91

Q. Was there any discussion at that time about larger or smaller suit sizes?

MR. COLLINS:

A. The initial bid also had extra small suits. Obviously, based on the information of the RFP of the average suit size, average person being 150 to 250 pounds, that would typically cover your smalls through to your extra large. So it would be what would be considered the core sizes, and a small percentage of the people would be the larger, 2 and 3XL.

ROIL, Q.C.:

Q. But was that an issue where you -- was there any indication to you from the outset that larger or smaller sizes might be required?

MR. COLLINS:

A. Extra small, yes, and then quickly there was the addition of 2 and 3XL suit sizes, which make up 1.6 percent of the suit population and they never seemed to be all out in use. So for a very small number of people that they would have required a suit larger than extra large.

ROIL, Q.C.:

Q. Okay, so the size range grew quickly to from

Page 92

extra small --

MR. COLLINS:

A. From extra small to extra large, to extra small to 3XL.

ROIL, Q.C.:

Q. So 2XL was added and 3XL?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. How large a person would a 3XL accommodate?

MR. COLLINS:

A. Significantly bigger than I am, and I'm not a small person.

ROIL, Q.C.:

Q. What size would you take?

MR. COLLINS:

A. I wear an extra large.

ROIL, Q.C.:

Q. You wear an extra large in that suit, okay. You also mentioned the feature poster. What was the purpose of the poster?

MR. COLLINS:

A. All the poster -- the poster was similar --

ROIL, Q.C.:

Q. I think we have an exhibit of it perhaps.

Page 93

MR. COLLINS:
A. Yeah, it would be similar to this one. That may have been updated, and I'm just trying to find the -- where did it go, #16 on my list.
ROIL, Q.C.:
Q. Should be Exhibit #81.
MR. COLLINS:
A. It would have been a little different than this, but it would have outlined key features of the suit, such as wrist cuffs, gloves, boots, and I can always do -- just a kind of top down suit review might be the best time to do it right now.
ROIL, Q.C.:
Q. Okay. Just take your time and give the camera a moment to move with you if it needs to.
MR. COLLINS:
A. Absolutely. I think the camera is pointed at me now. So starting with the top of the suit down, on top of the hood, we have an air escape valve, so that allows the suit to self vent when you are submerged under water, so to allow any trapped air to escape from the suit.
ROIL, Q.C.:
Q. Okay, we heard other references -- I think

Page 94

people talked about burping a suit. Is that an automatic burp, if you will?
MR. COLLINS:
A. Essentially yes. Typically in a marine abandonment suit, as we heard in earlier testimony from Mr. Decker, that in training they were taught to burp the suit or get any trapped air out of the suit. Obviously, while seated in a helicopter, it's not always possible, so you may have trapped air in the suit. You must have a way of getting trapped air out of the suit as part of your escape buoyancy testing. That's why the valve would be put in that area.
ROIL, Q.C.:
Q. Okay.
MR. COLLINS:
A. Obviously, the water proof zipper, you have an additional face flap come around the face. Behind your neck, you have your spray shield with your deployment tabs on either side. You have your oral inflation tube. So to operate the oral inflation tube, you press down with your teeth and blow in, release the lock, or if you want to deflate the inflatable, press

Page 95

down on the end of the tube. Below that is your personal locator beacon. This beacon -- this one is currently not set in the armed position, but it's one of the steps that is checked prior to flight, with the tab in the downward position and the O-ring locked in above is in automatic, so it is salt water activation mode. So if it is submerged in water, it'll automatically start signalling, or you can press and hold the button for five seconds and it will also start signalling. Beside that, you have your water activated --
ROIL, Q.C.:
Q. Can the individual tell whether it's signalling?
MR. COLLINS:
A. In here there's a green flashing light at the top.
ROIL, Q.C.:
Q. So it signals a radio wave, but it also shows the user that it's working?
MR. COLLINS:
A. That it's working, yes.
ROIL, Q.C.:
Q. Okay.

Page 96

MR. COLLINS:
A. The emergency salt water activated strobe light with the armed switch in the up position shows that it's armed and ready to go for water activation. You have your two sensors on the front and that is a strobing light. Below that, you have your whistle and your nose plug. On your below right torso, you have your inflation pull tab, so that's for CO2 inflation of the inflatable life jacket. You have your cuffs with your adjustable wrist straps, you have your gloves that are stored in the pockets, on the overcuff of the wrist area. On this side, you have your HUEBA unit with your second stage regulator. You have your buddy line, you have your polyurethane expanded foam boots which provide thermal protection to minus 40, and the foam liner of the suit is a P foam liner that will provide thermal protection as well as buoyancy of the suit system. So the poster would have covered many of those features.
ROIL, Q.C.:
Q. Okay, and I think perhaps if you can turn it around so that those who are not able to see

Page 97

it earlier can see the inflation --
MR. COLLINS:
A. The automatic -- not the automatic, sorry, the inflatable life jacket that is in the suit that can either be inflated by pulling the pull tab or by the oral inflation tube, actually starts down here, comes down and around, inflates your head pillow, comes down this side and in the front, so it helps (a) with stability, and also to keep your head out of the water.
ROIL, Q.C.:
Q. Okay, and this Exhibit #81, I think you've indicated it may not be the original one that was issued. I see on this it has sizes from extra small to 3 extra large.
MR. COLLINS:
A. This would have been the latest revision of this poster.
ROIL, Q.C.:
Q. Right. I haven't taken you through the other contracts, but were there any significant differences between the three contracts with the three different operating companies in terms of your requirements?

Page 98

MR. COLLINS:
A. No. In terms of the scope of work, no. I mean, there may have been some differences in terms of how you do billings or those types of items, but more on the administrative side which would have been company specific, but in terms of the scope of work or the deliverables, no.
ROIL, Q.C.:
Q. Okay, one question that cries out to me is the whole issue of how do you know -- if I'm a Husky employee, do I get a Husky suit, or are the suits pooled as between companies as well?
MR. COLLINS:
A. It's a shared pool amongst the three operators.
ROIL, Q.C.:
Q. Okay. So the suit I travel with this week may not be the suit I would travel with in three weeks time?
MR. COLLINS:
A. Correct, and the suit that you travel this week as, for example, employee of operator "A", on the next trip may be used by an employee of operator "B".

Page 99

ROIL, Q.C.:
Q. Yes. Now your requirement was not just to supply, but also to service?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. These pieces of equipment. What were the requirements and what was the regime that was created to maintain and ensure that the suits can continue to be with the integrity that was designed into them?
MR. COLLINS:
A. Well, in terms of the operator contracts, they required that (a) we maintained our AMO, and that to maintain an AMO, all your maintenance procedures have to be approved by Transport Canada.
ROIL, Q.C.:
Q. In other words, maintain the designation of an approved maintenance organization?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. Yes.
MR. COLLINS:

Page 100

A. So a high level overview, and we do have some exhibits as well of some of the documents that we use, which is Exhibit 89 -- some of the different documentation, internal documentation that we use in our maintenance procedures. So just to go back to the overview, there's two cycles. So a suit cycle for use, an out and back trip is a cycle. So whether that person is offshore three days, three hours, or three weeks, it's considered one cycle. So it's been worn out once by a person, and worn back by the same person.
ROIL, Q.C.:
Q. Okay, the person who takes it out keeps it while they're out there?
MR. COLLINS:
A. Correct.
ROIL, Q.C.:
Q. But they don't keep the breathing device?
MR. COLLINS:
A. They don't keep the breathing device, and they do not keep the PLB.
ROIL, Q.C.:
Q. Okay.
MR. COLLINS:

Page 101

A. So once that suit comes back to us, the suit comes into our shop, the liner is removed, the components are washed. After the components are washed, then the suit will go through a visual inspection checklist.

ROIL, Q.C.:

Q. Is that Exhibit 89 that you had --

MR. COLLINS:

A. That is - it's one part of the Exhibit 89, and it's actually form HH030, which I'll bring up on screen here momentarily. So here's the form the tracking would be done on.

ROIL, Q.C.:

Q. Who would do this tracking?

MR. COLLINS:

A. This would be our suit technicians. So this is internal tracking documents that Transport Canada and come in and audit to see that we're doing our maintenance procedures. So to go through the steps, the technician has to sign off that he's completed all these steps after every use. So it's -- you know, ensure the exhaust valve is in the open position, check the neoprene face shield and flap, the front zipper wax, and there's a product that we use

Page 102

on the zipper that's called "Zipper Ease", which is specific for these types of products to make the zippers easier to slide up and down, ensure that the whistle, nose clip, and PLB attachments are installed, ensure that the felt liners of the boots are there, check the lining fabric condition, the internal zippers of the liner, make sure the suit still has its bar code, ensure that the CO2 inflation mechanism that the CO2 cylinder is not punctured, check the torque on the bolt that holds the CO2 cylinder in place, ensure that the oral inflation tube is in place with all its components, ensure that the buddy line is in place and packed properly, ensure that the safety light is on with the switch in the upwards position, make sure that the suit still has all its reflective stickers, so these are the reflective stickers on the suit so that especially in night operations if a light gets shined over the suit, it will flash up so it will become more visible, ensure that the cuffs and cuffs elastics are in good condition and within specification, ensure that the neoprene gloves are attached and

Page 103

within specification. Then you check the exterior and interior fabric of the lining, you ensure that spray shield and neck tabs are installed, and then you would sign off on the suit and the suit would then become ready to go back into service.

ROIL, Q.C.:

Q. And typically in, for example, the first year of service, would there be maintenance items that would be detected, you know, issues that needed to require some restitching, resewing, resealing?

MR. COLLINS:

A. Yes, I mean, it's -- we've seen suits come back torn, cut, so there are repairs that would be done, and the repairs would be tracked. So if the visual inspection checklist was done and there was found faults, well, then a work order would be created to track any repairs to the suit, and that is the last piece of this exhibit which is this form here. It's the HH009 maintenance work order sheet. So this tracks all the materials used, the actual repairs done, and this work order sheet is used any time the suit is taken out

Page 104

of service to be re-certified as well. I'll actually go to the next slide to move on from the --

ROIL, Q.C.:

Q. Before you go on, you mentioned bar code.

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. And I mentioned the other day in examining another witness something about a serial number. Is the bar code -- does that tell you which suit you made and when?

MR. COLLINS:

A. Yes, each suit is identified. The shell and liner separately have what we call a bar code or a serial number for suit tracking for both maintenance as well as where the suits are. So if we want to -- you know, we issue a suit offshore and that its maintenance cycle has expired, and getting into the next slide --

ROIL, Q.C.:

Q. Okay, well, perhaps you can -- that's all we need to know about now, but if it does have relevance in the next slide, then you can take it from there.

Page 105

MR. COLLINS:
A. So each suit is tracked. So in our systems, after every eight cycles or eight return trips, or six months. So if a suit size, especially one of the fringe sizes being extra small or 2 and 2XL, a particular suit may not see any use and may be sitting on the shelf or hanger in our shop for a period of six months. Even if it has not been used, we have to pull it off the shelf, take it out of service, and recertify it, even though at no point in time it left our shop. So that way you're always making sure that your product is certified. So what the bar codes allow is to do is not only track where suits are, but if we start looking for a particular suit, that allows us to identify the specific suit, and is used in our maintenance tracking as well.
ROIL, Q.C.:
Q. And do you track which employee has which suit every day?
MR. COLLINS:
A. Yes, so the employee at Cougar, their employer/employee number would be entered into the system, and beside that, suit would get

Page 106

scanned, the PLB would be scanned and the HUEBA would be scanned, so you can tell who was assigned to what suit.
ROIL, Q.C.:
Q. Okay, so what is the additional requirement for servicing after every eight cycle or six months?
MR. COLLINS:
A. Okay, so it starts off the same. In terms of removal of suit from service, thermal liner is then removed for cleaning and inspection. You do the same visual inspection, and then you start doing additional testing of the suit. So the first one is what we call a "stole" test and that is a test on the inflation bladder element, and that it maintains its pressure. So you checked it, there's no leak in that system. So that gets done every eighth cycle. Then we actually do a leak test of the suits. So the suits will get put on an air inflation table, the suits will be inflated, and the suits will be sprayed with a solution that then would indicate if there's any leaks in the suit, down to pinhole leaks that may be undetectable otherwise. So after that is

Page 107

done, we reinstall the thermal liner, and then it goes to one of our senior technicians otherwise known as a final inspector. So for a suit to come out of service to back in service, potentially five different technicians could have their hands on the suit to overview the suit, and the final inspectors, there's requirements to become certified as a final inspection in our maintenance procedures as approved by Transport Canada, that they would have the final sign off on the suit, and I'll take us to Exhibit -- there's a separate checklist for the final inspector, so a suit going out after every eight cycle have had that initial inspection checklist done, it would have a work order issued with additional testing, and then it would go to a final inspector for additional checks and rechecks of components, and then it would be deemed airworthy and put back into service.
ROIL, Q.C.:
Q. You mentioned leak testing, and this will come up a little later again, but the whole issue of a suit like that, and the standard, is the

Page 108

suit intended to be waterproof?
MR. COLLINS:
A. The standard test method allows for some water ingress in the standard, and that's covered under the thermal performance and thermal mannequin testing, in that there is a test specific to measure water leakage into the suit, and with any water leakage that is deemed, and there's actually a formula, so it is a jump from a -- I can double check the standard, but approximately a four meter platform into the water, then it's an hour long swim, and you measure the two leakage components separately, and the formula that you use is the actual jump test leakage plus three times the one hour swim leakage to determine the amount of water that is put into the suit for thermal testing.
ROIL, Q.C.:
Q. Why is it not completely waterproof?
MR. COLLINS:
A. Typically, as with any suit, and you would even see this with custom made diving dry suits, that seals against human skin, there's going to be some leakage, and one other thing

Page 109

I'd point out, and go back to a CAPP exhibit from yesterday, and I'm not sure of the exhibit number, but this was the report for the additional testing that they did --

ROIL, Q.C.:

Q. We'll actually get to that later on the CORD testing.

MR. COLLINS:

A. Okay.

ROIL, Q.C.:

Q. Okay, we'll talk about that later. So by design, some water is expected to infiltrate the suit. Through the seams or through the --

MR. COLLINS:

A. It would typically be through seals.

ROIL, Q.C.:

Q. Through the seals, and the seals are where?

MR. COLLINS:

A. It would be the face seal and the wrist seals.

ROIL, Q.C.:

Q. Okay. Now you're now two years into the contract. I think you said you started in November of '07?

MR. COLLINS:

A. Correct.

Page 110

ROIL, Q.C.:

Q. And we are now in November of '09. What has been the experience of Helly Hansen with respect to the performance of this suit prior to the incident? Let's take you up to prior to the incident on March 12th.

MR. COLLINS:

A. Okay. Well, I guess, the next few slides we labelled "Issues arising". This would have been comments/feedbacks that we would have received from operators, training facilities, et cetera. So you just want to go through --

ROIL, Q.C.:

Q. Yeah, take these issues and tell us how you became aware of them.

MR. COLLINS:

A. Okay.

ROIL, Q.C.:

Q. You started in November of 2007, and I see in December you have an issue arising. So just take each one, speak to it briefly, how you became aware of it and what, if anything, you were able to do about it?

MR. COLLINS:

A. Okay. The December 31 incident -- sorry,

Page 111

correction, issue that arose was that on the 2 and 3XL suits when they were first done, they were done with -- because at the time there wasn't a boot available that far up the size range, there were some suits done with the sock foot. So it was flagged that we did not want the sock foot on any of the suits.

ROIL, Q.C.:

Q. And a sock foot is like is used on the typical immersion suit, is it?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. Yes.

MR. COLLINS:

A. So it doesn't offer additional foot/toe protection while walking, so the action was the suits were immediately pulled from service and we worked on sourcing a boot that would work on those suits, and those suits are now stocked with a size 14 boot. The next, February 26th, 2008, the Nova Scotia intervention crew raised comfort issues with the suit.

ROIL, Q.C.:

Page 112

Q. What is the Nova Scotia intervention crew, because that's a new expression to us?

MR. COLLINS:

A. Yeah, in Nova Scotia with the operation, they have their -- I'll say their base or their hub of which where personnel will stay overnight on board, and they also have remote locations which people do not stay on board, but obviously they still need maintenance. So the intervention crew provides the maintenance to those facilities. So they potentially could fly three/four times a day. They are a high user group. So unlike the typical user that would put the suit on, wear it for an hour and a half, fly offshore, keep it in their bunk for three weeks and then wear it once on the way in, on Monday, Tuesday, Wednesday, Thursday, Friday, they would leave either land or one of the platforms of which there's accommodations, fly to a remote unit, do maintenance, get picked up, fly to a remote unit, do maintenance, get picked up, fly back. So, you know, where the average person will do an out/in bound flight every three weeks, they could be doing four flights a day.

Page 113

ROIL, Q.C.:
Q. How long is a flight from St. John's to the facilities offshore Newfoundland?
MR. COLLINS:
A. Approximately an hour and a half.
ROIL, Q.C.:
Q. In Nova Scotia, is it a similar period of time?
MR. COLLINS:
A. Yes.
ROIL, Q.C.:
Q. Okay. So what were the issues that were raised by the Nova Scotia intervention crew?
MR. COLLINS:
A. It would have been comfort issues to do with weight and bulkiness of the suit, tightness of wrist cuffs, stiffness of the zipper. So the actions of that is some members found their favourite, as we labelled it, so rather than the suit staying in the regular pool, the serial number suit "XYZ" would not have not only our green tag for certified for flight use, but below that would have a tag with a name on it and it was just set aside, and that was the only person using that suit. So there

Page 114

would have been no changes done to the suit, they just found a particular suit that they felt was more comfortable. There were also some users that did get customed suits produced.
ROIL, Q.C.:
Q. Did get customed suits produced?
MR. COLLINS:
A. Yes.
ROIL, Q.C.:
Q. And what was the reason they needed a customed suit?
MR. COLLINS:
A. Some of them were boot changes. The majority were just boot changes, so we were changing the size of the boot.
ROIL, Q.C.:
Q. Okay, the next one?
MR. COLLINS:
A. May, 2008, we received feedback from Petro Canada with respect to an employee comment regarding suit leakage in training, so we did an evaluation. So we spent time at MI looking at the training and when the leakage was coming in. Appreciate the person that went and

Page 115

did that is our shop manager here in Newfoundland, and his previous experience, he's an engineer and he spent many years involved in suit design, suit development, and suit testing, so he has done a large number of leakage tests over his career. So, I mean, he was a perfect person to have here to go over and see the training. What he found was that during the swim and life raft portion of the training, people weren't getting wet, and that after doing multiple dunker runs, there was some leakage in the suit, but the leakage was below the levels that were introduced in the suit in terms of thermal performance. So after that investigation, that was -- we reported that back to the operators and that was the end of that action. On May 28th, 2008, there was a service bulletin issued regarding the exhaust valve on the suit, to leave the valve in the full vent position or counterclockwise position. This was an education piece for the workforce. There was some information there that it was viewed as an open/closed valve, so if the valve was open, it would allow water in. The valve is actually always closed, and

Page 116

it's a matter of spring tension, how much force is required to open the valve to allow it to vent. So obviously with the valve tested in the full open position, if you close that valve off, the air pressure inside the suit would be higher -- have to be higher for it to self vent, which is not a good thing if you're submerged inside a helicopter. So it was just a service bulletin for everybody, leave the valve alone, it is preset in the full open position, this is why. So it was an education piece. In June -- June 3rd, 2008, we completed a four week survey on both in bound and out bound passengers travelling to Newfoundland offshore with questions on the E-452.
ROIL, Q.C.:
Q. Okay, why did you do that? Were you asked to do that, or was it something that you initiated?
MR. COLLINS:
A. This was a discussion with both Nova Scotia and Newfoundland operators. We were getting comfort comments regarding -- from the Nova Scotia operation more than, significantly more

Page 117

than we were from the Newfoundland operation, but the Newfoundland operation is the larger workforce that is offshore, so we felt that it was important to do a survey regarding the comfort issues of the suit and we have that survey as an exhibit.

ROIL, Q.C.:

Q. Okay, I think that's Exhibit #90. Bring that one up, please.

MR. COLLINS:

A. There we go.

ROIL, Q.C.:

Q. So this isn't the survey, this is the results?

MR. COLLINS:

A. This is the results from the survey, but the questions were the same that were asked. So this was a survey of 225 passengers travelling to and from the Newfoundland offshore covering all three operators. So face seal zipper, first question, "I am able to pull zipper suit all the way to the top", there was a percentage that disagreed. So the action of that was to continue the process that was ongoing in confirming that passengers could full don the suit at the heliport prior to

Page 118

departure.

ROIL, Q.C.:

Q. And by saying it could full don, do you mean the process --

MR. COLLINS:

A. That they could --

ROIL, Q.C.:

Q. They had to zip it all the way up?

MR. COLLINS:

A. And, yeah, as explained in earlier testimony, that was the common practise at Cougar that it continued, so passengers were required to show that they could zip up. Then, "I have no difficulty completing the face seal for take off and landing", that was related to zipper stiffness and that was with the continued use of the product's zipper ease, to lubricate the zippers to make them easier to slide up and down.

ROIL, Q.C.:

Q. Now there's a significant, if you will, 30 percent either disagreeing or strongly disagreeing?

MR. COLLINS:

A. Correct.

Page 119

ROIL, Q.C.:

Q. What could you do with the zipper in terms of -- the face seal, what is it about the face seal that makes it a challenge, as you understood it at that point in time?

MR. COLLINS:

A. Well, the zipper is a dry suit zipper by nature. They are, you know, stiff to use, and also with the rigorous testing on the zippers, the zipper options were very limited to use, and at the time of the suit design, there was one zipper approved that we could use and that is it.

ROIL, Q.C.:

Q. So to build this suit, you have to have an approved zipper?

MR. COLLINS:

A. Correct, one of the component testing is the zipper has to pass a certain set of tests, including, you know, the strength test of the -- how strong it is so it won't easily unzip, et cetera. So there are requirement testings from the zipper, which in nature to make a waterproof zipper, makes the zipper stiff to operate.

Page 120

ROIL, Q.C.:

Q. And there was only one zipper that was available to you to put into the suit?

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. Is that worldwide or just --

MR. COLLINS:

A. That had the Canadian approval.

ROIL, Q.C.:

Q. Oh, that had the Canadian approval, right. Then the next question, "I've been properly instructed to don the hood and create a face shield". So everybody was either neutral, agreed, or strongly agreed. "I'm easily able to don the suit", all but 8 percent either neutral, agreed, or strongly agreed. People actually find the suit harder to take off, based on the survey, in terms of after their flight to get the suit off, it's more difficult.

"I have been properly trained to don the suit." All but two percent were either neutral, agreed or strongly agreed and agreed and strongly agreeing were significantly high

Page 121

categories.

Next question was "the wrist seals are appropriately snug." A small percentage disagreed. "The wrist seals are overly tight," about the same percentage disagreed, and "I am confident the wrist seals will prevent leakage," and all but 2.5 percent either were neutral or agreed or strongly agreed. So this was addressing the comments that we had heard was that the wrist seals are uncomfortably tight for an hour and a half flight, but obviously being a seal, it needs to be tight to keep water out.

ROIL, Q.C.:

Q. Yeah.

MR. COLLINS:

A. And then the boots, because we had heard some comments about the size of the boots and the tread on the boots. "I find the boots comfortable," 91 percent either agreed or strongly agreed. "I have no issues walking with the boots," 89 percent either neutral, agreed or strongly agreed, and then "I am confident the boots will perform as required," 100 percent either neutral, agreed or strongly

Page 122

agreed.

ROIL, Q.C.:

Q. So what did that tell you or what did that suggest to you that needed to be done with respect to your suits?

MR. COLLINS:

A. Well, in terms of the boot performance, there was no change required at that time. In terms of the wrist seals, the wrist seals were snug, but snug for a reason, and there was not a change required. In terms of donning the suit, that people were able and trained to don the suit and could take off the suit and taking off the suit expressly on a skin side neoprene, so it's a smooth coated neoprene, if you're in the helicopter and sweat a little bit, they stick to you pretty good, and that it is more difficult, and that's why the action was continued in terms of the face seal and zipper, because of the percentages that indicated they either had difficulty and/or people who disagreed with the comment "I am able to pull the zipper all the way to the top," we did a continued verification that people could. So we made people demonstrate

Page 123

that they could and if they couldn't, well then there was some custom suits made.

ROIL, Q.C.:

Q. Okay. Next one is a reporting of something in July of 2008. Back to your PowerPoint.

MR. COLLINS:

A. Oh, okay. So in training, we had a -

ROIL, Q.C.:

Q. Sorry, could you put the PowerPoint back up?

MR. COLLINS:

A. Oh, sorry. In July 18th, 2008, we had an inflatable bladder puncture in training. So when inflated, it broke. I mean, the outer shell broke, so of course we wanted to investigate that. So we evaluated that suit. We then evaluated our suit pool immediately, in terms of checking the bladder, making sure that, you know, it was in the proper place, and we actually installed some new inspection procedures and it is the only suit that we found--it's the only puncture that we've had was in one training suit and we had found seven suits in service that had similar, but not the same--you know, the bladder got--it appears to have gotten folded because it had

Page 124

gotten sprayed with a hose too much essentially, so we changed our inspection procedures to ensure that any suits leaving, the bladders were perfectly flat.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. To ensure their preparedness, so that was a change in our maintenance procedures to catch any future incidents and we haven't found any.

To go to the next one, on September 2nd, 2008, one of the operators came to us in that one of the inner liner of the zipper had separated during flight, and I'll just show where that zipper is. There's a liner that goes around, from here down around on the inside of the hood and back down around and that's how the zipper--the suit is zippered into the suit system. So the liner separated in about this area.

ROIL, Q.C.:

Q. Okay. So it's not the major zipper on the outside? It's an internal zipper?

MR. COLLINS:

A. No, it was an internal zipper, but because it

Page 125

is in the hood area, it can change the tension on the inner hoodie, which can change the tension of the face seal. So we've only ever had one such failure, but once again, we changed our inspection procedures to evaluate those zippers more rigorously to make sure that, you know, there was no damage to teeth and to check the liners. We changed our checking procedure after the liners were zipped in.

October 28, 2008. The C-NSOPB, so that is the Nova Scotia Petroleum Board, and Sable operators requested a proposal for us to address comfort issues experienced in Nova Scotia Intervention Crew. Obviously because they fly so often, they asked us to come up with an alternate--come up with alternate features to the suit. So on December 5th, 2008, we prepared our proposal and it was the official start of the HTS-1 suit project, which is an E-452 with some changes.

ROIL, Q.C.:

Q. Yes. Is the HTS-1 suit project in use anywhere today?

MR. COLLINS:

Page 126

A. No, it's not.

ROIL, Q.C.:

Q. What is it waiting for?

MR. COLLINS:

A. We are waiting for final signoff from Transport Canada Aviation for approval.

ROIL, Q.C.:

Q. Okay, and when is that anticipated?

MR. COLLINS:

A. We hope by the end of the week.

ROIL, Q.C.:

Q. Okay, so it's that imminent? It's not -

MR. COLLINS:

A. It is.

ROIL, Q.C.:

Q. - months away, it's days away?

MR. COLLINS:

A. No, we are making plans for flight later this week, pending the final approval and approval number being issued.

ROIL, Q.C.:

Q. Okay. We'll get into that suit again a little later on, but I just wanted to highlight that there is no HTS-1 suit working today. I think we might have been left with the impression

Page 127

yesterday that there were people flying with it, but there aren't?

MR. COLLINS:

A. No. No, people have been fitted in the suit.

ROIL, Q.C.:

Q. Yes.

MR. COLLINS:

A. And had their fit checks done, but nobody has flown in that suit yet. Last one, obviously it comes April 6th, 2009, which is post accident, but the dating is important. Feedback from PetroCanada with respect to a passenger having difficulty donning suit on inbound flight on March 12th, 2009. So of course, the first thing we did is inspect the suit, and the suit was found to be free from defects and returned to service. It went out on other flights and there was no issues reported with zipping up the suit. It was also noted that the passenger did not report issues donning the suit on the outbound flight, nor was there a reported issue of donning at the heliport prior to the outbound flight. So it was noted on the inbound flight only, so that person would have been flagged

Page 128

as part of the new fitting process.

ROIL, Q.C.:

Q. Okay, and an inbound flight on March the 12th would have been a flight either on the same day of and possibly after the 491 flight?

MR. COLLINS:

A. Yes, correct. All right, so the next piece -

ROIL, Q.C.:

Q. Before we go on to the return to flight, there was another issue that came up in the evidence yesterday that was involving an amendment or a change with respect to the glove. Can you tell us what you know about any changes to the glove on the 452?

MR. COLLINS:

A. Yes. We had heard feedback from the Marine Institute, being a training provider and that the gloves are donned in training, that some students were having difficulty donning the second glove in the water. So we went and saw it. I mean, both there and in Nova Scotia. Did an evaluation. As a company, we took it as a Helly Hansen initiated project to "is this an area that we can improve the suit?" The answer was yes. So we then moved forward

Page 129

with the prototyping process to come up with alternative gloves that would still fit within the Transport Canada approval process, because remembering that the current glove design on the suit passed all the donning, both out of water and in water requirements and mobility requirements of the gloves of the current standard.

ROIL, Q.C.:

Q. Yes.

MR. COLLINS:

A. So the gloves had been tested and approved based on the size range of subjects. So there was no, you know, regulatory industry association move. It was just a progressive move by Helly Hansen to continually improve our products. So we then started the prototyping process. We then worked with the training centres in terms of they allowed us to come in and have actual students try on different gloves. We found a solution that worked and that solution is being implemented.

ROIL, Q.C.:

Q. The various incidents that you've told us about, the various reportings, how did these

Page 130

come to you? Are there formal letters? How do these various issues come to your attention?

MR. COLLINS:

A. Some may have been letters. The bulk were either e-mail or verbal.

ROIL, Q.C.:

Q. And by verbal, who would be contacting you? Employees or -

MR. COLLINS:

A. Typically it would be the operators.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. So the operator would, you know, either (a) send an e-mail to us indicating, you know, here's the details of the problem, immediately followed with a phone call and/or it could be just verbal discussions with, you know, both the operator in Nova Scotia and the Board in Nova Scotia and then we would do a proposal for them back, and then that would start the process.

ROIL, Q.C.:

Q. Do you ever have interaction with the ultimate

Page 131

consumers or the users? Do you ever have interactions other than the survey that you did with the people who are wearing them every day? Do they ever contact you?

MR. COLLINS:

A. Generally, no.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. Generally that would come through their JOHS committees and then come through the operator to us.

ROIL, Q.C.:

Q. Okay. Would the JOHS committees have access to you immediately or would that be, again, through somebody else within the company?

MR. COLLINS:

A. It would be through their proper communications channels to us. The bulk of our access to the end users would have been through the training facilities, seeing students.

ROIL, Q.C.:

Q. Sorry, somebody is whispering behind me there and they're not whispering as quietly as they

Page 132

should and it's breaking my train of thought too. Okay, so things we know changed the world for us on March the 12th of 2009. What, if any, impact did that day have on the way in which Helly Hansen carries on its business in Newfoundland?

MR. COLLINS:

A. As part of the return to flight service, immediately after the incident, there was--the operators were contacting us because their staff, at that point, were identifying to them, through their JOHS committees that "I would like to have my suit fit checked." So then we started the development of a new fitting process. There was no fitting process like this that we know of in use anywhere.

ROIL, Q.C.:

Q. By anywhere you mean where?

MR. COLLINS:

A. In the world. I mean, from our indication, I mean, typically everything had been done off sizing charts and ensuring zippers that were zipped up. So we then started the process which would have started essentially April 1 is the documentation that I have, that would

Page 133

have been e-mails I would have received, in terms of "we need to measure these people," so then our team would have started that. We started with measurements only. So we would take -

ROIL, Q.C.:

Q. So by your team, who would you have dispatched and where would they have been working?

MR. COLLINS:

A. Our team would have involved R & D group, so everybody from Donald Mah to the R & D team that's based in Dartmouth. So we would have had people in BC working on this, people in Nova Scotia working on this and people in Newfoundland working on this, in terms of developing the protocol and the process. So at first--because, of course, at the end, the ultimate decision was to verify if the suit fit or not.

ROIL, Q.C.:

Q. So this was the request, was it, see if the suits are fitting?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Page 134

Q. And what were the issues about fit that you were--that were brought to your attention or that you were concerned about?

MR. COLLINS:

A. Some people felt they did not have good face seals. Some felt that suits may have been too long for them. Some felt that suits may have been too big for them. So it was a verification of fit and a recommendation of what suit size the person should be wearing.

ROIL, Q.C.:

Q. Yes.

MR. COLLINS:

A. So first, we did -

ROIL, Q.C.:

Q. Prior to that time, who would have been doing that kind of determination?

MR. COLLINS:

A. That determination would have really been off the size chart and it would have been -

ROIL, Q.C.:

Q. No, sorry, who is deciding who to put in what suit?

MR. COLLINS:

A. That wasn't a standard practice in the industry.

ROIL, Q.C.:

Q. No, but Helly Hansen wasn't doing it?

MR. COLLINS:

A. No, we were not.

ROIL, Q.C.:

Q. Do you know who was doing it?

MR. COLLINS:

A. No, I do not.

ROIL, Q.C.:

Q. Okay. Okay, so now you're being asked to see if people fit their suits?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. Okay, and what kind of a protocol or regime did you develop?

MR. COLLINS:

A. So first we started off purely measurement based. So we took approximately 30 measurements on the body and then put it within the size ranges of the suit, quickly determined that that wasn't enough, and the prime example I would give would be somebody could have the head measurement, i.e.

Page 135

Page 136

circumference around their forehead, the same chin to crown measurements, which is diagonal measurement from your chin over the high point of the crown, and the same neck measurements, but their profile may be different, especially in the eye socket area, which may or may not lead to a proper face seal. So then we added a visual component check of a physical check, fully don the suit, and then we took it one step further and went, okay, well, (a) check the person can don the suit; (b) check the person can verify that they can zip the suit while seated; (c) was visual checks of the seals and the fit of the suit; and (d) of course, the last is mobility and the mobility test is an important piece of the component because we may fit you in a suit that has some very good seals, but if you can't move your arms to allow yourself egress of the helicopter, that will obviously hinder your performance and your ability for survival.

So over a six-week process in preparation for return to flight, we developed the protocol and then started fittings and as part of the return to flight process, it was

Page 137

indicated to us, and this was done verbally, but immediately acted on, by the C-NLOPB that fit checks were going to be done on every employee, every person travelling offshore prior to flight.

ROIL, Q.C.:

Q. And whose employees were doing that work?

MR. COLLINS:

A. Helly Hansen was doing that work for the first 12 weeks.

ROIL, Q.C.:

Q. And then afterwards, who continued to do that work?

MR. COLLINS:

A. We have now set up a training protocol for Cougar staff members that handle suit issuance. So it's a seven-day training program where they come into our shop. They do the first same three days as any new technicians would do in our shop, on all our maintenance procedures and then they did four days of fitting training.

ROIL, Q.C.:

Q. And what have you determined as the result of this fitting process? We heard some evidence

Page 138

about people being on a fly and a no-fly list.

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. You're familiar with those kinds of expressions?

MR. COLLINS:

A. Yes. Well, if a passenger do not fit--pass the fitting test, they were immediately not cleared for flight and would have to travel offshore by alternative means until a properly fitting suit was available.

ROIL, Q.C.:

Q. And what, if anything, was done to make or procure a properly fitting suit?

MR. COLLINS:

A. Through our fitting process found that some passengers had issues with the face seal. So we introduced four new suit sizes, often referred to as the modified suits. So these would have been a standard medium suit with a smaller hood. By smaller hood, it allowed a proper safe face seal to be formed. So that was done as quickly as possible and currently today, 100 and--bear with me as I look through

Page 139

my notes. 107 people are flying in those modified suits.

ROIL, Q.C.:

Q. 107 are flying, okay. Do you know, as of today, approximately how many people are not flying?

MR. COLLINS:

A. 180.

ROIL, Q.C.:

Q. Sorry?

MR. COLLINS:

A. 180.

ROIL, Q.C.:

Q. 180, okay. Now are those 180 people, to your knowledge, all travelling by vessel or what is the make-up of these people?

MR. COLLINS:

A. They are either travelling by vessel or not travelling. This list would employ regular rotators, office staff that may travel offshore once every few years. It may be service contractors that may be required to fly offshore. So the spectrum of fittings went deep into the organizations, including, you know, seldom travellers where it might be

Page 140

an office person that flies once every three or four years.

ROIL, Q.C.:

Q. And so that 180, what is that out of? What is the maximum number of people that have been examined and tested and fitted by you or the Cougar people under your direction?

MR. COLLINS:

A. It's approximately 3,000 is where we have the number pegged in terms of fittings that have been done. We've done both at the heliport, outside fitting locations is our shop. In our shop alone, we've done 830 odd fittings at our location on Airport Road.

ROIL, Q.C.:

Q. Here in Newfoundland?

MR. COLLINS:

A. Here in Newfoundland.

ROIL, Q.C.:

Q. Yes, and the changes that you have made, for instance, putting a smaller hood on a larger jacket, is that something that requires that that suit be approved by Transport Canada as well?

MR. COLLINS:

Page 141

A. Yes, we had to put a compliance plan in to Transport Canada for their agreement and their agreement was that if we went to smaller components, i.e. smaller hoods, where that was a proven component, being smaller would be tighter seals, that we were still compliant with our approval. Any time that we wanted to make changes the other way to larger components, we have additional testing to do and pool work to do to get those approved.

ROIL, Q.C.:

Q. So we now have a pool of the so-called standard suit, the E-452?

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. We have a series of amended or slightly modified suits?

MR. COLLINS:

A. And there's four suit sizes there.

ROIL, Q.C.:

Q. Okay.

MR. COLLINS:

A. So we have now the total of 11 sizes in use.

ROIL, Q.C.:

Page 142

Q. With a total of 11 sizes, as opposed to the initial?

MR. COLLINS:

A. Initial 7.

ROIL, Q.C.:

Q. Okay. What about custom suits?

MR. COLLINS:

A. In Newfoundland, prior to the accident, there were seven custom suits made.

ROIL, Q.C.:

Q. And since the incident?

MR. COLLINS:

A. The custom suit process, because we had the HTS-1 project ongoing and that HTS-1 suit project is a partnership of the three Newfoundland operators, the Nova Scotia operators and Helly Hansen, we looked at that as a potential solution for some of the fit issues. So of the 180 people that are currently on the no-fly list, eight are labelled to come in and have fitting in the modified suits. 40 are still labelled to come in for fitting in the HTS-1, and 115 have had fittings done and are cleared to fly in the HTS-1. So that leaves 25 people that have

Page 143

been identified as custom suits. We have already prototyped three new suit sizes to add to the HTS-1 range, which we either have already fitted or expect to fit 13 of those 25 people, and at the end of the day, we would finish up with 12 true custom suits.

ROIL, Q.C.:

Q. Okay, and the true custom suit, what kind of an item would be there that would require them to have a--for me to have a made-to-measure suit, if you will?

MR. COLLINS:

A. It would be significant changes required to leg length, arm length, whether there's a cuff change that would be required to go outside the standard range of cuffs. So the person's size, being that everybody is typically unique, would require specific changes to fit them.

ROIL, Q.C.:

Q. The HTS-1 suit project, when was that started?

MR. COLLINS:

A. That was started in December 2008.

ROIL, Q.C.:

Q. And you're expecting within the 12 calendar

Page 144

months that it will be final and have full approval?

MR. COLLINS:

A. Yes.

ROIL, Q.C.:

Q. What will happen then with respect to the E-452 suit?

MR. COLLINS:

A. Well, the HTS-1 suit, first off, is approved to only the aviation standard.

ROIL, Q.C.:

Q. Yes, why is that?

MR. COLLINS:

A. As part of the HTS-1 project, we started the project essentially with, you know, a white sheet of paper and then went "what are the constraints that we're going to put on the suit?" So the first one was, okay, what standards are we going to approve to? One of the features of the HTS-1 suit is an internal adjustable suspension system, so you can adjust the suit length to allow for a better fit. The downside is trying to pass cold donning and two-minute donning tests that are required in the marine standard are nearly

Page 145

impossible with these additional features and that the features of this suit, i.e. the suspension system, in our opinion, far outweigh the benefits of cold cycling for storage of suit, and by cold cycling, I mean freeze the suit to minus 40, heat the suit to positive 65 ten times, so that you can show it can be stored in a cold environment. In a marine environment where suits are stored at muster stations outdoors, very valid. In a helicopter environment where suits are stored indoors, being either at the heliport or offshore, not so much.

ROIL, Q.C.:

Q. This process of your being involved in the fitting of suits and making many changes to the suits and even the development, is this all a part of your original contract or was there any changes to your contract to deal with particularly the fitting issue?

MR. COLLINS:

A. The fitting required contract amendments from all three operators, and they are -

ROIL, Q.C.:

Q. Exhibit 91.

Page 146

MR. COLLINS:

A. Exhibit 91, and so we had contract amendments done for the commercial side of doing suit fittings. Upfront I'll say that through-- you'll see the dates on them are significantly after when we started fittings and all the operators and Helly Hansen felt that it was more important to get the fittings done first and we can deal with the commercial side of it at a later date.

ROIL, Q.C.:

Q. Okay. So the commercial, the contract signing didn't stand in the way of the work being done?

MR. COLLINS:

A. No.

ROIL, Q.C.:

Q. Okay. Just ask you to, while we're talking about the different suits, the photograph of the HTS-1 suit, 92, and we don't have one here. I think you described--I think there was two--in the CAPP evidence, there was indication of two amendments that Paul Barnes was aware of. One was some sort of internal mechanism to shorten up the -

Page 147

MR. COLLINS:

A. That would be the suspension system.

ROIL, Q.C.:

Q. The suspension system, yes.

MR. COLLINS:

A. The suspension system, to describe it on this suit, suspension system attaches to the top of the boots, goes up the front of the suit through the suit leg, ends in the centre of the suit, so it allows you to adjust the overall leg length. The second strap then starts at the shoulders, up over the shoulder and back down the back leg of the boot. So you can also adjust it and pull the whole leg up shorter, in the sense of compress the height of the suit.

ROIL, Q.C.:

Q. And what was the reason that that is considered an asset to the suit?

MR. COLLINS:

A. Obviously allows you to, based on the width of the person, adjust the height of the suit to adjust to their height.

ROIL, Q.C.:

Q. Okay, and there was something about the strap

Page 148

on the back of the head?

MR. COLLINS:

A. So we went to--a couple other features happened as terms of the project. The first off is we worked with YKK Canada. YKK is a leading zipper manufacturer in the world, and worked with them over a seven-month period to get a second zipper option approved.

ROIL, Q.C.:

Q. So you now have another zipper that can be used?

MR. COLLINS:

A. We have another zipper that we can use in the suit.

ROIL, Q.C.:

Q. Is it remarkably different in terms of length, width or its application to the suit?

MR. COLLINS:

A. It looks very similar. The grab point at the end of the zipper, rather than being a loop is a T-handle, but also the material that it's made up of is softer, so it is easier to zip up and down. And we also went to an all neoprene hood with an adjuster on the back of the head. So once again, you can start with

Page 149

your neoprene hood, which is entirely stretch so it could conform to the head shape of the person, and you also have a mechanism to tighten that down even further on a standard suit.

ROIL, Q.C.:

Q. So is the intention ultimately that everybody will be changed out to an HTS-1 suit if it gets approval?

MR. COLLINS:

A. The formality of that has not been completed at this time.

ROIL, Q.C.:

Q. Okay. Now there was a--I believe you were here when Mr. Decker gave his evidence about his experiences on March the 12th. You were in the room, were you not?

MR. COLLINS:

A. Yes, I was.

ROIL, Q.C.:

Q. He made a number of observations, and I'd ask you to comment on them, to the extent that you understood what he was saying and that you feel comfortable in doing so. He made some comparison between the immersion suit and its

Page 150

buoyancy and its, I guess, warmth capacity and the aviation suit, and I took it from that that he thought that the immersion suit was a better suit if you're going to be in the water a long time.

MR. COLLINS:

A. Okay.

ROIL, Q.C.:

Q. Is that what you heard?

MR. COLLINS:

A. Well, I heard that his preference would be if he was going to be in the water for a long time that his preference would be the immersion suit or the neoprene universal fit suit, and that's the experience that he's had in training. Those suits and this suit would be approved to the same standards and held to the same thermal requirements. There are some limitations of using that suit in flight. Obviously with items like escape buoyancy, which become critical in terms of the next step after an incident, in terms of the next important--the next piece is egress, then getting to the surface and then survival and then waiting for rescue. So depending on the

Page 151

suit, if it's not been tested to those, you could hinder egress because of the design of the suit and the fit of the suit because most of the universal fit marine abandonment suits and in the standards they do all the measurements in centimetres, but are essentially designed to fit somebody 4' 11" to 6' and change, within the same--six feet and change in the same suit. So the same suit that would fit somebody just about my size would fit somebody that was 4' 11". So that, of course, would have some--in that application for an emergency, that suit works very well, but our suit system is tested to the same standard as those suits.

ROIL, Q.C.:

Q. He mentioned that he had a very low body temperature, something like 28 degrees I believe as a core temperature, which is really quite low, and that he had--he felt he had significant amounts of water that were in his suit. What, if anything, can you say about that? Have you had an opportunity to examine his suit?

MR. COLLINS:

Page 152

A. I did his suit on one location--one occasion. Unfortunately at that point, the suit was cut into pieces by the paramedics. So there was no way of determining the integrity of the suit, and that in terms of water ingress, I do not know how much water got into the suit. I only have his comments, and in terms of the relationship of his injuries and core temperature and that, I'm sure that's part of the TSB investigation and is being looked at.

ROIL, Q.C.:

Q. I think he also mentioned that he had difficulty, in fact I think he said it was impossible to don the gloves because his hands were so cold.

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. Is there anyway that you, as a manufacturer, can deal with that kind of issue?

MR. COLLINS:

A. There are some opportunities to investigate, but the item being that you also cannot hinder egress of the helicopter and the first thing you have to do is be able to release that

Page 153

seatbelt. So if the gloves, depending on the glove that's on the suit, if it's fully donned, you could impede the egress portion of it just to offer hand protection at that time. So I mean, obviously I'm sure that's a project that will be undertaken to look at opportunities around that.

ROIL, Q.C.:

Q. Other than what you've told us about already, is there anything that you can tell us, from Helly Hansen's perspective, that is on the horizon or that is there that might improve--remembering the assignment of this Inquiry is to try to improve safety in helicopter transportation in offshore Newfoundland and Labrador, is there anything happening in the survival suit business that you can--oh, sorry, before I get onto that, there was one other exhibit. Exhibit 61, and I don't know, that's not a part of yours. Do you have access to that there?

MR. COLLINS:

A. It doesn't appear so at this time.

ROIL, Q.C.:

Q. If I can bring up 61, that was one of the ones

Page 154

from yesterday, and I don't know if we can do that in a short period. Might be something perhaps that we could do--might be better actually to take a break and then bring that one up. There might be--might take us a few minutes to get back to that Exhibit 61.

COMMISSIONER:

Q. So are you suggesting we take the lunch break?

ROIL, Q.C.:

Q. Take our lunch break. I wouldn't be very long in the afternoon, just you know, 10 or 15 minutes maximum.

COMMISSIONER:

Q. All right then. We'll come back at two.

ROIL, Q.C.:

Q. Thank you, Commissioner.

(LUNCH BREAK)

COMMISSIONER:

Q. Mr. Roil.

ROIL, Q.C.:

Q. Thank you, Commissioner. Welcome back, Mr. Collins. One of the joys of giving a lawyer a lunch break is sometimes he comes up with a few more questions. We were, just before the break, looking at and trying to get up on the

Page 155

monitors here the CORD final report, and we'll know it through evidence given yesterday and the day before by the CAPP group as being a report that was commissioned by them and it involved your suit. What can you tell us about your knowledge of how this was undertaken, who undertook it and what the results were?

MR. COLLINS:

A. This was a CAPP initiative and they asked us to supply the product, supply a technician to do liner exchanges at lunch time, and also that we were allowed to have an observer at the testing. They had indicated to us the protocol that they were going to use and we provided the product for the testing. So this was a CAPP initiated project.

ROIL, Q.C.:

Q. Okay. Were the suits the E-345 (sic) as we see up there today?

MR. COLLINS:

A. They were the E-452.

ROIL, Q.C.:

Q. 452, sorry.

MR. COLLINS:

Page 156

A. In this configuration, yes.

ROIL, Q.C.:

Q. Yes, okay, and were they manufactured specifically for that test or were they taken out of inventory somewhere?

MR. COLLINS:

A. They would have been taken out of inventory.

ROIL, Q.C.:

Q. Okay. Would they have been used previously or unused?

MR. COLLINS:

A. They would have been used previously.

ROIL, Q.C.:

Q. Okay, and the CORD Group, what relationship, if any, do you have with that organization?

MR. COLLINS:

A. They are the independent testing facility that does testing on--against CGSB standards. So there's no--short of we contract them to do testing, they write the reports and give them back to us, that is the arrangement.

ROIL, Q.C.:

Q. Okay, and what was the outcome of that testing, as you understood it, with respect to water ingress into the E-452?

Page 157

MR. COLLINS:
A. After the testing, it was our understanding the suit had performed very well. We finally saw the support at the end of last week, as did everybody else, and looking at page 13, which is the summary, and we'll scroll down to it here, and touch on parts in Section 6 and 7, but in terms of Section 7, the summary, the performance of the suit, in the conditions that it was tested at during this egress and leakage testing had lower leakage values than what was determined in the CGSB test method for water ingress, and so that the water ingress value that we used for thermal performance was higher than what was achieved in this, so as its indicated in here, it can be safely concluded that the thermal value would increase with less water leakage and therefore still exceed the .75 immersed Clo value. So with less water in the suit, it would have been expected in the test for the suit to deliver a higher Clo value than it did in the original testing.
ROIL, Q.C.:
Q. The next paragraph says "the test program has

Page 158

pioneered some innovative and more realistic scenario simulations." What can you say? Did you observe the simulations as they took place?
MR. COLLINS:
A. I did not personally but Larry Spears from our staff was there and the simulations were an egress in the wind and waves with rain, a swim, a life raft boarding and then an additional period of time spent in the water, which would simulate real world conditions, in terms of the final performance of the suit.
ROIL, Q.C.:
Q. Okay. Do the tests done through the CSGB process, do they simulate so-called real world situations with wind, rain, waves, those kinds of things?
MR. COLLINS:
A. The leakage test, no. I mean, leakage test currently in the test method, which is also described in the report in Section 6, and I'll scroll up. Yeah, so it's a jump of a height not less than three metres and a 60 minute swim, but that is done in a calm pool.
ROIL, Q.C.:

Page 159

Q. Okay.
MR. COLLINS:
A. Versus in the wind and rain and the waves. A couple other points out of this discussion or this paper that are of interest is, you know, the first is entry of Section 6 discussion, the data presented in the results as being produced from tests that were designed to present a complete challenge of the waterproof integrity of the suit system, and to do this by utilizing more realistic scenarios, actions and conditions. So obviously this was pioneering new ways of pushing the suits and to determine their final performance, and also an interesting point at the bottom of the Section 6 on the next page, and actually it starts on this one here. The use of the error factor and the estimation of leakage after three hours from the leakage data causes the CGSB standard leakage test method to be more rigorous than that of the ISO, which is also a jump swim test, 20 minute swim versus a 60, though it does not require an error factor, a multiplier of the leakage attained during that swim. To put the differences of the CGSB and

Page 160

the ISO test methods into perspective, a previous study conducted by the CORD group determined that the CGSB leakage method estimated leakage at 3.7 times higher than the ISO test method would have, which results in a suit that must be more insulated to meet CGSB standards. So clearly showing that our current test methods in this case are more rigorous in terms of thermal performance than the ISO standard currently is.
ROIL, Q.C.:
Q. And I notice that CORD is one of the participants in the CGSB committee?
MR. COLLINS:
A. Yes, they are.
ROIL, Q.C.:
Q. Can we assume from that that there will be some attempt made to simulate these kinds of tests for suits and standards in the future?
MR. COLLINS:
A. My understanding is this has been an area of discussion in the last two days in the Ottawa setting.
ROIL, Q.C.:
Q. Okay, another area that I had already dealt

Page 161

with that I wanted to go back with just for a moment is the issue of the survey, first of all, which is your Exhibit No. 90. We don't have the survey, and perhaps I should have asked you to produce that, but we do have the results, but when we get the results on the screen, I want to ask you a couple of questions that I didn't earlier.

The questions in--or sorry, the answers that you have assessed involve three questions on four different issues.

MR. COLLINS:

A. Correct.

ROIL, Q.C.:

Q. Are they the same four issues that were in the actual survey or were more things involved?

MR. COLLINS:

A. The 12 questions that were asked were exactly worded this way in the survey.

ROIL, Q.C.:

Q. Okay. So there were no additional questions?

MR. COLLINS:

A. There was area for comments.

ROIL, Q.C.:

Q. That was one of my first questions is did you

Page 162

give an opportunity for the persons being surveyed to write comments?

MR. COLLINS:

A. Yes, we did.

ROIL, Q.C.:

Q. Okay. Did you get any comments that would in any way assist you in the further development of your suit or suits?

MR. COLLINS:

A. The bulk of the comments were regarding comfort, in terms of zipper stiffness in the neck area and boot sizing was the bulk of the addition comments, as part of the survey.

ROIL, Q.C.:

Q. With full 20/20 hindsight now, looking back after the March 12th incident and the focus on fit after that, did it not occur--or did it occur to you or clearly it didn't, I guess, to put questions in about whether your suit fit? Did you ask any question that could be interpreted that way? And I guess, if not, why not?

MR. COLLINS:

A. Based on the information we were getting from the field, being operators and other sources,

Page 163

the bulk of the comments were coming around the stiffness of the zipper, which is why we focused straight in on the zipper stiffness. In terms of fit, at that point in time, as I stated earlier, we only had seven custom suits in the market in Newfoundland. So it was not--and only one of those involved any face seal changes. So it was not, at that time, a perceived high percentage.

ROIL, Q.C.:

Q. The final questions with respect to fit, and this relates really to the whole issue of small, medium, large, extra large, and so on, and all of us as consumers go out and buy clothing and sometimes I'm proud to get into an extra large. Sometimes it takes something a little larger for my size, and sometimes an extra large is not big enough. What kind of tolerance is there built in with respect to sizing? Would a medium be a medium be a medium or is there an area that one medium might be very different from another medium and the large from a large?

MR. COLLINS:

A. As with any manufactured product, there is

Page 164

obviously tolerances for, you know, seam allowances and those types of things, but of course, because of the nature of this product, those are very small. So there may be slight differences, and I say slight, you would probably notice more of a difference from a suit that has been worn more often than necessarily two new suits, and I say worn more often because things like the liner would soften up, in terms of flexibility. You would be into a zipper that had more opportunities to be lubricated and run up and down. So those are the types of difference that you would generally see more than a true--say a wide gap, and I guess the example is you wouldn't find a medium that's this length and find a medium that is two inches shorter.

ROIL, Q.C.:

Q. Okay, and what about wider? If that's, you know, so many inches wide, would I find one with an inch wider or two inches wider?

MR. COLLINS:

A. No.

ROIL, Q.C.:

Q. Okay. What sort of variations would you find?

Page 165

MR. COLLINS:
A. Half inch.
ROIL, Q.C.:
Q. Okay, and my last question, I guess, is the one that I was closing on earlier and I didn't really give you a chance to comment on it, and that is, I guess, to say is there anything that you can tell us that would assist us in our assignment to make transportation of workers in the offshore by helicopter more safe? Are there any new technology that's coming out? Are there any advances that you're aware of or other changes that might assist us in achieving that objective?
MR. COLLINS:
A. Currently no, but I think there's an effort from the community, especially through the standards process, to work towards test methods that would simulate real world conditions, you know, testing final product performance and maybe, you know, maybe we spend less time in terms of component testing, i.e. one of the examples I would do is you do a seam test and then a body test, being that we have to test the strength of every one of

Page 166

these seams and then we take the suit, put a chain through the arm, cut a hole through the side of the leg, put two metal bars and try to break the suit in half. Are we spending a lot of time doing duplication there, and can we work on efforts towards testing a final product and putting that in through our standards process.

So in terms of new technologies at this time, no. Do I think the standards group that's working together right now, in terms of the review of the standard, they will push the--you know, the new standard, I'm sure, will push manufacturers to develop other technologies.

ROIL, Q.C.:
Q. Mr. Barnes told us that it was not necessary that there would be a change. The fact that there was a review meant the old standard could be confirmed or a revision could be developed. Do you have any insight into which of those opportunities is more likely or is it too early to say?
MR. COLLINS:
A. I would say from very early information that

Page 167

it is likely that there will be some changes to the standard. I mean, you know, the standards process is to do a review of the current test methods and to do validation as well as to challenge what's already there and see if there's areas for improvement. So it is, in our opinion, likely that there will be a change that comes down.

ROIL, Q.C.:
Q. What is the timeframe that you expect? And I realize it's not your truck, you don't drive it, but what would you expect to be the timeframe necessary to get a new standard?
MR. COLLINS:
A. Without seeing the work from those first four days, it would be hard to estimate.
ROIL, Q.C.:
Q. Okay. That's a fair answer. Thank you, sir. I have no further questions for you. Others will, I'm sure.
MR. COLLINS:
A. Okay.
COMMISSIONER:
Q. Okay, thank you, Mr. Roil. Mr. Spencer, you could, if you wish, ask Mr. Collins questions

Page 168

now to clarify anything that you wanted to, or you could wait until other people have questioned. What's your preference?

MR. SPENCER:
Q. I think I'd prefer to wait until other counsel have an opportunity to ask questions.
COMMISSIONER:
Q. Okay then. Now perhaps I'll do as I did yesterday and ask for an indication of who might wish to ask questions, rather than go through the whole number. So Ms. O'Brien, you do. Mr. Earle. Anyone else? No?
MR. MARTIN:
Q. I have no questions.
COMMISSIONER:
Q. So there are only two then. So Mr. Earle, on the list your name appears first, as it were, so are you ready?
EARLE, Q.C.:
Q. Yes.
COMMISSIONER:
Q. Okay then.

MR. MARK COLLINS, EXAMINATION BY RANDELL EARLE, Q.C.

EARLE, Q.C.:
Q. I must say, Commissioner, I'm starting to feel

Page 169

like what Chief Justice Mifflin used to refer to as a hardy perennial. Perhaps, Mr. Collins, if we could start with the Helly Hansen set up and I must say, having been a user of Helly Hansen products for a number of years, I'm a bit dismayed to find out that they aren't all made by Norwegians. But more specifically, in terms of your company's relationship with Helly Hansen, I notice you describe yourselves as a licensee.

MR. COLLINS:

A. That is correct.

EARLE, Q.C.:

Q. And the products which you make, are they designed by your company or are you licensees of Helly Hansen designed products, which may be modified to the Canadian market?

MR. COLLINS:

A. The bulk of our products is actually designed in Canada for the Canadian market.

EARLE, Q.C.:

Q. And are they designed by your company?

MR. COLLINS:

A. Yes, they are.

EARLE, Q.C.:

Page 170

Q. So would the E-452 have been a Canadian designed unit?

MR. COLLINS:

A. Yes, it was.

EARLE, Q.C.:

Q. Okay. What about the 352, was it a Canadian designed unit?

MR. COLLINS:

A. The 352 would have started as a Norwegian unit and then our groups would have been involved in working towards getting the changes done to meet the Canadian standard.

EARLE, Q.C.:

Q. Fine, and would it be fair to say that the 452 is another generation of the 352, in the sense that it is based heavily on the 352 with certain changes and improvements?

MR. COLLINS:

A. Correct. It would be that there are very similar features than in the 352, but with changes to meet the performance requirement of the new standards.

EARLE, Q.C.:

Q. I'm curious about the certificate, the AP-22. I'm sorry, I haven't been able to keep track

Page 171

of the exhibit numbers for these.

MR. COLLINS:

A. It's Exhibit 69.

EARLE, Q.C.:

Q. It's the Transport Canada certificate.

ROIL, Q.C.:

Q. Type certificate?

EARLE, Q.C.:

Q. Type certificate, yes.

ROIL, Q.C.:

Q. The Exhibit No. 69.

EARLE, Q.C.:

Q. Exhibit No. 69, and so this AP-22 certificate gives the approval, I suppose is the best word to use, for the following aeronautical products, and -- do you need some time to find something there?

MR. COLLINS:

A. No, I'm good.

EARLE, Q.C.:

Q. And it covers the E-352, the E-352B, E-352C, E-352D, E-452, and all of which are helicopter transportation suits and then the type certificate data sheet goes on to tell us a bit more, and I had understood from your

Page 172

evidence that the 452 was a more recently developed helicopter aviation suit. Is that correct?

MR. COLLINS:

A. That is correct.

EARLE, Q.C.:

Q. So how is it that they're all on the same certificate?

MR. COLLINS:

A. The approval we have for aviation transport suits would list the different models. One thing it does not list--and let me just double check. What is does show is that on the basis of certification, on the next page, you'll see that airworthiness manual chapter 537 recognizes Canadian General Standards Board and it states the specific standard that it was approved to. So as you can see, the E- 352 met CAN/CGSB 65.17-M88 dated January 1988. In addition to that, we have a new version of suit that is approved for use, which is the E-452, which was updated to the latest standard. So they would fall into the family of approved products that Helly Hansen Canada has had approved to Canadian standards, but within

Page 173

that, it indicates the individual standards that suits have been approved to. So there is the E-352 suits, of which we still have a supply of, but do not have a customer for at this time, could still be used in helicopter aviation if the regulations allowed for the older standard to be used.

EARLE, Q.C.:

Q. Can you just tell us generally what the difference is between the E-352 and the E-352B, C and D are?

MR. COLLINS:

A. Some key changes would have been the adaptability on a sleeve to put a PLB. So it would have been a different version. It may have been--I don't have all the technical specs because we've been using the E-352C as the primary suit previous to this contract. So it would have been subtle differences in the suit and the suit system, but all within the same family. So it would have been four variations of the same suit. Now in terms of specific details, I don't have those.

EARLE, Q.C.:

Q. So could we take from what you're saying that

Page 174

what we have in the 352B, C and D are modifications of the original 352 to accommodate different devices or to change the configuration of a device on the suit?

MR. COLLINS:

A. Correct.

EARLE, Q.C.:

Q. So when did you start developing the E-452?

MR. COLLINS:

A. It would have been late 2005, early 2006.

EARLE, Q.C.:

Q. Late 2005?

MR. COLLINS:

A. Yeah, in that timeframe.

EARLE, Q.C.:

Q. Early 2006, and this document here is described as--on the third page or the third page in the exhibit, page two of two has amendment number 12. You see -

MR. COLLINS:

A. Correct.

EARLE, Q.C.:

Q. So is this the first approval of the 452?

MR. COLLINS:

A. It is, correct.

Page 175

EARLE, Q.C.:

Q. This is the first approval. So when you receive the RFP, you didn't have the 452 approved?

MR. COLLINS:

A. The 452 would have been in development and on its way to final approval, because as submission of the RFP, we had to submit approval data as well, the testing data, as well as the approval certificates.

EARLE, Q.C.:

Q. So I take it you must have been pretty confident that the approval was coming?

MR. COLLINS:

A. By the time we would have replied--by the time the RFP came out and--the short answer is yes.

EARLE, Q.C.:

Q. It took you--you're telling us that it took you essentially a year to get a whole new suit approved, to go from design to presumably producing the specifications and whatever?

MR. COLLINS:

A. It would have probably been a little over a year. It would have been fall of--we supplied this in '06, so it would have been fall '05 to

Page 176

get through all the--I'm sure there was concept work done beforehand, but in terms of the nuts and bolts of the project.

EARLE, Q.C.:

Q. Okay. Did any of the E-352 suits have the capacity for a HUEBA?

MR. COLLINS:

A. No, they did not.

EARLE, Q.C.:

Q. Was then the primary motivation behind the E-452 the need to accommodate a HUEBA?

MR. COLLINS:

A. That would have been one of the considerations. The other consideration was the more rigorous testing required regarding thermal testing.

EARLE, Q.C.:

Q. Okay. Well, let's--would it then have been your situation in the fall of 2005 that you were anticipating, at that point in time, that the helicopter aviation market in Canada would involve and require aviation suits with HUEBA capacity?

MR. COLLINS:

A. Yes, it would have.

Page 177

EARLE, Q.C.:
Q. When do you think your company would have first anticipated the need for HUEBA capacity?
MR. COLLINS:
A. The timeframe would have been very similar, because we were, you know, the current suit provider on a contract in Nova Scotia, knowing that our contract was expiring and that there was going to be requirements for a new suit to the new standards. So upfront, it would have been the new suit, one of the requirements would have been, yes, you're going to have to have an integrated HUEBA.
EARLE, Q.C.:
Q. So I take it that it would have gone something like this. Your contract, which probably was for a five-year term?
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. Would have been coming up for renewal. So you would have had some meetings with the operators and asked them, you know, "the contract is going to be coming up for renewal. What sort of improvements or changes might you

Page 178

be looking for in the suit?"
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. Okay. With the E-352, when you were supplying that in Nova Scotia, had you provided custom suits?
MR. COLLINS:
A. Not that I recall, but the possibility is there for possibly one or two, but from the best knowledge of our suit inventory, there was--everyone was using the standard E-352.
EARLE, Q.C.:
Q. Okay, if we could look at the RFP?
ROIL, Q.C.:
Q. Exhibit 76.
MR. COLLINS:
A. Okay.
EARLE, Q.C.:
Q. And this is November 9th, 2006, about five weeks before you got your approval.
MR. COLLINS:
A. Okay.
EARLE, Q.C.:
Q. The RFP, if we could turn to the Section 3.9?

Page 179

MR. COLLINS:
A. Okay.
EARLE, Q.C.:
Q. This clearly states that the proposal must include supply of emergency breathing systems, helicopter underwater emergency breathing apparatus, right?
MR. COLLINS:
A. That is correct.
EARLE, Q.C.:
Q. 3.9.2, it says "these units require Transport Canada approval to be fitted to the suit or vest." If you had simply been providing the 352 with a modification, how long do you think it would have taken to get Transport Canada approval for that?
MR. COLLINS:
A. The biggest issue with getting Transport Canada approval for that is in the E-352 system, it uses an external life jacket. So you would have had to--it doesn't have the integrated life jacket which allows us to have the bottle externally located. So you would have had to rework the bottle around not only our suit system, but have the inflatable life

Page 180

jacket, which is not a Helly Hansen system, it's an RFD Beaufort inflatable life jacket. We would have had to bring in a third party, RFD Beaufort, to possibly modify their vest and it could have taken--you know, it was perceived to have taken longer than the course of action to go with the E-452.
EARLE, Q.C.:
Q. Okay. Now the content of the RFP seems to me to imply that there was knowledge that suits of this type were in the works with Transport Canada. Is that correct?
MR. COLLINS:
A. I'm sure the operator would have known our intent to bid and would have known that we were working on product, yes.
EARLE, Q.C.:
Q. Were you aware if any of your competitors were developing a suit with capacity for a HUEBA?
MR. COLLINS:
A. Our understanding is we had two competitors that were developing product specifically for this contract.
EARLE, Q.C.:
Q. In paragraph 3.8, the personal locator beacons

Page 181

are detailed.
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. And could you tell us the difference between the 406 121.5 and the Sea Marshall 121.5?
MR. COLLINS:
A. We'll start with the Sea Marshall 121.5, which is the unit that you see on the suit here. The Sea Marshall unit transmits on the 121.5 frequency, which would be used by search and rescue regionally, in terms of by search aircraft, by boats, by any of their search and rescue operational folks. It is a device that can be set into water activation mode, which is done prior to every flight. So that the user, if submerged in water, does not have to do anything and the unit will start signalling.
EARLE, Q.C.:
Q. Um-hm.
MR. COLLINS:
A. And so it'll signal on the 121.5 frequency. The Nova Scotia PLB, which is the rescue fix from ACR transmits on two frequencies, the

Page 182

406, which is a satellite frequency, and then a regional frequency as well, which would also be--the regional frequency would be also used by the search and rescue folks, but that is a manually activated unit, so you have to flip the antenna open, press and hold the button for one second because that removes the cover from the button, and you have to manually activate the unit.
EARLE, Q.C.:
Q. Um-hm. So the device that is on the Newfoundland suit -
MR. COLLINS:
A. Yes.
EARLE, Q.C.:
Q. - cannot be picked up by a satellite?
MR. COLLINS:
A. I don't believe so, no.
EARLE, Q.C.:
Q. No, and in fact, we were supplied in your documents, Mr. Roil didn't go through that with you, but the Man Overboard Alert and Locate Systems by -
MR. COLLINS:
A. It's Exhibit 83.

Page 183

EARLE, Q.C.:
Q. - by Sea Marshall.
MR. COLLINS:
A. I'll bring that up on the screen. No, sorry, wrong one. I'm sorry, Exhibit 82.
EARLE, Q.C.:
Q. And if we go to the third page of that exhibit, we're given the range for various types of receivers for this beacon?
MR. COLLINS:
A. That is correct.
EARLE, Q.C.:
Q. And so just so we got it on the record here, a ship can pick up the beacon from .75 to 1.5 nautical miles from the individual?
MR. COLLINS:
A. That is what's indicated in the document, yes.
EARLE, Q.C.:
Q. A fixed wing aircraft at 10,000 feet can pick up the signal 35 or more nautical miles with increasing altitude? Is that correct?
MR. COLLINS:
A. That is correct.
EARLE, Q.C.:
Q. So if you're up at 10,000 feet where you're

Page 184

going to have some fun seeing somebody in the water, you can get the signal 35 miles away, 35 nautical miles away, right?
MR. COLLINS:
A. That's what's indicated in the document, yes.
EARLE, Q.C.:
Q. And a helicopter, 7 to 15 nautical miles at 1,000 feet?
MR. COLLINS:
A. That's correct. That's what's indicated.
EARLE, Q.C.:
Q. Whereas the 406 transmits to satellites?
MR. COLLINS:
A. That is correct.
EARLE, Q.C.:
Q. And are these position indicating beacons or are they homing beacons?
MR. COLLINS:
A. This one would be a homing beacon.
EARLE, Q.C.:
Q. A homing beacon, so it doesn't send out a signal giving a position. It has a signal that you can follow in?
MR. COLLINS:
A. Both units, when they're transmitting on

Page 185

121.5, you would use the equipment for tracking to guide you into the position. So it would not give you a lat and long position.

EARLE, Q.C.:

Q. On the 406 channel, it does give you -

MR. COLLINS:

A. As long as there's a clear signal that gets received by the satellite, correct.

EARLE, Q.C.:

Q. Yeah, and that's the same channel that most of these--I think they call them EPIRBs?

MR. COLLINS:

A. I believe so, yes.

EARLE, Q.C.:

Q. Transmit on, so vessels and various other systems of emergency locators, right?

MR. COLLINS:

A. That's my understanding, but I'm also not an expert on ELT units and EPIRBs.

EARLE, Q.C.:

Q. Okay. Now if we look at paragraph 3.10 of the RFP?

MR. COLLINS:

A. Yes.

EARLE, Q.C.:

Page 186

Q. It says "bidder shall supply detailed information on where the facilities are and where the suits will be customized." So there was a clear understanding from the request for proposals that the suits might have to be customized?

MR. COLLINS:

A. That is correct.

EARLE, Q.C.:

Q. What did you tell the operators in Newfoundland and Nova Scotia about your ability to customize suits?

MR. COLLINS:

A. We would have told the operators that we have the capabilities to do custom suits, but any custom suits would require additional work to have approval from Transport Canada.

EARLE, Q.C.:

Q. Now you mentioned in your evidence that when you got into modifications post April of this year, that as long as you were adding a smaller size to a large suit, a smaller size component like the face seal -

MR. COLLINS:

A. Correct.

Page 187

EARLE, Q.C.:

Q. - that it seemed like you had a general approval for that sort of modification from Transport Canada. Is that -

MR. COLLINS:

A. No, we would have had to submit a compliance plan as to why going to a smaller seal or smaller component would not affect the integrity or performance of the suit.

EARLE, Q.C.:

Q. So that would have been--would not have been a per suit type approval? That was something that was approved for a general strategy?

MR. COLLINS:

A. Yes, that was.

EARLE, Q.C.:

Q. The seven custom suits that you had done prior to the crash of the Cougar flight, how long did it take to get your approvals for these custom suits?

MR. COLLINS:

A. Not all the suits had approvals.

EARLE, Q.C.:

Q. Pardon?

MR. COLLINS:

Page 188

A. Not all the suits had approvals.

EARLE, Q.C.:

Q. Not all the suits had approvals?

MR. COLLINS:

A. Had approval work completely done, so my understanding is that the operator with the suits would seek the--I don't want--it's not RFP it's an RQF, regulatory query from the Board to be allowed to use these suits.

EARLE, Q.C.:

Q. So the operator got essentially a dispensation from the Offshore Petroleum Board to use a suit that was not approved?

MR. COLLINS:

A. That is my understanding, yes.

EARLE, Q.C.:

Q. Okay. Those that you did get approved, how long did it take?

MR. COLLINS:

A. We are still working on some of those suits and we've been a year into it.

EARLE, Q.C.:

Q. The question was those that you did get approved, how long did it take?

MR. COLLINS:

Page 189

A. Those seven suits have not been approved.
EARLE, Q.C.:
Q. None of the suits have been approved?
MR. COLLINS:
A. No.
EARLE, Q.C.:
Q. Okay. I thought you said some of them. Now item 4.1.2.
MR. COLLINS:
A. Okay.
EARLE, Q.C.:
Q. And .1, "the bidder shall deliver the suits, life jackets, EBS/HUEBA units and PLBs to the heliport and pick them up when they return from offshore. The helicopter provider shall issue suits, life vests and EBS/HUEBA bottles to all passengers travelling offshore."
EARLE, Q.C.:
Q. I take it that you understood from this paragraph here that there was no obligation on the part of Helly Hansen in respect of seeing to it that the suits fit the passengers on the helicopters?
MR. COLLINS:
A. That is correct.

Page 190

EARLE, Q.C.:
Q. Now the next paragraph says, "The bidder shall train the helicopter company in how to complete daily inspections and issue all the above named equipment".
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. Did that include training the helicopter company in fitting?
MR. COLLINS:
A. At that time it did not, no.
EARLE, Q.C.:
Q. So we have a gap?
MR. COLLINS:
A. Yes.
EARLE, Q.C.:
Q. And the result has been that your contract has now been amended such that initially Helly Hansen personnel fitted the suits, and subsequently you trained for a period, I think you said, of four days --
MR. COLLINS:
A. It was seven day training, three of which focused on suit maintenance procedures and

Page 191

suit systems, and three days -- sorry, four days on fittings.
EARLE, Q.C.:
Q. So you trained helicopter company personnel for four days --
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. On fitting suits? That's correct, isn't it?
MR. COLLINS:
A. That is correct.
EARLE, Q.C.:
Q. So I take it from the fact that it takes somebody four days to learn how to do this, that it is not something that you can figure out on your own, it requires some significant training by people with expertise?
MR. COLLINS:
A. By the new protocol we developed, that protocol to go through and do fittings with students so that they can see real life examples takes four days.
EARLE, Q.C.:
Q. Well, there's not much point doing it on dolls, is it?

Page 192

MR. COLLINS:
A. No, there's not.
EARLE, Q.C.:
Q. Now if we could go to your presentation, and your issues arising.
MR. COLLINS:
A. Okay.
EARLE, Q.C.:
Q. It says, "The following is an outline of issues arising in the first two years of the service contract and how they were addressed". Are you saying that these are the issues which arose, there aren't others?
MR. COLLINS:
A. I guess, the only other comments would have been that we lumped comfort issues to include boot, weight and bulkiness, the stiffness of the zipper, that would be classified under the comfort issues, but that was grouped as comfort issues.
EARLE, Q.C.:
Q. And comfort issues, I take it, the wearer is told to suck it up and get on with it, is that correct?
MR. COLLINS:

Page 193

A. The wrist seals are tight for a reason, to keep water out, so the trade off at times would be some comfort for suit performance.

EARLE, Q.C.:

Q. Yeah. Mr. Collins, when was Helly Hansen told the suits don't fit?

MR. COLLINS:

A. Outside of the seven individuals that we dealt with early on with custom suits, we started to get a fitting request from operators after the incident in March.

EARLE, Q.C.:

Q. When did those seven requests arise?

MR. COLLINS:

A. They would have been at various stages within -- they were not all on the same day. They would have been within the first year of the contract.

EARLE, Q.C.:

Q. Um. Were you made aware by any of the operators that there were significant complaints coming through their Occupational Health and Safety processes, their committees, that the suits did not fit?

MR. COLLINS:

Page 194

A. Prior to -- the feedback coming back would have been post incident.

EARLE, Q.C.:

Q. I'm talking prior to the crash.

MR. COLLINS:

A. We would have been made aware of some comfort issues, but in terms of suit fittings, no.

EARLE, Q.C.:

Q. Were you -- my question is, were you made aware that there were significant complaints that the suits did not fit? That's the language.

MR. COLLINS:

A. And my reply to that would be no.

EARLE, Q.C.:

Q. No. There is no possibility, is there, Mr. Collins, that you were told that the suits did not fit, and you assumed because a bulky suit might be perceived by somebody as not fitting, that not fitting was a comfort issue?

MR. COLLINS:

A. The bulkiness of the suit is in part due to the foam requirements within the standard.

EARLE, Q.C.:

Q. Uh-hm.

Page 195

MR. COLLINS:

A. Which without taking away some of the restrictions of the standard, you would be limited in terms of what you could do, but it was not indicated to us that for bulk of suit, that suit did not fit somebody.

EARLE, Q.C.:

Q. I put it to you that the experience post the crash has been that we have discovered that there are people in respect of whom not only do the seals not fit, but because of the shape of their body, and some of them may have a large head, but not be particularly tall, that they're ending up wearing a larger size than they would ordinarily wear if, for instance, they were buying a suit of clothes. Would you agree that that's been one of the things that's come up after the crash?

MR. COLLINS:

A. It is possible for somebody that had a large head to have a suit that would zip up, may have had to go up a size, yes.

EARLE, Q.C.:

Q. Yeah, and someone complaining about that, you would consider that a comfort issue, wouldn't

Page 196

you?

MR. COLLINS:

A. I would say, no, because obviously in our custom suits we did do changes to the body of the suit, and we also did some hood changes for individuals in that case. So if it was a matter of the information that came back to us being the suit's uncomfortable, well, you're going to perceive it as a comfort issue, but if the -- if it came back, I can't zip up the suit that properly fits me, then that would have been addressed.

EARLE, Q.C.:

Q. My point is looking at the matter in retrospect, back over your shoulder, is there any possibility that Helly Hansen received information that was indicating that the suit did not fit in the sense of did not fit properly, in the sense of why 180 people are still not flying, and thought that that was comfort issues?

MR. COLLINS:

A. No, because many of the people --

EARLE, Q.C.:

Q. No possibility?

Page 197

MR. COLLINS:
A. Many of the people who are still flying today -- many of the people who were flying and that we may have pulled for non-fit issues, some of them did not feel that the suits did not fit them, and it would have been the decision on our staff to pull them from flight.
EARLE, Q.C.:
Q. Uh-hm. Let's look at your survey.
MR. COLLINS:
A. Okay.
EARLE, Q.C.:
Q. The first question, "I am able -- well, it's a statement, actually, it's statements and people are asked to agree or disagree, "I am able to pull zipper suit all the way to the top", and 14 percent of the people disagree with that, right?
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. And then you have the next statement, "I have no difficulty completing face seal for take off and landing", and 23 percent disagree with that, and in the strongly disagree category,

Page 198

we see the figures are 8 percent and 7 percent?
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. Now would you agree with me that the conclusion from this is that there was 8 or 9 percent of people who can get the zipper all the way up, but have difficulty completing the face seal?
MR. COLLINS:
A. From our standpoint on that, it was viewed as part of the same, and that's why the verification piece was put in and continued actually to ensure that people could zip up.
EARLE, Q.C.:
Q. But, Mr. Collins, there is a total of 22 percent who say they disagree or strong disagree with, "I am able to pull zipper suit all the way to the top", but there is a total of 30 percent who disagree or strongly disagree with the statement, "I have no difficulty completing face seal for take off and landing". So there's -- I put it to you that there's 8 percent there potentially who

Page 199

can get the zipper all the way up, but have a problem getting the seal.
MR. COLLINS:
A. Or there's 8 percent there that can get the zipper all the way up, but find the zipper stiff.
EARLE, Q.C.:
Q. There's nothing there about the zipper being stiff, Mr. Collins.
MR. COLLINS:
A. But nowhere there does it say "not fit", it says "no difficulty". So somebody may have had -- found it difficult to zip up related to the stiffness of the zipper, because you have to be able to zip up the suit to complete your face seal.
EARLE, Q.C.:
Q. Mr. Collins, there's something that cries out for investigation here, isn't there?
MR. COLLINS:
A. And as we stated in the presentation, the continued practise of verifying people's ability to zip up was checked prior to flight, as we heard in Mr. Decker's testimony, and people who could not zip up were flagged.

Page 200

EARLE, Q.C.:
Q. Yes, but, Mr. Collins, the problem is that 8 percent more of your sample had difficulty getting the face seal than had difficulties zipping up. Doesn't that tell you that there's potentially another cause for difficulty getting the face sealed?
MR. COLLINS:
A. At that time, indications were regarding the zipper.
EARLE, Q.C.:
Q. What did you do to follow up on that, Mr. Collins, at that time, other than, say, make sure people got the zipper up?
MR. COLLINS:
A. Well, it was -- the next step was to ensure that people could get the zipper up, and if they could not, then that was flagged, and there was a possibility for a custom suit for them.
EARLE, Q.C.:
Q. Did anybody say we'd better check and see if there are people who can get the zipper up, but are still not getting the face sealed?
MR. COLLINS:

Page 201

A. From my recollection, all the discussions around that was about getting the zipper up.
EARLE, Q.C.:
Q. Mr. Collins, when Helly Hansen was called in to do the fittings, were you surprised at the numbers who did not have properly fitting suits?
MR. COLLINS:
A. As this was a new process that had never been tested before, we allowed the process to dictate, you know, how many people would be put on the "no fly" list, and in terms of -- you know, nobody had done mobility tests before, nobody had done the amount of visual test, the visual checks and measurements that we had done, so at the end of the day, there's a possibility that the suit would not fit somebody, that is correct. In terms of the sheer number, to be honest, the world had been turned upside down, so we were checking this more vigorously than anybody has, as we know, in the world, so that we could check -- so in terms of were we surprised by the number, where it was, I would say somewhat.
EARLE, Q.C.:

Page 202

Q. Thank you. The contracts that you signed with the three different operators here, it appears to me that only the ExxonMobil contract specifies the provision of custom suits. In the ExxonMobil contract, which is Exhibit F --
MR. COLLINS:
A. Yes, Exhibit 78.
EARLE, Q.C.:
Q. Page 2 of 4 of that, Paragraphs 3.1.4 and 3.1.5, that's an explicit statement of your obligation to supply full customization of suits when requested by owner, and likewise to supply customization of suit cuffs and boots when requested by owner. The other two contracts, I went through them, I couldn't find any obligation to provide custom suits.
MR. COLLINS:
A. Having a quick look through that, that appears to be correct.
EARLE, Q.C.:
Q. Did you understand then that it was only HMDC or ExxonMobil that you had to provide customized suits for, or was it implicit in your understandings with Husky and Petro Canada that you had to provide custom suits

Page 203

for them when they wished them as well?
MR. COLLINS:
A. As custom suits were addressed in our reply to the RFP, we indicated that we could do custom suits, so it would have been our understanding that they would have been aware that custom suits were a possibility.
EARLE, Q.C.:
Q. That's a little different than you having an obligation to supply them?
MR. COLLINS:
A. If requested, we would have supplied custom suits and would have had to have a contract amendment done to cover off the commercial side of that work.
EARLE, Q.C.:
Q. Which operators have requested -- had requested custom suits prior to 2009?
MR. COLLINS:
A. I believe the seven suits that are in are all Hibernia. I would have to double check.
EARLE, Q.C.:
Q. Could you double check on that?
MR. COLLINS:
A. Absolutely.

Page 204

EARLE, Q.C.:
Q. And provide us with that information. Both Petro Canada and Husky had appendices or schedules to their contract with respect to quality management system reporting in the case of Petro Canada. That's page 7, Appendix G - sorry page 8.
ROIL, Q.C.:
Q. That's Exhibit 87.
EARLE, Q.C.:
Q. Mr. Collins was going that quickly this morning, we were very lucky that we could get his answers, let alone the exhibit number. Husky's at Element 14, page 13 of 13. In the Petro Canada one, it says under quality management system reporting, "Contractor shall submit on a periodic basis determined by the company a quality activity report. The report shall include the overall quality management system activity for a contractor and any identified suppliers or subcontractors. The report shall be tabled for review and discussion during regularly scheduled contract or company review meetings", and then there's a listing of the details. Have you supplied

Page 205

such reports to Petro Canada?
MR. COLLINS:
A. What I do have noted is that Suncor or Petro Canada has done an audit of our Newfoundland operating facilities.
EARLE, Q.C.:
Q. When was that?
MR. COLLINS:
A. I don't have the date in front of me.
EARLE, Q.C.:
Q. So you have not supplied a report that's described there?
MR. COLLINS:
A. We have not supplied a report in the last -- since the accident for sure. I'd have to go back and investigate that, but off the top of my head, no.
EARLE, Q.C.:
Q. The Husky element, as its called, says, "Husky Energy east coast operations will conduct audits of contractors to evaluate overall HSEQ management system performance, and the findings and action items arising from the audits will be communicated to the contractors. Management for review and

Page 206

resolution will be tracked by Husky Energy east coast for effective and timely implementation". Has Husky done an audit?
MR. COLLINS:
A. Husky since '07 has done two audits.
EARLE, Q.C.:
Q. Husky has done two audits, and have you had anything in respect of that kind of activity from ExxonMobil?
MR. COLLINS:
A. We've had, as part of the ExxonMobil -- in terms of the Hibernia, I do not have any notations of them conducting an audit on our facility, but in terms of ExxonMobil in terms of our overall operations, we did have a year review meeting with them that did cover off some of the Newfoundland aspects of the business.
EARLE, Q.C.:
Q. Did any of those reports address the fitting issue?
MR. COLLINS:
A. Not that I'm aware of.
EARLE, Q.C.:
Q. Mr. Collins, has Helly Hansen been engaged in

Page 207

any review process to assess how it is that, first of all, in the first instance there was this total gap that nobody was trained to do a fitting, and didn't appear to have a clear responsibility to do a fitting, and such that when the issue finally came to a head, there was this large number of people subject to a "no fly" decision? Has Helly Hansen been engaged, either on its own or with the operators, in any review process to examine how this could have happened?
MR. COLLINS:
A. Our involvement in that would have been as part of the return to flight, the identification that that piece needed to be filled on a go forward basis. It was initially filled by Helly Hansen, and was felt to have that as a long term check at the heliport for fitting, that it was best to train Cougar staff, of which our understanding is that if more Cougar staff need to be trained, we can provide the training for that so that fitting service will be always provided at the heliport and backed up by our shop, but in terms of as a look back, we have

Page 208

not at this time; we've been focused in terms of the current fitting and current suit development.
EARLE, Q.C.:
Q. So you've neither looked back yourself, nor been asked to engage in the look back with the operators?
MR. COLLINS:
A. Not at this time.
EARLE, Q.C.:
Q. I gather this suit is equipped with a hanging loop on the back?
MR. COLLINS:
A. Hanging loop on the back? There's a grab handle on the back of the suit, on the back of the collar piece. I'll just locate it. Underneath there's a grab handle here.
EARLE, Q.C.:
Q. Uh-hm. So what is the recommended fashion for these suits to be hung or stored during the three week period that the wearer is on the offshore installation?
MR. COLLINS:
A. They can be either stored hanging or in a bag.
EARLE, Q.C.:

Page 209

Q. Should they be hung on a hanger?
MR. COLLINS:
A. That would be nice. I mean, obviously, we hang it on an hanger here, but in terms of our explicit directions to the operators in terms of how the suits should be hung --
MR. COLLINS:
A. Uh-hm.
EARLE, Q.C.:
Q. I'm not sure we've given specific instructions in terms of every suit must be hung on a hanger. The only requirements on that are if the suit is going to be stored in a cold environment, then it must be hung on a hanger.
EARLE, Q.C.:
Q. Uh-hm, and how often did you say the suit is fully checked?
MR. COLLINS:
A. Every eighth cycle or six months would be the full testing, including inflation and testing of the inflatable as well as leak testing.
EARLE, Q.C.:
Q. Uh-hm.
MR. COLLINS:
A. And then every cycle is it visually inspected.

Page 210

EARLE, Q.C.:
Q. Mr. Collins, we haven't talked very much about the technical specifications of these suits, but one of the issues that has come to my attention from some of the workers, they have concerns that because the suits are multiple users, that -- and there are issues of fit, that people will make the suits fit in the sense that, particularly with respect to the hood, that someone who has a large head, but not an overly large body, might well take a smaller suit and with a fair bit of force get the hood over and it's a tight seal for sure. Are there any issues with overstretch of the neoprene because of that kind of use?
MR. COLLINS:
A. Is there potential issues; yes, and that's why part of our maintenance procedures with things like cuffs and that, to measure those components to make sure they're still within specification.
EARLE, Q.C.:
Q. Well, that would only happen once every eight flights, right?
MR. COLLINS:

Page 211

A. No, those are also checked during visual inspections. So visual inspections, they would do cuff checks, and at the technician's tables they have the charts with the size that the cuffs must be within. They would measure the cuffs.
EARLE, Q.C.:
Q. As I said, the concern is mostly about the hood.
MR. COLLINS:
A. Okay.
COMMISSIONER:
Q. Mr. Earle, this probably is a good time to take our break.
EARLE, Q.C.:
Q. That's fine.
(RECESS)
EARLE, Q.C.:
Q. Mr. Collins, the CORD testing, I don't think we need to refer to the document, am I to understand that all that was tested there was the inflow of water over a period of time?
MR. COLLINS:
A. As we see in the summary, yes. I mean, they measured -- they used an alternate test method

Page 212

to what's in the standard that was developed to test the suit in simulated conditions, and that they did a leakage measurement which is what was reported in the summary in Section 7, yes.
EARLE, Q.C.:
Q. And the test was of a half hour duration?
MR. COLLINS:
A. The test was two components. One was a ditching and an egress from the helicopter to the surface, a 20 meter swim, and then a life raft boarding, and then secondary there was a half hour in the water in wind and waves.
EARLE, Q.C.:
Q. So the longest duration in the water was a half hour?
MR. COLLINS:
A. That is correct.
EARLE, Q.C.:
Q. Notwithstanding how long it might take some of us to swim 20 meters in one of those things. Was there any consideration of measuring the thermal effect of the water coming in?
MR. COLLINS:
A. I'm not sure. This was not a study that was

Page 213

commissioned by us, so it would be a good question for CAPP, but from the results, it indicates that where the leakage was less than what was measured in the CGSB, that it was concluded that the thermal value would be higher than the thermal requirement in the standard.

EARLE, Q.C.:

Q. Uh-hm. As the manufacturer of the suits, do you have any reason to believe that there would not be a continued inflow of water at that same rate if a person was to be in the water for an hour, an hour and a half?

MR. COLLINS:

A. Without doing a long test, it would be, I guess, speculation. Looking at the water ingress immersion numbers, they are all very low and I believe in the report that in the current test method it assumes that that would be linear, in terms of you take your water ingress for one hour and then use a three multiplier, but in terms of do we believe that the water ingress would follow at the same rate, there's no - there's nothing showing here that would show that that would be the

Page 214

case.

EARLE, Q.C.:

Q. I mean, we don't know, for instance, if there was more ingress during the swimming than another part of the test, do we?

MR. COLLINS:

A. Well, in Table 3, on page 11 of the report, it breaks down the water ingress by the water egress on the egress portion, and that was measured separately than the water ingress in the immersion portion, so, for example, the extra small had 32 grams of leakage in the egress, but only 8 in the immersion. So for the bulk of the subjects, the water ingress in the immersion was lower than the water ingress during the egress, so that would indicate that, no, it would not continue to be linear in terms of an increase because the first chunk of the total water ingress would generally come from the egress from the helicopter, and once you're on the surface that you would not get as much water into the suit.

EARLE, Q.C.:

Q. Yeah, but, I mean, do we know, you know --

Page 215

let's take the half hour stretch. Do we know if water came in evenly through that half hour, do we know if it came in at the beginning?

MR. COLLINS:

A. We only have the result for the total of the half hour.

EARLE, Q.C.:

Q. You only have the result -- so we don't know, for instance, if the seal started to deteriorate over time?

MR. COLLINS:

A. A definitive no -- I guess, the answer to that would be, no, we do not know, although I wouldn't expect the seals to deteriorate in sea water because of the amount of testing that's done on components in half an hour.

EARLE, Q.C.:

Q. Yes, I can understand on the components, but what about the individuals, the individuals particularly in cold water, the body changes, right? If you got somebody that's out there in the North Atlantic with their body temperature dropping --

MR. COLLINS:

Page 216

A. Correct.

EARLE, Q.C.:

Q. The physical body changes, right. Have you done any testing to take account of that?

MR. COLLINS:

A. I'm not aware of a test method that is currently available to do that test.

EARLE, Q.C.:

Q. Have any tests been done in any actual at sea conditions?

MR. COLLINS:

A. No, they have not because they have not been required by the standards.

EARLE, Q.C.:

Q. Now there are -- there's further thermal testing being done?

MR. COLLINS:

A. On which product?

EARLE, Q.C.:

Q. On the E-452?

MR. COLLINS:

A. I'm not aware of such further testing. I understand that they're doing the same simulation using the HTS1 suits next Friday.

EARLE, Q.C.:

Page 217

Q. Okay. Is that thermal testing?
MR. COLLINS:
A. I would assume that that would be --
EARLE, Q.C.:
Q. Or is that ingress?
MR. COLLINS:
A. No, this would be the same testing that the -- the same test protocol that this report was written from.
EARLE, Q.C.:
Q. Because I understood from Mr. Barnes yesterday that at least he understood that there was some further thermal testing, and I must confess, I don't know which suit he was referring to.
MR. COLLINS:
A. My understanding of the testing next week, our request has been to supply HTS1 suits in a full size range with two liners, with a technician to handle the liners, and we are allowed observers at the test session to do this same test protocol on the HTS1 to measure water ingress, and depending upon the tests from the water ingress, I'm sure that will then dictate any additional testing is done.

Page 218

EARLE, Q.C.:
Q. So you're not aware of any further thermal testing?
MR. COLLINS:
A. I am not.
EARLE, Q.C.:
Q. Now the -- it's my understanding from your evidence that we should see some approvals of modified or custom suits, you indicated I think, at the end of this week?
MR. COLLINS:
A. We expect to have the aviation approval for the HTS1, and I've been checking my phone during every break.
EARLE, Q.C.:
Q. For people who are on the installations now, the target group for those suits, will they have to wait until they come back to shore to receive those suits, or will they be delivered to the installations with Helly Hansen support to see that they fit properly?
MR. COLLINS:
A. If the person has already been cleared in a fitting at the shop, and is cleared for flight in the HTS1, the HTS1 will be delivered

Page 219

offshore and they will be able to fly home. We have been in discussion with the operators as to providing staff to fly offshore and do fittings if they are required and that list left to fit in the HTS1 is only 40 people, so if one of those 40 people is currently offshore and has not been fitted, we are in discussions with the operators right now about providing staff to fly offshore, conduct the fitting offshore, so they can fly home.
EARLE, Q.C.:
Q. Okay. Mr. Barnes (sic), the number of suits that you originally estimated was necessary for the Newfoundland offshore was 1200 suits?
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. That's quite a lot of suits.
MR. COLLINS:
A. Yes.
EARLE, Q.C.:
Q. Given that you estimated that number of suits in the first instance, how much bigger a project would it be to personalize the suits to get it into a situation where a suit was

Page 220

identified as being that of, for instance, the gentleman who is here with me today, Mr. Hussey, his suit and no one else's suit?
MR. COLLINS:
A. It could be significant. Depending if the person being fitted was cleared to fly in a stock suit, at that point it would be a matter of increasing the suit pool by the number of suits required by the number of persons, so you would have an assigned suit to every person. If it is customizing a suit so it is tailored to each individual, that would take a significant amount of time, because the first step is obviously, you know, the measurements piece of which we have measurements for a significant number of people offshore, but then you have to go through the individual design, any approval work that would have to be required, and now you're subject to timing around lab availability, the volume of suits that you will be putting through, and the process that both -- the standards body would take to file the documentation, and as we've seen thus far, trying to get some custom suits approved has almost taken us a year.

Page 221

EARLE, Q.C.:
Q. I'm not talking about custom suits for everybody. I'm talking about personal suits. I mean, we have everybody but 180 people who now have a suit that fits them.
MR. COLLINS:
A. Correct.
EARLE, Q.C.:
Q. And we have 180 people, a very large number of them, I take it, are going to be looked after by this HTS1 suit, right?
MR. COLLINS:
A. 115 of those have already been fitted and cleared for flight in the HTS1, yes.
EARLE, Q.C.:
Q. Right. So given that we're using these two models of suits, how much bigger a project is there, given the number of people we have working in the offshore in Newfoundland, to have personal suits, a suit that Mr. Hussey would pick up at the heliport when he goes out for his three weeks, keep it in his room, bring back, hand in to the technician, it's cleaned, it's checked, whatever has to be done on that particular rotation?

Page 222

MR. COLLINS:
A. If it is -- if we're talking about stock sized suits, so one of the 11 sizes currently available or one of the seven sizes of the HTS1's that we expect approval shortly, that would just be a matter of production and then logistics. So that would take, depending on the total number of suits, probably anywhere between six and eighteen months.
EARLE, Q.C.:
Q. And, of course, we're going to be into to some degree personalized suits, in any event, as we work through this problem, right, because it appears we're going to have more custom suits?
MR. COLLINS:
A. As there are new hires, you know, one of the processes that's in place now and that we're seeing at the shop is that a lot of new hires, their first stop after being hired is the Helly Hansen shop for a fitting. So at any time there is a new hire, there becomes a fitting, which then becomes a possible standard suit, modified suit, or a custom suit.
EARLE, Q.C.:

Page 223

Q. But even as we get through the problem of these 180 people, we would anticipate more than -- more custom suits? We started off with seven custom suits. We're going to be, what, up to 25/30 custom suits?
MR. COLLINS:
A. Based on the numbers we have right now, there are 25 people, as stated earlier, that have not been cleared to fly in the HTS1. We have added -- we have designed three new hood sizes for the HTS1, and we are fitting people in those to see if it's a solution. If it is a solution for them, we will add those sizes to the size mix and go through the approval process, and we are flagging right now that our total custom suit pool will probably at this point in time, pending the rest of the fittings, is sitting at 12 people.
EARLE, Q.C.:
Q. Okay.
MR. COLLINS:
A. That will require true custom individual suits.
EARLE, Q.C.:
Q. And just one further question, and it's really

Page 224

just to clarify, an impression, people watching this might have the impression that, you know, we're talking about really oddly shaped people who made it to this "no fly" list. We are not talking about oddly shaped people, we're talking about people who just happen to have maybe a head the size that you would expect on a tall person and they happen to be maybe five foot six or five foot seven?
MR. COLLINS:
A. To stay with your example, yes. Obviously, you know, to protect the people's privacy that we have as a custom list, obviously we have a lot of measurements, I don't want to speak into the specific reasons, but there are some instances where to the naked eye, the person would look like a normal person, if that's what you're asking, and that may still have a suit fit issue, but there may be other cases outside of that that I would just prefer not to speak about based on people's privacy.
EARLE, Q.C.:
Q. Mr. Hussey, who is my advisor today, is one of those people, and I'm sure he's pleased to know that he looks like a normal person.

Page 225

MR. COLLINS:
A. And I believe that I was at the heliport the day that Mr. Hussey's fitting took place.
EARLE, Q.C.:
Q. Thank you, Mr. Collins.
MR. COLLINS:
A. Perfect. Thank you.
COMMISSIONER:
Q. Thank you, Mr. Earle. Okay, Ms. O'Brien.
MR. MARK COLLINS - EXAMINATION BY MS. KATE O'BRIEN:
MS. O'BRIEN:
Q. Good afternoon, Mr. Collins.
MR. COLLINS:
A. Good afternoon.
MS. O'BRIEN:
Q. Kate O'Brien. I'm not going to be very long with you. I just have really a couple of questions. One of -- something that came out of your testimony this morning, and I'd like you to give me a little more clarification if you could.
MR. COLLINS:
A. Okay.
MS. O'BRIEN:
Q. I understood that when you were getting ready

Page 226

to bid on this particular project to provide these suits, you already had the E-452 just about ready to go, and you had already designed that suit to meet both the immersion standard and the helicopter passenger transport standard?
MR. COLLINS:
A. Correct.
MS. O'BRIEN:
Q. Okay, and you said in your evidence earlier today that the reason you had done that is that when the Newfoundland operators put out the call for the previous suit, they had required that dual standard, and it was known, I think you said, that they would continue to require that dual approval?
MR. COLLINS:
A. And it was not only the Newfoundland operators, but the Nova Scotia operators at that time also had a suit that had dual standards.
MS. O'BRIEN:
Q. Okay.
MR. COLLINS:
A. So the entire east coast, although different

Page 227

suits were being used in Nova Scotia and in Newfoundland, all those suits previous to this standard would have had dual approval.
MS. O'BRIEN:
Q. Okay.
MR. COLLINS:
A. I believe so.
MS. O'BRIEN:
Q. Sure. So it was everyone was going on the basis that for the helicopter transport suits, the ones that were used actually for helicopter transport should meet both standards?
MR. COLLINS:
A. Correct.
MS. O'BRIEN:
Q. Okay. But this is what I don't get, so everyone was understanding yes, get it--you know, we're going to meet the two standards. We're going to meet the two standards. Get a suit that meets the two standards, and then boom, all of a sudden now we're saying you don't really need the second standard. Just go with meeting the one standard.
MR. COLLINS:

Page 228

A. I guess, from an operational point of view, and I believe the requirements are a little different in Nova Scotia and Newfoundland and it may be a better question for the operators, is that with more experience in the Nova Scotia operation, they use this suit as also their second 100 percent of the marine abandonment suits that are on board the rigs offshore and that was part of what drove the requirement for having it approved to both the marine standard, because it would serve a dual purpose. While used on the aircraft, it would meet the helicopter transport standard and while used on the platform, it could be counted as their second 100 percent of marine abandonment suits. So you would have a universal fit marine abandonment suit for everybody on the platform and you would have our suit that could count as a second 100 percent.
MS. O'BRIEN:
Q. What do you mean by second 100 percent?
MR. COLLINS:
A. So in terms of a safety measure, my understanding is that generally that you would

Page 229

have more than 100 percent of the suits on board. So--I'm getting a little out of my comfort zone here because I have limited knowledge on this, but the second 100 percent, so you would be required to have 100 percent. So if you had 50 people on board the platform, you would have 100 marine abandonment suits available to them so in the event of an emergency, there were more suits than people, so somebody wouldn't go without a suit.

MS. O'BRIEN:

Q. I understand, okay, and are you saying that was in Nova Scotia that that was happening? In Newfoundland, as far as you know, do these suits serve as the second 100 percent?

MR. COLLINS:

A. I'm going to leave that to the Newfoundland operators just to make sure that we have 100 percent accurate answer.

MS. O'BRIEN:

Q. Okay. So as far as your understanding is, that's the reason that there was that dual requirement for the dual standards?

MR. COLLINS:

A. Yes, and we've had the dual approved suit now

Page 230

for years in Nova Scotia.

MS. O'BRIEN:

Q. And so I understand from what you said earlier, the only aspects of the immersion suit that are, say, different than the helicopter transport suit are the actual time it takes you to put it on?

MR. COLLINS:

A. Time it takes to put it on, requirements for minimum inherent buoyancy in terms of a solid buoyancy material, i.e. foam. There's not requirement in the helicopter suit. So there are some differences in the requirements. There's some differences in terms of the sizes that are generally available for a marine abandonment suit.

MS. O'BRIEN:

Q. And those are it? That's the complete -

MR. COLLINS:

A. Yeah, and to be--on the HTS-1 project, the operators have been--in our discussions with the operators, they've made it clear that as a next step, we would work towards getting the marine approval on the HTS-1 as well.

MS. O'BRIEN:

Page 231

Q. Okay.

MR. COLLINS:

A. But not at the expense of performance features to aid in better comfort and fit of the suits. So the example I would always go back to is for the sake of passing the marine standard and passing the cold don testing, we are not going to, you know, have at the expense of having to take out the suspension system to meet that requirement because the adjustment of the suspension system will allow the suit to be shortened to be more comfortable for the wearer.

MS. O'BRIEN:

Q. Okay, all right. Thank you. You cleared up that for me nicely. Okay, the other couple of questions I have have to do with the request for proposals put out by the operators in November of 2006. It's Exhibit 76.

MR. COLLINS:

A. Yeah.

MS. O'BRIEN:

Q. And if you could just go down to Section 3, please?

MR. COLLINS:

Page 232

A. Okay.

MS. O'BRIEN:

Q. Okay, and the next page of Section 3 because it's really Section 3.9 that I'm looking at.

MR. COLLINS:

A. Okay.

MS. O'BRIEN:

Q. Okay. So I understand here that this is the requirement for Helly Hansen to provide the breathing apparatus, the HUEBA equipment, and I see there that under Section 3.9.4 that you--the requirement was to provide 40 of these units per helicopter for passengers travelling offshore, as well as two for each pilot.

MR. COLLINS:

A. Correct.

MS. O'BRIEN:

Q. Okay. So that would be one for the pilot and one for the copilot say of each helicopter?

MR. COLLINS:

A. That would be my understanding from that, yes.

MS. O'BRIEN:

Q. Okay. Were those provided?

MR. COLLINS:

A. We provided all the EBS units that were

Page 233

required in the contract on time for start up.
MS. O'BRIEN:
Q. So ones for the flight crew?
MR. COLLINS:
A. I'd have to look in terms of the actual contracted amount, and I do have a separate spreadsheets that would breakdown the total number of EBS units, appreciating that this is now spread over three contracts, but I could provide the total suit pool or total HUEBA pool that we provided.
MS. O'BRIEN:
Q. Okay. Do you know if the flight crew are currently using the HUEBA devices?
MR. COLLINS:
A. I'm not sure.
MS. O'BRIEN:
Q. Okay, and I know that Helly Hansen doesn't design or provide any suits that the flight crew is wearing, correct?
MR. COLLINS:
A. Correct.
MS. O'BRIEN:
Q. Okay. Do you know who does?
MR. COLLINS:

Page 234

A. I believe it's Viking.
MS. O'BRIEN:
Q. Okay. Do you have any knowledge of whether the Viking suits are equipped for the HUEBA equipment?
MR. COLLINS:
A. I have--I only know that because I've seen the badge on the suit that says Viking as they've walked by.
MS. O'BRIEN:
Q. Okay. All right. So likewise, if you go down in the request for proposal, I think--or actually, sorry, if you go up to the section on the personal locator beacons, which is in--sorry, 3.8, yes, sorry, it's on the same page. I see here also that there was a requirement where the anticipated number of PLBs required was two for each seat on the helicopters?
MR. COLLINS:
A. Correct.
MS. O'BRIEN:
Q. So do you know if that include the flight crew seats?
MR. COLLINS:
A. I would be able to supply the total number of

Page 235

PLBs supplied, but right now, I do not know if that was specific to the pilots or not.
MS. O'BRIEN:
Q. Okay. So do you have any knowledge of whether the pilots are currently wearing PLBs?
MR. COLLINS:
A. I'm not sure if they're wearing the PLB units or not.
MS. O'BRIEN:
Q. Okay, great. Thank you very much. Those are all my questions. Thank you.
COMMISSIONER:
Q. Thank you, Ms. O'Brien. Have you anything to ask, Mr. Spencer.
MR. SPENCER:
Q. Just a couple.
COMMISSIONER:
Q. Yes, okay.
MR. MARK COLLINS, EXAMINATION BY MR. GEOFFREY SPENCER
MR. SPENCER:
Q. Mr. Collins, just a couple of points of clarification. You were asked some questions about the survey that Helly Hansen had done, and particularly some questions about the seals. Can you tell us, what were the nature

Page 236

of the complaints that you were getting with respect to the seals?
MR. COLLINS:
A. The nature of the complaints was that the wrist cuffs and face seals were too tight.
MR. SPENCER:
Q. People were complaining they were too tight and they were uncomfortable?
MR. COLLINS:
A. Correct.
MR. SPENCER:
Q. And what was Helly Hansen's response to that?
MR. COLLINS:
A. In terms of the wrist seals, I mean, obviously they're--if it was noted by the operator that a particular individual had, for lack of a better term, oversized wrists for their frame, there was the potential, and I'd have to look at the changes made to custom suits, if that was actually the case, if there were any custom suit made because of wrist changes. As far as the seals, that's a part of the process of verifying zip up so that the tight seal do not interfere with the ability to zip up the suit.

Page 237

MR. SPENCER:
Q. Okay, and the question had been put to you that, you know, people were complaining or it had been suggested that people were complaining that the suits just don't fit. Do you recall were there ever any comments, whether it be on the survey or otherwise, where people had said to Helly Hansen these suits just don't fit?
MR. COLLINS:
A. No.
MR. SPENCER:
Q. What would you have done if you had received those types of comments?
MR. COLLINS:
A. Like we did with some people that were identified, we would have investigated the option for custom suits and proposed changes for a custom suit.
MR. SPENCER:
Q. Now I understand on the return to flight process, Helly Hansen became involved in some individual suit fittings and you were asked some questions about that. To put that into perspective, I know you were asked questions

Page 238

about were you surprised about how many people went on to the no fly list following those individual suit fittings. Just to put it into perspective, how many people would you have checked in the individual suit fitting process?
MR. COLLINS:
A. To date, approximately 3000.
MR. SPENCER:
Q. 3000 people.
MR. COLLINS:
A. Is where we have the number.
MR. SPENCER:
Q. And how many people ended up on the no fly list through that process?
MR. COLLINS:
A. Currently on the no fly list is 180, but also in terms of modified suits, 107 people have sit the modified suits that we put into service, so until those that were available would have been also no fly, so a total of just shy of 300, so it would have been less than 10 percent.
MR. SPENCER:
Q. And out of those number of people, did those

Page 239

people include--were they just limited to people that were regularly travelling to the offshore or did they include other people?
MR. COLLINS:
A. They would have included folks like summer students who had never travelled offshore; would have included office staff that would fly offshore seldomly would include regulators that would travel offshore infrequently, so it was not only regular rotators, it involved the entire community of people who potentially could go offshore.
MR. SPENCER:
Q. Okay. And so I guess then in looking at those numbers, after you had done those individual suit fittings, over 90 percent fit people right off the bat?
MR. COLLINS:
A. That is correct.
MR. SPENCER:
Q. And that includes everyone including people that didn't regularly travel offshore?
MR. COLLINS:
A. Correct.
MR. SPENCER:

Page 240

Q. You were asked as to whether Helly Hansen had conducted a look back to see why fittings had not been done originally. Let me ask you, I guess first to be clear, did the contract require Helly Hansen to do individual suit fittings?
MR. COLLINS:
A. No, it did not.
MR. SPENCER:
Q. Is it standard in the industry for a survivor suit manufacturer to do individual suit fittings?
MR. COLLINS:
A. At that time, no. Now it is on the east coast of Canada.
MR. SPENCER:
Q. And why is it now?
MR. COLLINS:
A. That was a process that came out of the return flight service.
MR. SPENCER:
Q. Okay. You described the fitting process that you developed and I believe you indicated it took six weeks or more to develop that process?

Page 241

MR. COLLINS:
A. Approximately six weeks.
MR. SPENCER:
Q. That fitting process, did you get information from that from people that were doing that type of process elsewhere?
MR. COLLINS:
A. No, we did not.
MR. SPENCER:
Q. Was that process something that Helly Hansen developed itself?
MR. COLLINS:
A. Yes, it is.
MR. SPENCER:
Q. So again, is that something that's new to the industry?
MR. COLLINS:
A. Yes, it is.
MR. SPENCER:
Q. You were referred to the CORD testing that was recently done and there was some discussion about the type of testing that was done in the pool, and how long people were in the pool and the nature of the test. How would you compare that type of testing that was done recently

Page 242

with the other tests that were done during the normal CGSB review process?
MR. COLLINS:
A. More rigorous, that would be the first thing I think was indicated--flip through the report, and it was noted by CORD that the data presenting the results that had been produced from tests that were designed to present a complete challenge to the waterproof integrity of the suit system, is the opening in .6.0 and I don't know where the exhibit is on the computer because I had closed it out.
MR. SPENCER:
Q. That's fine.
MR. COLLINS:
A. I apologize for everybody looking at the monitors.
MR. SPENCER:
Q. Okay.
MR. COLLINS:
A. But yeah, the test method was a complete challenge. It also simulated a harsh marine environment, so the suit performed well in those conditions.
MR. SPENCER:

Page 243

Q. And did I understand you to say that there is less water came in through that testing than the previous CGSB testing?
MR. COLLINS:
A. Correct.
MR. SPENCER:
Q. Those are my questions, thank you.
COMMISSIONER:
Q. Thank you, Mr. Spencer. Mr. Collins, I don't know if I have questions as much, there's a couple of things that I'd like to discuss with you.
MR. COLLINS:
A. Okay.
COMMISSIONER:
Q. If you remember Mr.--well, firstly what I'm going to talk about is predicated on my belief that our conditions offshore are very severe, as severe as anywhere in terms of frigid waters at all times of the year and very often usually a pretty tubulate sea state, and I think that's what we're contending with. When you come to the issue gloves and I've seen the gloves that are now being worked on as being lighter perhaps and less cumbersome than the

Page 244

current ones, would it be possible and we remember Mr. Decker's evidence that when he got to the surface, his hands were virtually useless from the cold. Now, we know that a person really drowns in what, three or four minutes, I suppose, so Mr. Decker, this must have happened to Mr. Decker's hands in about a three minute period, they were useless. Is there any sort of material or was ever any thought been given to a lighter glove for the purposes of first emersion in the water while you're trying to get out of a helicopter and get to the surface and then put on the heavier glove, but a lighter glove that would save your hands for a period of three or four minutes so that you'd have better use of them when you actually got straightened away on the surface?
MR. COLLINS:
A. I'm not aware of a current glove that has passed any of the current test methods. Is it something that we are discussing? Absolutely as we continue to strive to improve our products to the point that I've heard that there are some discussions happening currently

Page 245

amongst members of the community in terms of is there a way that we could develop a test for that.

COMMISSIONER:

Q. I'm thinking of a disposable glove, almost, that you could pull off and get the heavier glove on, but something to save your hands in that crucial three or four minute period?

MR. COLLINS:

A. We, as a company, have started discussions of glove options and whether it be a two-layer glove system, a sealed glove system, but obviously before we would implement that there's some work to be done in terms of durability, dexterity to make sure that we don't impede those other areas of egress, so yes, those discussions are now taking place based on information that we gather.

COMMISSIONER:

Q. The other thing that occurs to me and when you had your figures up as to the amount of water that gets into the suit, you know, in a half-hour period getting in and out of the helicopter while you're under water, partially anyway, and then when you're lying up there's

Page 246

far less water gets in. I think on a quick estimate it would be a ratio of probably five to one, something of that order.

MR. COLLINS:

A. On a quick look, yes.

COMMISSIONER:

Q. Yeah, something like that. But of course, if you're in the sea state which very often, I won't say usually, but maybe usually wouldn't be a bad word, obtains in our offshore, that water is going to be going over you, you're not just lying there with your face out of the water. The water is going to be going over you, this is one of the problems Mr. Decker encountered and it wasn't a very stormy day by North Atlantic standards when he was out there, so that in that sort of sea state, there would be a lot more water getting through the seal than in the test where the person is just lying face out of the water, if you know what I mean.

MR. COLLINS:

A. Yeah, you're suggesting that there would be more face emersions -

COMMISSIONER:

Page 247

Q. Yes.

MR. COLLINS:

A. - or breaking waves coming over the person.

COMMISSIONER:

Q. Yes, exactly because that's the way it is out there.

MR. COLLINS:

A. And I was not there to observe the test day at the survival systems pool. From my experience having been in that simulator with it turned on to the max, that pool will simulate face emersions, so I look forward to personally seeing the test on the 27th and maybe that's something that could be studied in terms of the number of face emersions as part of the testing on the 27th to see if there's a relationship with the water ingress at that point.

COMMISSIONER:

Q. Conditions that you might expect offshore.

MR. COLLINS:

A. Correct, and the conditions that that testing was done in the CORD report, quickly just go over it, summary, introduction, I just want to just go through the test method really

Page 248

quickly. So the environmental conditions used were moderate to gusty winds, 30 to 70 kilometers an hour, so that was in the simulator; waves of half to three-quarters of a meter random and confused, so waves were obviously coming at people from every angle; rain continuous and heavy; sound, ocean sounds and lights delayed, dim and you know, in that simulator they do have rain and wind which would have been part of the CORD testing and the water ingress amounts, all those features of the simulator would have been on during the testing. So I'm sure during that testing that they were getting a significant amount of water splashed in their face.

COMMISSIONER:

Q. Yeah, it would seem like it, yes. Now in terms of time, there's been no evidence on this, but I'm told that when the crash occurred on the 12th of March past, Mr. Decker, to take him as the example, the one survivor, was out there for just over an hour before rescue got to him because I'm told and there will be evidence I'm sure on this, that the re-configuration of the helicopter to put

Page 249

the hoist in, here in St. John's, and get it ready to go was about 40 minutes and that the trip out was something or the order of 22, 23 minutes, so there's an hour and possibly a little more. Do you think--and this really is my question, although I promised not to ask any questions, but my question is do you feel comfortable that a person could float about in these conditions out there for an hour or more and be core body temperature at least, you know, up around 29, 30 degrees or not lower, do you have confidence that that would be the case?

MR. COLLINS:

A. From the information that we have from experts in thermal performance of suits, the answer is yes.

COMMISSIONER:

Q. Yes.

MR. COLLINS:

A. That is a possibility.

COMMISSIONER:

Q. Okay. On the fitting of the suits and I guess what Mr. Roil described this morning as an end user, you are talking to one now -

Page 250

MR. COLLINS:

A. Yes.

COMMISSIONER:

Q. But anyway, what I found with the suits is in the training they sort of looked at me and said you should take a medium. It turned out that the suit was really too small but I carried on with it anyway, but when I went to go offshore, I said "I need a large suit" and they gave me a large suit and I forget now the detail, but the man, the young man who was fitting it, as it were, felt no, that's not right for you, but he said, "I'll try another large suit for you, I'm going to try that one over there." And he got it and that fitted very well, so there was a difference and you've mentioned that there could be small differences, but there was sufficient difference in the size large suit that I was reasonably comfortable in the second suit and in fact, wore it offshore. Now, I didn't expect a suit like that to be comfortable, but bearable because you're in it for an hour and a half and then it comes off again, but you wouldn't expect the degree of comfort you

Page 251

would find in your normal clothes, but again, you're not doing anything on the helicopter except sitting there. So I didn't see comfort as being a huge issue. Now maybe to some people it is a greater issue. My concern was that if anything happened, I could survive in the suit. So this leads me to the proposition that if even in the large size I had to have a second fitting, and I think Mr. Earle or possibly Ms. O'Brien raised this, would it not be better if one did have a suit that you could say, well that's the suit, certainly if it's available that I would like to go in. I think you mentioned earlier that some people have their names on a suit?

MR. COLLINS:

A. That is only in Nova Scotia at this point and that's the intervention crew.

COMMISSIONER:

Q. I see, I see. Because to simply say "large" it seems to me it may not be adequate, but a large that happened to fit the idiosyncrasies of one person physically, whatever they may be, would be a better bet in terms of safety just ignoring comfort altogether, for the

Page 252

moment. Now I know there's a cost issue there.

MR. COLLINS:

A. Well I think your question and comment is similar to the question that Mr. Earle had in terms of the time involved so everybody would have their own suit assigned. What I will say is even the personnel in Nova Scotia who have their name on a suit, where that suit is a standard suit, it is still available for use by other passengers and the passengers that have flown in, traditionally they've used always the same suit, they have flown in other size suits of the same size. Obviously when, you know, the operation in Nova Scotia ramped up this summer, more suits were required to be part of the regular rotation of suits. So it's not--those suits are -

COMMISSIONER:

Q. Not exclusive.

MR. COLLINS:

A. It's not exclusive.

COMMISSIONER:

Q. No, I see, I understand. The other thing, I think the boots--the boots I gather were

Page 253

specified by the operators.
MR. COLLINS:
A. That they had to have a boot, not the specific boot.
COMMISSIONER:
Q. Yes, I see, you had to have a boot with a thick sole and--I'll tell you what I'm getting at, the boots seemed awfully cumbersome to me.
MR. COLLINS:
A. I guess in terms of the comment back, that boot is actually used on shore as well and is probably the most used boot in the on shore oil and gas business and it is also the same boot that our other Canadian competitor used on their suit -
COMMISSIONER:
Q. I see.
MR. COLLINS:
A. - because you have to meet a minimum thermal performance and the boot without any liners, which the E352, the foam liner of the suit actually used to have to go down into the boot so that it would offer enough thermal protection to the feet, and then the comments that we were getting there is people found

Page 254

them uncomfortably tight because you had essentially an extra layer inside the boot.
COMMISSIONER:
Q. I see.
MR. COLLINS:
A. So this boot stock, in terms of no additional liners, will give to minus 40 protection and aid in the overall thermal performance of the suit.
COMMISSIONER:
Q. So size is related to thermal protection because of the liner.
MR. COLLINS:
A. On the E352 it was because E352 had a different boot on it, but the boot was not self insulating, while this suit is self insulating, so by not having additional material into the boot which makes it harder to don, we were still able to offer a high level of foot protection in terms of thermal against the elements.
COMMISSIONER:
Q. I see.
MR. COLLINS:
A. And survival conditions.

Page 255

COMMISSIONER:
Q. Okay, that's all I have to talk about really, thank you very much.
MR. COLLINS:
A. Thank you.
COMMISSIONER:
Q. Okay then, nothing else is there, Mr. Roil, this afternoon?
ROIL, Q.C.:
Q. No Commissioner, no additional evidence for tomorrow at this point in time. Our next witnesses will be on Monday with the Memorial University Marine Institute Survival Centre and Ms. Fagan will lead the evidence on that particular -
COMMISSIONER:
Q. All right then, well we'll adjourn until 9:30 this coming Monday.

Page 256

CERTIFICATE

We, the undersigned, do hereby certify that the foregoing is a true and correct transcript of a hearing heard on the 18th day of November, 2009 at Tara Place, 31 Peet Street, Suite 213, St. John's Newfoundland and Labrador and was transcribed by us to the best of our ability by means of a sound apparatus.

Dated at St. John's, NL this
18th day of November, 2009
Cindy Sooley
Discoveries Unlimited Inc.
Judy Moss
Discoveries Unlimited Inc.

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