

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

YUKON UTILITIES BOARD

YEC 2012/2013 GENERAL RATE APPLICATION

P R O C E E D I N G S

Volume 3
November 14, 2012
Whitehorse, Yukon

1 Proceedings taken at High Country Inn, at 4051 - 4th Avenue,
2 Whitehorse, Yukon.

3 _____

4 Volume 3

5 November 14, 2012

6	Mr. B. McLennan	Chair
7	Mr. N. Prasad	Board Member
	Mr. R. Laking	Board Member
8	Mr. A. Fortin	Board Member
9	Ms. G. Bentivegna	Board Counsel
	Ms. D. Lemke	Board Staff
10	Mr. B. Clarke	Board Staff
	Mr. C. Pham	Board Staff
11	Mr. D. Ward	Board Staff
12	Mr. J. Landry	Yukon Energy Corporation
13	Mr. T. D. Marriott	City of Whitehorse
14	Ms. A. Sears	Yukon Electric Company Limited
15	Mr. Janigan	Utilities Consumers' Group
16	Mr. J. Maissan	Leading Edge Projects
17	Ms. A. Middler	Yukon Conservation Society
18	A. Jones, CSR(A)	Official Court Reporters
	M. Allred, CSR(A) RPR	
19	_____	

20 THE CHAIR: Good morning, everybody. I'm
21 just going to cover a couple of housekeeping items before we
22 get underway, and then we'll get into other preliminary
23 matters counsel may have.

24 But I just want to clarify -- not clarify but
25 record for the record that the item that was brought in

09:05

1 evidence yesterday by YCS which was the newspaper article
2 from the UCG Tab 12, which was their Tab 12, was labelled as
3 C-3-24. The evidence number for that will be C-59 -- I
4 apologize. It's C-5-9.

5 And the other item is just a reminder to
6 Mr. Landry. I believe there was an undertaking to work would
7 our Board counsel just to ensure that the tab that UCG had
8 submitted, which would be C-24, just to make sure that you
9 excise or confirm which ones you object to before we conclude
10 the hearing.

09:06

11 And with that is there any other preliminary
12 matters?

13 MR. LANDRY: Just what I spoke to yesterday,
14 and I did sneak to Ms. Lemke before we started today, was the
15 documents that were in that tab that were not referred to.

16 THE CHAIR: Right.

17 MR. LANDRY: That's what I was -- in terms
18 of objection, he didn't get to a couple ones that I thought
19 were objectionable, but I'll work with Ms. Lemke to make sure
20 that the ones that he referred to are kept on the record and
21 the ones that are referred to are taken --

09:07

22 THE CHAIR: If you could make sure that's
23 done sometime during the break so that we could bring it back
24 after the break if that's possible.

25 MR. LANDRY: I will try to do that.

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 THE CHAIR: Thank you. So at this stage
2 unless there's any other preliminary matters, I will turn the
3 matters over to Mr. John Maissan -- are there any
4 undertakings?

5 MR. LANDRY: Not at this time. Perhaps
6 after the break but not at this time.

7 THE CHAIR: So I'll turn the mic over to
8 Mr. Maissan to proceed at your leisure.

9 MR. MAISSAN: Thank you, Board, Chair. My
10 name is John Maissan, and I'm pleased to be here to ask
11 questions in regards to the GRA.

09:07

12

13 C. OSLER, D. MORRISON, E. MOLLARD (For Yukon Energy
14 Corporation), previously sworn

15 MR. MAISSAN CROSS-EXAMINES THE PANEL:

16 Q. First I have a couple of matters arising from the
17 opening statement and from the first day of the proceedings.

18 In regards to the opening statement, which is

19 Exhibit B-16, on page 9 of 11 there's a reference to

20 Mr. Morrison made something to the effect that in November

09:08

21 they have once again updated the forecast to reflect evolving

22 conditions, and I wondered whether that forecast was

23 available to the Board.

24 A. MR. MORRISON: I'm -- we -- for the purpose of
25 the rate application we haven't updated any forecasts,

1 Mr. Chair. It's an updated forecast or a couple of pages
2 that we did for our own purposes based information that we
3 have if it's -- I guess the piece I'm trying to stay away
4 from is I don't really want to file it as part of the
5 application. I certainly don't mind providing it as
6 information.

7 Yeah, because it's not part of the GRA
8 application. It's part of the resource plan as Mr. Osler
9 reminds me. But I don't mind filing it for information
10 purposes. I just don't want anybody to think that we're
11 using that forecast in the process.

09:09

12 THE CHAIR: So is that an undertaking?

13 A. MR. MORRISON: Yeah. We'll provide it.

14 **UNDERTAKING - TO PROVIDE THE UPDATED**
15 **THE FORECAST TO REFLECT EVOLVING**
16 **CONDITIONS**

17 Q. MR. MAISSAN: Thank you. The second question
18 is in regards to a comment that I thought I heard Mr. Mollard
19 make yesterday when there was a discussion on disallowed
20 regulatory costs. Do you recall that, that discussion?

09:09

21 A. MR. MOLLARD: I do, yes.

22 Q. Yes. And I thought I heard you say -- and I haven't
23 been able to find the time to go through the transcript yet
24 this morning. I thought I heard you say that disallowed
25 costs were transferred to an administration account. Did I

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 hear that correctly?

2 A. MR. MOLLARD: For the purposes of our
3 internal accounts, yeah. It's a regulatory -- what we call
4 or refer to it is a regulatory loss account within my
5 administrative books.

6 Q. Okay. So does that mean that that gets recovered as
7 part of revenue requirement or it does not? Is that sort of
8 outside revenue requirement?

9 A. MR. MOLLARD: No, it does not. As I
10 responded to yesterday -- I can't remember who was on cross
11 at that time -- we do not forecast regulatory costs for the
12 purposes of rate making. We do not forecast regulatory --
13 yes. We do not forecast write-offs for the purposes of
14 rates, so there is nothing in our test years for those
15 losses.

09:10

16 Q. Thank you. In regards to demand side management, at
17 least in the resource plan, we see the term SSE for supply
18 side efficiencies used side by side with DSM. And I just
19 wondered if somebody could explain exactly what that term
20 means and provide some concrete examples.

09:11

21 A. MR. MORRISON: Sure. Mr. Chairman, the
22 acronym stands for supply side enhancements.

23 Q. Enhancements, sorry.

24 A. MR. MORRISON: It goes to the efficiencies of
25 our generating transmission assets, if you will. So I would

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 give you -- I can give you a couple of examples. We -- some
2 that we've already done and some that we're looking to do.

3 So a few years ago when we were doing
4 maintenance on the units, the hydro turbines at Mayo, we put
5 in new runners that are more efficient, and thereby -- they
6 use less water and get -- in doing so we get more kilowatt
7 hours out of the same amount of water that we have. So we
8 looked at them.

9 We did -- in recent years we have completed --
10 I will say we completed the first part of a study to tell us
11 whether or not if we replaced the runners, which is the
12 propeller piece at Whitehorse turbines, that they would be
13 more efficient and, therefore, we'd get more kilowatt hours
14 out of them for the same amount of water. Water is a
15 valuable commodity for us.

09:12

16 When we rewound the -- a few years ago we had
17 to rewind the generators at Aishihik and we rewound them at a
18 much higher level. So that if, by chance, we can do the same
19 thing at Aishihik in terms of looking at the runners and get
20 some more efficiency, that we'd be able to do it.

09:13

21 So it's those kinds of things are part of
22 supply side enhancements.

23 Q. So, obviously, that is not internal DSM, then.

24 A. MR. MORRISON: No, it isn't.

25 Q. Right. In regards to DSM, could I ask you to turn to

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 YUB-YEC-1-46. And I'm looking at a -- well, let's call it a
2 table in the attachment to D, page 3 of 4.

3 A. MR. MORRISON: So you want 3 of 4 of the
4 table?

5 Q. Of the attachment 1, yes, which is a table like --

6 THE CHAIR: Is that Table 2?

7 MR. MAISSAN: It's labelled Table 2, yes,
8 "DSM Related Activities By Project 2012 Forecast."

9 A. MR. MORRISON: I have it. It doesn't mean I
10 can read it. I do have it.

09:14

11 Q. MR. MAISSAN: Yes, I sympathize.

12 A. MR. MORRISON: Yeah.

13 Q. The very last box on that table says "Internal DSM."

14 A. MR. MORRISON: Yes.

15 Q. And if I, too, may undertake the challenge of reading
16 this. It says: (as read)

17 "An internal energy audit has been
18 completed and has informed a suite of
19 projects for 2012/2013. 2012 will
20 include multiple small monitoring
21 projects aimed at filling information
22 gaps identified in the original audit.

09:14

23 The recommendations from the audit
24 will be implemented according to the
25 annual budget - measures with the

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 greatest cost benefit ratio will be
2 given priority.

3 All projects will be subject to
4 approval from senior management so as
5 to ensure organizational consistency
6 and potential equipment lifetime
7 concerns.

8 In addition to technical upgrades,
9 the DSM project will include a program
10 aimed at educating and engaging
11 employees in DSM activities at work and
12 at home."

09:15

13 And we see that there's a budget allocation of
14 200.6,000, so \$200,600.

15 So it appears that the DSM from that
16 interrogatory -- it appears that the DSM activities are
17 underway.

18 And if we can turn now to UCG-YEC-2-6, that
19 answer says in the last line: "To date, no specific projects
20 have been identified for execution."

09:16

21 So there appears to be a little bit of
22 difference in the answer to these two interrogatories, and I
23 wonder if someone might explain the difference, because from
24 the YUB interrogatory, it does appear that projects are
25 underway, but in this one, it appears to say that they are

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 not.

2 A. MR. MORRISON: I think, Mr. Chair, a couple of
3 things. One is a timing issue. Getting the information and
4 getting it into the -- in the GRA -- you know, by the time we
5 got the audit done and the answer prepared, there was -- we
6 were, you know, off in terms of timing.

7 The plan for this year and the reference in
8 the answer in the table is that we're trying to fill in
9 information gaps.

10 So we were trying to be helpful in terms of
11 expanding the kinds of things that we're looking at, but,
12 really, this year it's an information gap fill-in. We need
13 some more data on a number of the suggestions in the audit
14 before we can go ahead and implement programs. I don't see
15 us implementing a series of programs this year, but there's
16 quite a bit of work to be done on a baseline information.

17 Q. So the budget then of 200,000 -- just over \$200,000
18 relates to the studies that fill in these information gaps?

19 A. MR. MOLLARD: That would include the cost of
20 the audit and the cost of the work to fill in those
21 information gaps.

22 Q. Thank you. My next follow-up question is in regards to
23 the DCF. And on Monday we were discussing the DCF. When we
24 were discussing the DCF we reference Appendix 3.2.

25 If we turn to page 3.2-3 in the appendix, not

09:17

09:18

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 the attachment to the appendix, so the first page 3.2-3.

2 A. MR. MORRISON: I think we're there,
3 Mr. Maissan.

4 Q. Yes, there is that figure of 3.2-1 there that shows
5 hydro generation versus load. And I was just wondering if
6 you could confirm that this graph is based on long-term
7 average hydro generation?

8 A. MR. OSLER: This graph is showing long-term
9 average generation from hydro at different levels of load.

10 Q. Of load, yes.

09:19

11 A. MR. OSLER: And the assumptions as noted in
12 the text. And it forms the basis for at least one of the
13 tables in the attachment.

14 Q. Right. And so that is based on the present load and
15 present load characteristics as opposed to any projected load
16 characteristics?

17 A. MR. OSLER: Well, it's -- it is based on --
18 it's the graph used for the 2012 table that's attached. It
19 covers the range 400 to 500 gigawatt hours a year without
20 having on the system the United Keno Hill -- no, the
21 Whitehorse Copper Tailings load which would tend to change
22 the shape a bit. And, therefore, we have a separate table
23 and a separate set of calculations for the 2013 but only
24 after that mine comes on.

09:20

25 Q. Right. And you've led into my next question was how

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 will this change with the addition of customers such as
2 Whitehorse Copper Tailings that project a seasonal load?

3 A. MR. OSLER: Well, you can see the extent to
4 which that type of a change occurs by the small comparison,
5 small differences between the two tables in the attachment.

6 And, generally speaking, the commitment is to
7 do such analysis when you get into a different range of loads
8 or you get into a material change in the nature of the loads
9 that are being brought on the system. And Whitehorse Copper
10 Tailings is a load that would be eight or nine months a year
11 summer focused. So it really is quite different than the
12 typical loads for residential commercial or the more flat
13 loads of the sort of Mintos and the Alexcos.

09:21

14 So if you have a big enough load and it's got
15 a different seasonal shape to it, either flat or even going
16 summer focused, then it can change the extent to which
17 there's an expectation at a given volume of annual load that
18 there will be incremental diesel.

19 Q. Yes. So for this seasonal load, which is avoiding the
20 peak winter -- well, the winter when we have our peak
21 electrical loads, then one might expect that the hydro
22 generation might increase somewhat relative to the size of
23 the load compared to what it is today; i.e., increasing
24 summer loads and not increasing winter loads will tend to
25 increase the amount of load that can be served with hydro?

09:21

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 **A. MR. OSLER:** **Yes.** And if you compare Table
2 3.2-1 in the attachment to Table 3.2-2, you will see the
3 extent to which that can occur. And the example I would give
4 would be at 500 gigawatt hours a year of load, which is
5 double what we're talking about normally.

6 Without that particular element to the load
7 shape, the predicted diesel generation is 66.7 gigawatt
8 hours, and with that added element of a seasonal load shape
9 for only about half of Whitehorse Copper Tailings total load,
10 So it's pretty minimal, 65.6.

09:22

11 So it's a little bit less diesel for the same
12 level of load reflecting the fact that a portion of that load
13 now is assumed to be happening during the summertime.

14 **Q.** Yes. And I know this is projecting beyond the test
15 years, but if there were other mining loads, like I think
16 Victoria is now projecting more seasonal loads whereas
17 initially they were projecting flat loads, then this will
18 also serve to enhance our hydro generation serving load?

19 **A. MR. OSLER:** **Yes.**

20 **Q.** Thank you. Turning to page 3.2-4, which is the
21 following page and which was also referenced in the
22 discussion, we see at line 10: (as read)

09:23

23 "In extreme low water years, reduced
24 hydro generation capability could
25 require diesel generation exceeding

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 100.0 gigawatt hours per year."

2 And I was wondering if you could explain to me whether this
3 100 gigawatt hours a year calculation is based on actual
4 water inflow for that year or whether it is based on inflow
5 plus some use of stored water from reservoir.

6 A. MR. OSLER: It's based on the latter in the
7 sense that it's a modelled -- the type of hydraulic models
8 that utilities use for planning purposes, such as the one
9 that's used here looks, at the years of record. It takes --
10 regardless of what actually happens to the system in each of
11 those years, it adjusts it to the current assets on the
12 system and the current licenses on the system and operates
13 that system given the water inflows that happened over those
14 28 years and also changes the sequence -- sort of starting
15 the sequence with the loads that each one of the
16 possibilities -- so you end up with over about 300 cases or
17 something in terms of the analysis.

09:24

18 But essentially you're looking at how does
19 that system deal with the inflows, the storage, and
20 everything else and adapt itself, and the averages that
21 emerge reflect that. And if you change the assets on the
22 system, you change the licenses, you change the load, you get
23 differently types of answers.

09:25

24 Q. So inherent in that model is there then an accommodation
25 for the fact that you do have a storage range, and this will

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 moderate the hydro energy available -- sorry, let me be
2 careful in my wording here.

3 This will -- yes, I suppose the word is
4 moderate the influence of water inflow year by year, i.e.,
5 you can store water in wetter years, use more water than
6 inflow in dryer years so as to moderate the extremes?

7 A. MR. OSLER: Yes.

8 Q. Thank you.

9 A. MR. OSLER: And essentially if you run this
10 model with another resource such as wind or something, it
11 will take into account the extent to which you have the
12 ability to cut back on generation and store water from the
13 summer, store it for the winter, so that when you take a look
14 at analysis in the resource plan that talks about how much
15 diesel displacement you could get with wind, it takes into
16 account that you get a certain amount of direct diesel
17 displacement during the winter months when diesel is
18 obviously planned to be used when you have a big load.

09:26

19 But it also takes into account how much you
20 get indirectly because that wind keeps going all during the
21 summer, and it lets you store a bit more water. And that
22 extra water you could store allows you to displace a bit more
23 diesel.

09:27

24 When we get a total amount of how much diesel
25 we can displace from 55 gigawatt hours of wind, it's made up

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 of both elements, and that's the result of this type of
2 modelling.

3 Q. So inherent in that model then is the reservoir
4 management?

5 A. MR. OSLER: Yes.

6 Q. Thank you. I have a question in regards to
7 YUB-YEC-1-8-A as revised, Attachment 1, and there is an
8 exhibit number that goes with that, and I've forgotten what
9 it was. B-17, perhaps.

10 A. MR. MORRISON: Okay.

09:28

11 Q. You have it?

12 A. MR. MORRISON: I have it.

13 Q. Okay. Looking at the 2009 numbers on page 1 of 3 on the
14 far left side I see that about halfway down -- sorry, this
15 would -- yes, halfway down there is an indication that KGS
16 group is listed there, and the number is 3,511,000.

17 And this number appears to be the same as the
18 revision in B-17, Exhibit B-17, and I was wondering whether
19 there was not an error from that original table as supplied
20 or whether these two numbers were additive.

09:29

21 A. MR. MORRISON: Maybe could you tell us -- I
22 know you've told us the exhibit number. Could you tell us
23 what it is, Mr. Maissan?

24 Q. It's -- if we look at the interrogatory YUB-YEC-1-8 --

25 A. MR. MORRISON: Sorry, I think we're getting

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 there.

2 Q. Okay.

3 A. MR. MORRISON: I think we're getting there.

4 Q. Sure. It's again an attachment. There are three pages
5 of attachment, Attachment 1, in four columns.

6 A. MR. MORRISON: Okay.

7 Q. Again the writing is quite small, and so I was just
8 wondering, applying the corrections to that IR -- in my
9 version of the revised response I see KGS group in the
10 left-hand column about halfway down at 3.511 million, and the 09:30
11 revised number is exactly the same in Exhibit B-17.

12 So I just wondered whether that number didn't
13 need revising or whether they're supposed to be additive.

14 A. MR. MOLLARD: No. You're correct. The
15 number didn't exchange. We realized in 10 and 11 we had an
16 issue with how the numbers were accounted for, but we reran 9
17 just to be sure that there was no problem in that year as
18 well.

19 Q. There is no exchange?

20 A. MR. MOLLARD: The record stands for 2009. 09:31

21 Q. Yeah. And for 2010 and 2011 the numbers are different,
22 and can you confirm that the numbers in Exhibit B-17 replace
23 the numbers that were in the attachment as opposed to add to
24 them?

25 A. MR. MOLLARD: Yes. They replace those.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Q. Thank you. My next question relates to interrogatory --
2 sorry, we're now to the point where I'm at my own
3 interrogatories as opposed to clarifying other issues that
4 have come up so far.

5 My first question is in regards to
6 interrogatory LE-YEC-1-14 A and B. Do you see that?

7 A. MR. MORRISON: Yes, we do.

8 Q. In answer to B, on page 3 of 4, the first full paragraph
9 starting at line 6 says: (as read)

10 "Table 1 provided in response to A
11 above shows the month to month diesel
12 generation during 2010 and 2011
13 highlighting the extent to which low
14 water conditions in the fall of 2010
15 through the spring of 2011 resulted
16 with no DCF activation in material fuel
17 costs for YEC operations in both 2010
18 and 2011."

19 And I was wondering if you could explain to me -- I don't see
20 huge amounts of diesel there. I see some diesel there. And
21 I was wondering if somebody could clarify whether they should
22 have been lower, whether the hydro numbers should have been
23 higher.

24 A. MR. OSLER: Sorry, when we're looking at
25 the fall of 2010 --

09:33

09:33

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Q. Yes.

2 A. MR. OSLER: -- and, you know, the word
3 "fall" may be a liberal.

4 Q. I'm assuming November, December.

5 A. MR. OSLER: Yeah, but you've got 2.8 -- if
6 we're looking at the same thing, diesel 2.8 gigawatt hours --

7 Q. Yes.

8 A. MR. OSLER: -- in December. You've got
9 2.4. The next January you've got 1.4. You've got 3.1. I
10 think that's all somebody was getting at is that compared to
11 other years, there's a fair amount. It's not astronomical,
12 but there's a lot more than you're seeing anywhere else in
13 that table with diesel going on in that time period.

14 Q. Yes. But the reference in the answer in the paragraph
15 says: (as read)

16 "It highlights the extent to which low
17 water conditions in those years have
18 resulted in material fuel costs."

19 So does that mean that beside those numbers where we have 2.8
20 in November 2010, 2.4 gigawatt hours diesel January 2011, et
21 cetera, should those have been lower? Should the hydro
22 numbers have been higher?

23 A. MR. OSLER: Well, the "should" word -- the
24 interpretation -- the people that wrote it is that there was
25 low water availability that drove some of their diesel. I

09:34

09:34

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 don't have more knowledge than that in terms of answering it
2 right now.

3 But the question was asked as to why did they
4 burn more diesel during that time period, and the answer that
5 came back was because there was some constraints on the water
6 availability during that time period. How much that's shown
7 by the hydro numbers and stuff here is a different question.
8 I can't help you more than that. I'd have to go talk to some
9 people.

10 Q. Thank you.

09:35

11 MR. MAISSAN: Mr. Chair, I'd like to file an
12 aid to cross-examination at this point, please. I think the
13 number would be C-4-13.

14 THE CHAIR: I'll acknowledge that after we
15 see it.

16 So I'll acknowledge that that is Exhibit
17 C-4-13.

18 **EXHIBIT C-4-13 - AID TO**
19 **CROSS-EXAMINATION**

20 MR. MAISSAN: Thank you. Mr. Chair.

09:37

21 Q. I just wanted to understand that low water conditions.
22 So what I did in this exhibit, I went back to a filing. The
23 first page of that Exhibit C-4-13 are what was in the past
24 years as long-term average hydro capability. It was filed in
25 the last GRA as you can see. And in --

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 A. MR. OSLER: Mr. Maissan --

2 Q. Yes.

3 A. MR. OSLER: -- when you say the first page,
4 for whatever reason the one I'm looking at is the reverse.
5 So you're looking at the table that's -- at the bottom says
6 page 3 of 5 and it says YECL-YEC 1-2 revised, but it's the
7 2008/2009 GRA -- that's what you're referring to as the first
8 page?

9 Q. That's correct, yes?

10 A. MR. OSLER: Okay.

09:38

11 Q. The second page is a revision of -- or is a page from my
12 own exhibit, IR LE-YEC-1-14 with some handwritten numbers on
13 it.

14 A. MR. OSLER: I just want the record to be
15 clear when we're looking at what you call the first page, for
16 us it's the second.

17 Q. I'm sorry.

18 A. MR. OSLER: No problem.

19 Q. Just can't get good secretarial help these days.

20 A. MR. MORRISON: I disagree.

09:38

21 MR. LANDRY: Mr. Chairman, if I may. Excuse
22 me, Mr. Maissan.

23 On page 2 of this now marked exhibit, I see a
24 bunch of handwritten numbers which obviously don't appear on
25 that IR response. I'm just wondering before we get too far

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 in this exhibit, are those your handwritten --

2 MR. MAISSAN: Those are my handwritten
3 numbers, yes.

4 MR. LANDRY: I'll reserve whether or not I
5 have any objection to this after we go through a few
6 questions.

7 MR. MAISSAN: Right. There's going to be a
8 fair bit of flipping back and forth here, Mr. Chair, and I'll
9 apologize in advance for that.

10 Q. I have used an IR from this proceeding, another IR from
11 this proceeding from this GRA to assist me in arriving at
12 those numbers, and that is YECL-YEC-1-11, and in particular,
13 Table 2 on page 3 of 4.

09:39

14 A. MR. MORRISON: We need to get that out as
15 well, Mr. Maissan?

16 Q. Not necessarily, but I'll explain where the numbers --
17 where the handwritten numbers on the second page arrive from.

18 In response to my IR, you provided
19 consolidated Mayo Dawson system and WAF system hydro
20 generation. And what I did was subtracted the monthly Dawson
21 City generation numbers from the consolidated numbers to
22 arrive at monthly WAF system diesel -- sorry, WAF system
23 hydro generation numbers.

09:40

24 A. MR. MOLLARD: Sorry, Mr. Maissan. What are
25 you referring to when you say you adjusted off of Mayo Dawson

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 numbers?

2 A. MR. MORRISON: Took Dawson out of --

3 Q. I took -- that's correct. The way I had asked IR 1-14
4 was to provide consolidated numbers.

5 Had I been astute ahead of time, I would have
6 asked for Mayo Dawson and WAF system separately and then I
7 wouldn't have needed to go through this handwritten
8 calculation.

9 A. MR. MORRISON: I don't think -- what we're
10 trying to -- you just said something and I'm not sure you
11 were clear so we might have misunderstood you. I thought you
12 said you took Dawson numbers out of the Mayo numbers that are
13 in Table 2.

14 Q. I apologize if I said that.

15 A. MR. MORRISON: Okay. That's all we're trying
16 to clarify.

17 Q. Right. I took the consolidated Mayo Dawson plus WAF
18 system hydro generation numbers and I've subtracted the Mayo
19 Dawson hydro generation numbers to arrive at monthly WAF
20 system hydro generation numbers.

21 A. MR. OSLER: Right. And the reference
22 you're looking at in the YECL IR number 11 shows it by
23 Whitehorse Aishihik and Mayo --

24 Q. Right.

25 A. MR. OSLER: -- separately. And you've

09:41

09:41

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 taken Mayo off. So, okay.

2 Q. I've taken Mayo out and you could arrive at the same
3 numbers by adding -- by adding the Aishihik and Whitehorse
4 Rapids numbers.

5 A. MR. OSLER: I think we've caught up with
6 you.

7 Q. Right. So subject to check on my math, I accept that
8 since it was done late in the evening, there is a possibility
9 of mathematical error, but subject to that, my calculations
10 have shown that the WAF system generation for November 2010
11 was 33.3 gigawatt hours; for December was 37.3; for January
12 was 36.4; February -- sorry, January 2011; February, 2011,
13 32.2; March 32.9; April 26.8; and May, 26.6.

09:42

14 So I note that each of those months is higher
15 than the capability that is shown on Exhibit C-4-13, what
16 should have been the first page. And I just wondered -- you
17 know, the comment about in response to my IR -- sorry, let me
18 reference that correctly.

19 The response to IR LE-YEC-1-14 on page 3 of 4
20 indicated low water. And yet the numbers seem to suggest
21 above-average water -- sorry, hydro generation in each of
22 those numbers. And I wanted to understand whether there was
23 low water inflow or whether, to arrive at those higher
24 numbers, water was used from storage, because the numbers
25 suggest that there wasn't low water. The hydro generation

09:43

1 numbers suggest there wasn't low water.

2 A. MR. OSLER: Essentially looked at --
3 without having to strain one's eyes, looking at the answer to
4 YECL, your point is that when I'm looking at Aishihik and
5 Whitehorse in the fall, December of 2010 and the first
6 several months of 2011, your point is that the numbers from
7 the hydro generation in those months in those years is
8 somewhat higher than we see for some of the other months,
9 same months in earlier years.

10 And your argument is -- or your question is:
11 And it's higher than something that we used way back in the
12 '90s as sort of an average for the system when we had the
13 Faro mine on.

09:45

14 Q. Well, it was used up until recently, I would say.

15 A. MR. OSLER: Yeah.

16 Q. Up until the system was consolidated.

17 A. MR. OSLER: We're not dealing with a
18 consolidation issue here. We're looking at the WAF system.

19 Q. Correct.

20 A. MR. OSLER: And these numbers, as you know,
21 were used in the '96/'97 GRA on the assumption that there's a
22 -- to be useful. They reflect the Faro mine on.

09:45

23 So, you know, it's a perfectly good question.
24 I don't have a good answer. I'd have to go and talk to the
25 people involved that said the reason why they had problems

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 was relating to low water rather than anything else.

2 It may have been that people thought that and
3 may be accurate, and I just don't have the right information
4 in front of me to help explain it to you, or it may have been
5 that it was super cold or something else and people got their
6 thought process.

7 The one thing that is true is that they ran a
8 lot more diesel then. And we both know that they wouldn't
9 have done it without some good reason.

10 Q. It appears they also ran a lot more hydro.

09:46

11 A. MR. OSLER: It may have been unusually cold
12 weather or something like that that drove it. I don't know.

13 But, again, we're looking at certain sets of
14 numbers here, and the questions flow from the numbers, and
15 the answers don't flow back easily. And I think I'd just as
16 soon ask somebody to help -- you know, think about it for a
17 few minutes rather than, you know, taking up a lot of time on
18 the transcript.

19 The answer that the people who do this gave
20 everybody was that it was relating to low water because the
21 question came up even in preparing the GRA "Why did we burn
22 so much diesel during this time period?" And the answer was
23 the answer that you see on the transcript -- in the report.

09:47

24 These numbers pose interesting questions as
25 to, you know, how do you explain that, and I don't have a

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 good answer at the moment.

2 MR. MAISSAN: Thank you. The next issue I'd
3 like to talk about is industrial customers and the revenues
4 that industrial customers bring in, and this relates to quite
5 a number of IRs. Mr. Chair, I don't think we need to flip
6 through them all because we'd all go dizzy having to do that.
7 Q. I think what I'd like to do is just go through this sort
8 of systemically one step at a time here. And start by asking
9 what is the -- in this GRA what is the proposed incremental
10 cost of diesel generation for the test years?

09:48

11 A. MR. OSLER: The fuel price that's forecast
12 is 28.68 cents per kilowatt hour when you translate it to the
13 average, you know, fuel price average deficiencies, et
14 cetera. That's the number that one tends to use when you're
15 looking at the average incremental cost for a kilowatt hour.
16 That's just fuel.

17 Q. Right. And in the past you have added to get to a total
18 variable cost 3 cents per kilowatt hour O&M. So is as per
19 response in LE-YEC-1-117 you say: (as read)

20 "The forecast GRA DCF incremental
21 diesel cost 31.68 cents per kilowatt
22 hour."

09:49

23 So is that the -- which appears to be that number plus 3
24 cents. Is that the --

25 A. MR. OSLER: Yes.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Q. -- appropriate number?

2 A. MR. OSLER: Yes. And that's the number
3 that would be used for -- it is used in the examples and
4 would be used in practice for operation of the DCF.

5 Q. And it's not used for any other purposes? Do you have
6 different numbers used elsewhere if you were talking about
7 incremental cost of diesel?

8 A. MR. OSLER: Times when we're at the
9 resource plan I think you may find it is 1 and a half cents
10 for diesel or LNG or anything else. I'm aware there's some
11 differences, but in this application the only operation --
12 the operative relevance of it is for the operation of the
13 DCF.

14 Q. All right. In Tab 4 in the application on page 4-12 a
15 number 32.74 cents per kilowatt hour is used, and I just
16 wondered whether that referred to another period of time.

17 A. MR. OSLER: Sorry, give me the reference
18 again. Tab 4?

19 Q. Tab 4, page 4-12 at the top.

20 A. MR. OSLER: I believe that reference is the 09:50
21 '08, '09 proceeding.

22 Q. Right. Okay. So that refers to a different time period
23 that is not applicable to this GRA.

24 A. MR. OSLER: Yes.

25 Q. Thank you. In the application on page 2-18, Table 2.2,

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 which is a table which is the summary of energy balance
2 losses peak and load factor.

3 **A. MR. OSLER: Got it.**

4 Q. I see under proposed for 2012 and also existing forecast
5 2012, 415.909 gigawatt hours, and am I correct in believing
6 that's the generation -- projected generation requirement for
7 2012?

8 **A. MR. OSLER: Yes.**

9 Q. If we go to Table 3.2-1 in the application, and that's
10 found on page 3.2-7 in Attachment 3.2.

09:52

11 **A. MR. OSLER: Yes, got it.**

12 Q. This Table 3.2-1 is expected diesel generation based on
13 long-term average hydro generation.

14 **A. MR. OSLER: Correct.**

15 Q. Assuming only the Minto and Alexco mine loads, which are
16 the loads we have today.

17 **A. MR. OSLER: Yes.**

18 Q. At line 4, which in column A shows 415, so that's
19 approximately where we are today; is that right?

20 **A. MR. OSLER: Well --**

09:52

21 Q. For 2012?

22 **A. MR. OSLER: The forecast for 2012 is 415.9**
23 **in round numbers, so it's just a little bit higher.**

24 Q. A little bit higher?

25 **A. MR. OSLER: Yes.**

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Q. Now, in the far right hand column it says diesel as a
2 percent of increased load. It says 44 point -- sorry,
3 44 percent. That indicates that the next increment of load
4 will require, on average, 44 percent diesel?

5 A. MR. OSLER: No.

6 Q. No? Could you explain what that means?

7 A. MR. OSLER: That's what the correction was
8 in the exhibit that we filed in the opening.

9 A lot of us were busy doing exactly what you
10 just did and read across the line and said 44 percent, but
11 actually it's 49 percent is the number that would apply to
12 extra growth above 415.

09:53

13 And if you go through the table you'll see
14 that it starts at 400 on line 1 and goes to line 2 to 405,
15 and across the line you'll see 30 percent is the calculated
16 increase on average between 400 and 405. So if you start at
17 5.6 diesel generation in column C at 400 gigawatt hours a
18 year.

19 Q. Yeah.

20 A. MR. OSLER: And 30 percent applies to the
21 next 5 gigawatt hours, and that will get you to 7.2 gigawatt
22 hours after you get to 405. So you got to read the next line
23 up, not the line across.

09:54

24 Q. Okay.

25 A. MR. OSLER: And that was the -- you know, a

1 lot of -- Exhibit B-17 is the one that officially put the
2 correction on the record. And we have to get correct the
3 example in here too in order to make sure that when we do
4 this in the future we all remember to do it the way I just
5 described it.

6 Q. Thank you. I hadn't picked up on that.

7 So that's 49 percent?

8 A. MR. OSLER: Yeah.

9 Q. The GRA proposes, if I understand it correctly, to serve
10 this load with 408.4 gigawatt hours of hydro, leaving about
11 7 and a half gigawatt hours to be served by diesel
12 generation. Is that fair?

09:55

13 A. MR. OSLER: That is what is shown in
14 Table 2.2 that you started with, and that reflects assuming
15 that the diesel we put into the application for this year is
16 65.6 percent of what you'd get from the table if you were
17 discussing Table 3.2-1.

18 And the hydro then is a little bit higher to
19 balance it little bit more than long-term average, and the
20 footnote on page 2-18 to the table explains that.

09:55

21 Q. Right. So can you explain what happens to the next
22 5 gigawatt increment of load? How much diesel would it take
23 to serve that? Is it still 49 percent?

24 A. MR. OSLER: Yes. Well, it's 49 percent in
25 the whole calculation process. It's just that everything is

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 rolled back to 65.6 percent at whatever number you're
2 getting. That's a bit too confusing it.

3 Q. Sorry.

4 A. MR. OSLER: Yes. I guess if you look at it
5 that way, the incremental effect would be 65.6 percent of
6 49 percent in terms of what it could affect the cost of the
7 company.

8 Q. Now, all right, so the actual incremental diesel should
9 be 65.6 percent of 49 percent; right? I'm just trying to get
10 my head around to make sure I get that right.

09:57

11 A. MR. OSLER: In the year 2012 that would
12 apply and be 58.9 or something, so it's 59 percent in the
13 rounded numbers for the next year. And that's entirely to do
14 with steps taken to mitigate the effect of going towards
15 long-term average as was discussed in the opening statement.

16 Q. Right.

17 A. MR. OSLER: It's meant to be a transition
18 process.

19 Q. Now, if I understand correctly, it's proposed or it's
20 expected that Eagle Industrial Minerals working the
21 Whitehorse Copper Tailings plans to be connected in 2013 with
22 a load in 2013 of just under 5 gigawatt hours a year; is that
23 correct? 4.77 gigawatt hours a year? Did I correctly read
24 the forecast which was in YECL-YEC-1-26-A revised?

09:57

25 A. MR. OSLER: Yes.

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 Q. Yes. And after that they would be expected to require
2 9.3 gigawatt hours per year. I was wondering if you could
3 tell me whether that is the actual load of the mine, or is
4 that the generation requirement; i.e., does that include line
5 losses, or does it not?

6 **A. MR. OSLER: Let me just check. It's a**
7 **load. Everybody's assuring me it's the load. It's the load,**
8 **the sales.**

9 Q. It's the sales.

10 **A. MR. OSLER: Right.**

09:58

11 Q. So the actual generation would be higher by the system
12 losses?

13 **A. MR. OSLER: By 8.7 percent.**

14 Q. 8.7 percent.

15 **A. MR. OSLER: Is the assumption.**

16 Q. Is the assumption, right.

17 So given that they will be a seasonal
18 customer -- sorry, maybe that's phrased incorrectly. Given
19 that that load is present on the system on a seasonal basis,
20 I think it projected March through November of each year,
21 avoiding the three-month core winter period, have you done
22 some modelling to indicate what percentage of diesel would be
23 required to serve that incremented load?

09:59

24 **A. MR. OSLER: I don't recall doing a specific**
25 **assessment of the impact of adding them to the system. But,**

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 as I said before, the second table in the attachment dealing
2 with the DCF reflects having had them added to the system at
3 the level that you were added in 2013.

4 Q. Right. So I'm trying to understand then what percentage
5 of diesel would be required to serve them, to serve that
6 block of load. I think if I understood correctly, 59 percent
7 of that next table with the load of 415, we're looking at --
8 am I correctly reading that, would be in the order of 56
9 percent diesel absent the mitigation?

10 A. MR. OSLER: Just a sec. So when we go to 10:00
11 2-13, the forecast load in total from Table 3-2 is 430.4
12 gigawatt hours in round numbers of which --

13 Q. Which includes that --

14 A. MR. OSLER: Which includes slightly less
15 than 5 gigawatt hours --

16 Q. Yeah.

17 A. MR. OSLER: -- of Whitehorse Copper
18 Tailings plus some 8.7 percent losses. So any round numbers,
19 5, 5 and a half percent -- 5, 5 and a half gigawatt hours,
20 probably. 10:01

21 So there has been load growth in the system,
22 and, hypothetically, you know, whether it's somebody who
23 turned on their -- who's expanded a subdivision or whether
24 it's this particular load, that's all you can read from this
25 table, as you know, if you went from 425 to 430 gigawatt

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 hours, you're talking about 56 percent, if I'd reading this
2 thing right, increment at long-term average.

3 If you go from 430 up to 435, you go 59
4 percent. So 425 to 430, 56 percent; 430, increasing from
5 there, it's 59 percent.

6 Q. Right. And of that, the GRA proposes to use only 59
7 percent of that number by using higher than long-term average
8 diesel.

9 A. MR. OSLER: As a rate mitigation measure,
10 yes.

10:02

11 Q. Right.

12 A. MR. OSLER: And based on the premise that
13 we are advised the waters in 2012 were not approaching, you
14 know, droughts or anything else at that particular time. So
15 it's not like we're falling off a fiscal cliff tomorrow
16 morning or something, we hope.

17 Q. Right. Okay. So if I take 59 percent of 56 percent, if
18 I've done the numbers correctly, that's about 30 percent of
19 that increment of load. Any load of that increment would be
20 served by diesel in 2013?

10:03

21 A. MR. OSLER: Assuming the calculations are
22 correct -- I take them subject to check -- and assuming that
23 we all understand that we're talking about long-term
24 average --

25 Q. Yes.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 A. MR. OSLER: -- because you may not see any
2 diesels running, the long-term average is heavily affected at
3 these lower loads, affected by the years when you face a
4 drought. And in a large number of years -- and I can show
5 you the graph from the resource plan of Appendix A which is
6 the clearest thing I've seen for most people -- shows that
7 for a large -- 20, 30 percent of the years we actually don't
8 need diesel at this particular load.

9 So to a lot of people, this is not an easy
10 conversation.

10:03

11 Q. Right. But we do have to go through the conversation,
12 unfortunately.

13 So if we talk long-term averages, then, the
14 number would not be the 31 percent subject to check we just
15 discussed but some higher number.

16 Now, if we take into account the 8.7 percent
17 load losses, the projected revenue of 11.8 cents per kilowatt
18 hour, then effectively, subject to check, my calculations
19 seem to indicate that the break-even point of diesel cost
20 versus the revenue is 34 percent which is higher than the
21 number that's proposed.

10:04

22 So it indicates to me that it appears that the
23 incremental revenue does exceed the incremental diesel cost
24 to serve a customer like Eagle Industrial Minerals. But
25 based on straight long-term average, the revenues would

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 probably not exceed the incremental costs.

2 A. MR. MORRISON: I'm not exactly sure what you
3 just said, Mr. Maissan. And I certainly haven't done the
4 math, but one of the things I want to caution is, you know,
5 we look at -- customers are customers and load is load. And
6 we don't attribute specific diesel costs to specific
7 customers. So it's really difficult to do, to make the leap
8 of logic that you have.

9 You know, Victoria -- Whitehorse Copper
10 Tailings is going to operate on a seasonal basis. It will
11 drive load, you know, as part of the whole piece -- part of
12 the total load in the system. They will use hydro -- they
13 will get electricity from whatever is available as do every
14 other customer, you know.

10:05

15 So we don't segment things like that. And I
16 just caution the calculation you're trying to do about
17 assigning certain amount of load and a certain kind of
18 generation to a specific customer.

19 Q. With respect, Mr. Morrison, Yukon Energy has assigned to
20 the industrial group the comment attributed to that group,
21 the comment that they bring in greater revenues than costs.
22 So with respect, you know, you made the distinction; I did
23 not.

10:06

24 A. MR. MORRISON: But I want to be clear again.
25 I'm just trying to clarify something. We look at cost as a

1 total package and not segmenting just the diesel portion to
2 assign to a certain customer.

3 So I think there's a difference. It's a bit
4 of apples and oranges. I'm just trying to clarify that we
5 don't do the calculation that you're trying to do.

6 Q. I think if you had not made the -- if Yukon Energy had
7 not made the assertion that industrial loads bring in more
8 revenue than they incur costs, then I think it's fair for us
9 to question that.

10 And based on my calculations, if we use the 10:07
11 hydro generation you're proposing in the application, that is
12 likely to be true for Eagle Industrial Minerals. The
13 revenues will exceed the marginal diesel costs. If we use
14 long-term average water, that would not be the case. And
15 that would also apply to any load growth, and I accept that,
16 Mr. Chair.

17 But with respect, again, I did not make the
18 attribution that industrial customers bring in more revenues
19 than they incur costs.

20 A. MR. OSLER: There is an answer to 10:07
21 YUB-YEC-1-2 that goes through this. It's been on the record
22 for some time and it deals with both the case with and
23 without going to long-term average.

24 So it's on the record the type of thing we've
25 been talking about subject to the corrections that we just

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 noted.

2 The fundamental point in the application is
3 that if we cut back the load of any one of the industrial
4 customers, we have to raise more money from other customers.
5 And if we increase the load from any one of the other
6 customers while the assumptions in the application, other
7 customers have a lower rate increase.

8 I think that's all that's being stated, and it
9 is affected by the mitigation measures that are being applied
10 across the board for how much of the incremental long-term
11 average diesel is being charged. 10:08

12 Q. With respect to the YUB IR that you referenced, I think
13 it's YUB-1-2?

14 A. MR. OSLER: Yes.

15 Q. That one group is all three industrial customers. It
16 doesn't take the next increment, the next industrial
17 customer. And that's what I was separating in my
18 calculations, Mr. Chair.

19 And I accept that we are not going to
20 attribute cost strictly or distribute cost strictly to one
21 industrial class. I accept the cost of service principle and
22 all those things, but I think Yukon Energy does need to be
23 careful when they say industrial load brings in more revenue
24 than costs because that does not -- that is not true in all
25 situations. And I think that's the point I was making, 10:08

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Mr. Chair.

2 A. MR. OSLER: I think, Mr. Maissan, what the
3 record shows is that we said at this particular moment in
4 this application with these particular industrial customers,
5 that's what's happening. And I repeat that in response to
6 YUB-YEC 1-2 page 2, lines 28 and following, the example you
7 just walked through was answered in the question at 100
8 percent to make the point that this won't always be the case.

9 And, secondly, the individual customer you're
10 talking about happens to have a very high summer load. We
11 don't know that the numbers you and I were just talking about
12 remotely apply to Whitehorse Copper Tailings impacts.

10:09

13 Q. That's correct. That's why I started with the question
14 "Have you done modelling?"

15 A. MR. OSLER: Well, I'm just saying I think
16 there has been a great deal of care taken in the use of
17 words.

18 And I can tell you over and over again, when
19 we have a loss of load at Minto or we have an increase of
20 load of Alexco, the effects on the other customers are
21 notable each time. And that point got driven home to me, and
22 we wanted to make sure it was put on the record so everybody
23 understood where we're at right now.

10:10

24 MR. MAISSAN: Thank you, Mr. Chair. No
25 further questions on that.

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 Q. The next area I'd like to inquire about is the
2 obligation to serve industrial customers. And, in
3 particular, I'd like to reference LE-YEC-1-37.

4 **A. MR. OSLER:** We have it.

5 Q. Thank you. In this IR I think YEC very clearly lays out
6 the perspective of obligation to serve, which I assume flows
7 from the Public Utilities Act, and I just wondered, is it
8 YEC's views that this obligation to serve is true regardless
9 of the size of industrial customer?

10 **A. MR. MORRISON:** Mr. Chair, first of all, I
11 don't think the answer provided in the reference here
12 indicates that. And, you know, like with everything else,
13 you know, there's a -- there's a reasonableness test, and in
14 the case of serving any large customer, whether it's an
15 industrial customer or a large -- a large enough residential
16 or commercial customer, you know, Yukon Energy has a couple
17 of tests that have to be applied when looking at serving
18 loads.

10:11

19 So we certainly believe very strongly that we
20 have an obligation to serve. I think that's been clear both
21 in front of this Board and certainly in our analysis, you
22 know, from both a legal perspective and a regulatory
23 perspective.

10:12

24 The size of the load meets -- meets a test of
25 what is the economic impact on all customers. And we

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 would -- in order to serve any load we would be in front of
2 this Board with that economic test. And if there were
3 ratepayer shock associated with serving a customer, a set of
4 customers no matter who that customer is, I think this Board
5 would obviously have something to tell us, you know, about
6 bringing forth an application that was imposing a significant
7 rate increase on other customers in order to serve a new
8 customer.

9 So we take that very seriously. We looked
10 at -- you know, we had very lengthy discussions several years 10:13
11 ago with Western Copper and Gold about their casino property,
12 and I'll use it as an example.

13 And the load at that mine at the time was
14 about, you know, 100 megawatts. I think it might be larger
15 than that now. And we explained to them very clearly that we
16 did not have the capacity or the ability to service that
17 load. That load was bigger at the time than our entire hydro
18 supply in the territory.

19 So obviously there's a reasonableness test
20 when you look at obligation to serve. I think the obligation 10:13
21 to serve piece is there where customers want to connect to
22 the grid, whether they're industrial, residential or
23 commercial.

24 The question is, we should be -- we should be
25 available to serve them given there's some technical

1 constraints. Obviously we want to make sure the customer
2 isn't impacting the reliability to the system, so there's
3 technical standards to be met.

4 And we would also say to you that with
5 everything there's a reasonableness test. There is an
6 economic test as part of that, and if in fact the economic
7 test proves that other customers are not advantaged by this
8 to the extent that rate increases are significant, I think
9 you would draw the line, and I think I understand my job well
10 enough to know that I wouldn't be received very positively if 10:14
11 I brought that kind of a test before you, so I don't think
12 we'd be doing that.

13 Q. Thank you. So the obligation to serve then is not
14 without exception or qualification in your view, if I can
15 interpret that in one sentence?

16 A. MR. MORRISON: Yeah. I think -- I think there
17 is no -- there is no unlimited anything here. Obviously
18 there have to be some constraints around our ability to
19 serve, which I think, you know, has to temper any obligation
20 to serve. 10:15

21 Q. Thank you.

22 MR. MAISSAN: Mr. Chair, I have two more
23 exhibits I would like to put on the record. These are these
24 two exhibits. The first is a CBC news -- from a CBC news
25 transcript, and the second is a newspaper article. And if

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 there's an objection then we can discuss that.

2 I think by my records the first one would be
3 C-4-14 and the second one C-4-15.

4 THE CHAIR: Once we receive that, I'll
5 confirm.

6 MR. MAISSAN: Sure.

7 MR. LANDRY: Mr. Chair, once they're handed
8 out once everybody has a copy, I do have a couple of
9 comments.

10 THE CHAIR: Yes.

10:16

11 Go ahead, Mr. Landry.

12 MR. LANDRY: I want to make a comment on the
13 record to make sure that the record fully reflects my view of
14 newspaper articles being used as part of the record.

15 I know you're not bound -- the Board is not
16 bound by the normal Rules of Evidence, but the normal Rules
17 of Evidence would say that things like this are notoriously
18 difficult from the perspective of putting them in evidence
19 and having any real relevance to the task that you or any
20 quasi-judicial or judicial tribunal will do.

10:18

21 I say that because they're -- automatic by
22 their point they're hearsay. And if you want to use one
23 example to just make the point, you can look at the first --
24 I think it's the Whitehorse Star article. That's an article
25 where a Yukon Energy representative is quoted, and there is

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 even mention in there about Mr. Morrison. So we're getting
2 into sort of double and potentially triple hearsay.

3 And I have great difficulty with these type of
4 articles being used in any manner because here's what a
5 proper way to do this would be: Not to put the article in
6 but to put a point to Mr. Morrison about what he may have
7 said or not said and deal with it.

8 The second one that you have here is again a
9 newspaper article -- sorry, I guess it's a CBC news
10 transcription, transcript. Again, nothing there is from the 10:19
11 people that are on the panel. So these are very difficult
12 documents to be dealing with for you and for everybody here.

13 Now, having said all of that, I understand
14 that, you know, if they go in, which I will probably at the
15 end of the day say they're fine to go in, their weight is of
16 very, very little relevance to this tribunal.

17 And it's a difficult exercise to get into once
18 you start allowing newspaper articles in. I didn't obviously
19 to the YCS one going in yesterday because in fact the way
20 that she did it, she went to a specific quote and put the 10:20
21 quote to Mr. Morrison.

22 These are way more difficult than that,
23 because Mr. Morrison is not the person who was interviewed in
24 the first one, and YEC -- no YEC representative is even in
25 the second one.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 So with those provisos, I'm quite willing to
2 allow it to be used for purposes of cross, but we'll see how
3 far Mr. Maissan would like to take using these articles.

4 THE CHAIR: Okay. Thank you, Mr. Landry.

5 So on that proviso or understanding, I'll
6 label these exhibits.

7 C-4-14 is the CBC article.

8 **EXHIBIT C-4-14 - CBC NEWS TRANSCRIPT**

9 THE CHAIR: And C-4-15 is the Whitehorse
10 Star article of September 28, 2012.

10:21

11 **EXHIBIT C-4-15 - WHITEHORSE STAR**

12 **ARTICLE OF SEPTEMBER 28, 2012**

13 THE CHAIR: And I'll let Mr. Maissan
14 proceed with the understanding of what you just heard from
15 Mr. Landry as well.

16 MR. MAISSAN: Thank you, Mr. Chair.

17 Q. We've had Yukon Energy's position put to the public in a
18 radio interview and also in this Star article, and the
19 essence of what's being said in both of these is that Yukon
20 Energy would not take on a new customer if it meant an
21 increase in rates.

10:21

22 And Mr. Morrison -- well the transcript, I
23 can't recall what he said exactly, but essentially saying
24 there's got to be a reasonableness test, and if there's
25 any -- I'm not sure if he used the word significant impact on

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 rates, then obviously they wouldn't accept that.

2 And I just wondered whether the comments here
3 attributed to Yukon Energy reflect the position that he
4 described orally to us a few minutes ago. Is this the
5 reasonableness test that he was referring to?

6 MR. LANDRY: Before, Mr. Morrison, you
7 answer that, this is for today and for future reference, sir.
8 That's the exact type of question that gets this whole thing
9 into difficulty.

10 If Mr. Maissan wants to put a proposition to
11 Mr. Morrison and say have you said, is that your position,
12 that's one thing. To summarize an article, which I have
13 read, both of them, to summarize the article the way he did
14 is unfair to a witness.

10:22

15 So if Mr. Maissan would like to put a
16 proposition as to what Yukon Energy has said in the past and
17 see if Mr. Morrison agrees to it, that's the proper way to do
18 it, not through a newspaper article.

19 MR. MAISSAN: Thank you.

20 THE CHAIR: So, Mr. Maissan, can you put it
21 in the form of a proposition? I think that would be more
22 appropriate.

10:23

23 MR. MAISSAN: I certainly can and I
24 appreciate the education, sir.

25 Q. I would ask Mr. Morrison then is it correct that Yukon

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Energy has stated that they would not serve a new customer if
2 it meant increasing rates?

3 A. MR. MORRISON: Well, Mr. Chair --

4 Q. A new industrial customer is the nature here of the
5 question.

6 A. MR. MORRISON: Mr. Chair, just to follow what
7 I was just talking about in terms of the reasonableness test.
8 We have here in the territory the benefit of some major
9 legacy hydro assets that were built to serve industrial
10 customers. And I would hope that we would all remember that 10:24
11 when we think about the benefits and the costs of bringing on
12 new customers.

13 We look at this as an opportunity, or we look
14 at new customers as an opportunity to build the system for
15 the future of all the ratepayers that are going to be here
16 for many years to come, and we've got to have a solid system
17 in front of us to do that.

18 What I have said -- and I'm talking about what
19 I've said; I'm not talking about these news articles -- is 10:24
20 that we would -- just as I said to you earlier, we would not
21 bring forward an application to build new generating capacity
22 that burdened ratepayers unduly. And if we thought that we
23 could bring new assets onto the system in order to serve new
24 customers and we could do that within a very reasonable, you
25 know, rate increase, a few percent, you know, we would

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 seriously look at that. But we're not coming in here --

2 And we have never said that we intended to
3 serve new large industrial customers with diesel, nor would
4 we come in here with a 20 percent rate increase to serve new
5 load. I don't think that passes your reasonableness test and
6 it doesn't pass mine.

7 MR. MAISSAN: Thank you, Mr. Chair. That
8 assists greatly in understanding Yukon Energy's position.

9 Q. I just have one concluding question on this is would YEC
10 consider that its obligation to serve could be met by
11 supplying and operating an onsite diesel generation plant for
12 an industrial customer?

10:25

13 A. MR. MORRISON: You know, we're not in that
14 kind of business. It's not something I've ever looked at or
15 considered.

16 Q. Thank you. My next question is in regards to Mayo B
17 substation cost. And I'd like to refer you to IR
18 LE-YEC-1-22.

19 A. MR. MORRISON: Okay.

20 Q. You have it? Yes, thank you.

10:26

21 In answer to part A, the connection of the
22 Mayo B hydro plant to the Mayo B substation has assigned a
23 cost of \$750,000 -- .750 million. So I would like to
24 understand just what this connection is. And, conveniently,
25 in answer to YUB-YEC-1-59, the attachment to that provides a

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 system diagram. And I wondered if we could turn to that and
2 understand and look at that diagram to go through the
3 connection.

4 **A. MR. MORRISON:** I can help you a great deal
5 here, sir. No, we can't. I'm not an engineer, and nobody on
6 this panel can answer questions related to that diagram.

7 **MR. MAISSAN:** Well, can we -- can we --
8 perhaps if I describe what my question is, could we have an
9 undertaking to provide that response?

10 I don't think this is an unreasonable
11 technical question to ask in a GRA, Mr. Chair.

10:27

12 **THE CHAIR:** Ask your questions, and we'll
13 see what the response is.

14 **MR. MAISSAN:** All right. In that system
15 diagram when we look at the -- and you have to look at it
16 about 300 percent enlargement -- just near the top, just to
17 the right of centre, there is a square that is labelled
18 Mayo B hydro plant, and it's got some orange lines inside it.
19 Do people see that?

20 Do you see that, Mr. Chair?

10:28

21 **THE CHAIR:** Yes, I see that.

22 **A. MR. MOLLARD:** I don't see that. Are you
23 referring to S 249?

24 **Q.** Now, have you got YUB-1-59, the system diagram up?

25 **A. MR. MOLLARD:** Yes.

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 Q. If you go to the very top and just to the right of
2 centre, there is a big blank space and then there is this
3 sort of light gray outlined box.

4 A. MR. MOLLARD: We are there.

5 Q. It says Mayo B hydro plant.

6 A. MR. MOLLARD: We're there.

7 Q. I'm assuming that everything inside that square is part
8 of the hydro plant and its cost.

9 A. MR. MORRISON: I can't agree with the
10 assumption. I don't know.

10:29

11 Q. Okay. Sorry. That isn't part of the question.

12 MR. MAISSAN: I'm just stating that for the
13 record so it frames my question, Mr. Chair.

14 Q. Below that there is a dotted square with the name Mayo B
15 substation listed, and that is -- I guess, part A of my
16 question is, is that included in the Mayo plant cost; i.e.,
17 is that excluded or included in the \$750,000?

18 And part B of the question is in that dotted
19 line just below, which is the Mayo hydro substation, where we
20 see the blue line connects into the main substation, I guess
21 the question is, is that the -- is that component the
22 \$750,000 cost where there's the simple joining of the blue
23 lines?

10:30

24 A. MR. MORRISON: Mr. Chair, as I indicated, I
25 can't tell you the answer to this.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Is the question really what is the \$750,000
2 attributed to? Is that the question?

3 Q. That is the question. Is it that part in the Mayo B --
4 sorry, in the Mayo hydro substation as opposed to any part of
5 the Mayo B substation, I don't know. That's the question.

6 A. MR. MORRISON: The only thing I can tell you
7 is this: The Mayo B substation is not the Mayo A substation.
8 They're completely different. Okay.

9 The Mayo B substation is right down at the
10 plant and the Mayo A substation is at the Mayo A site where
11 people would -- you know, who are familiar with the plant
12 would normally know it's located.

10:31

13 But I think what I'm trying to find out is the
14 question really what is the \$750,000 comprised of? Is that
15 the question?

16 Q. Yes, does it comprise just the part in what's called the
17 Mayo hydro substation or is it in part what's labelled here
18 Mayo B substation?

19 A. MR. MOLLARD: Mayo B substation is part of
20 the Mayo B project. It is not related to that.

10:31

21 Q. It's not included. Thank you.

22 So it's only the portion in the Mayo hydro
23 substation?

24 A. MR. MOLLARD: The S 249, yes.

25 Q. Thank you.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 MR. MOLLARD: So confirm there's no
2 undertaking, then?

3 Q. You've answered the question. If you're confident in
4 your answer, that's --

5 A. MR. MOLLARD: Yes.

6 Q. Thank you. The next question I have is in regards to
7 depreciation rates. And this refers IR CW-YEC-1-22 revised.

8 THE CHAIR: Before you get into that,
9 Mr. Maissan --

10 MR. MAISSAN: Yes.

10:32

11 THE CHAIR: -- I just note that the time is
12 about 10:32. You're welcome to proceed if you just have a
13 few questions or whether or not this would be an appropriate
14 time to take a break, but I'll leave that decision to you.

15 MR. MAISSAN: It may be an appropriate time
16 to take a break sir.

17 THE CHAIR: So I suggest we do take a break
18 before we get into the next line of questioning. And we'll
19 return in about 15 minutes. Thank you.

20 MR. MAISSAN: Thank you, Mr. Chair.

10:33

21 (ADJOURNMENT)

22 THE CHAIR: So before we begin again, is
23 there any preliminary matters?

24 MR. LANDRY: Mr. Chair, if I may, I don't
25 have any undertakings at this point, but I do have a response

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 to your question.

2 I've spoken to my friend Mr. Janigan. Just
3 for the record, I'm not sure you have to pull it up. It will
4 be on the record for you. On exhibit -- the volume, which I
5 can't remember the exhibit number, C-3-24, the following tabs
6 would need to be removed:

7 Tab 7, Tab 8, Tab 10, Tab 11. Tab 12 has
8 already been removed. That's the one that Ms. Middler used
9 yesterday, so that's already been removed and marked as an
10 exhibit under her number or YCS's number. Tab 13 is removed,
11 14 removed. 15 is removed. 16 is removed. 20 is removed
12 and 26.

10:55

13 So that would make the record clean on what
14 the exhibit is.

15 THE CHAIR: Okay. Thank you very much.

16 MR. LANDRY: Now, on the other issue, which
17 is Ms. Lemke asked me to try to deal with this one too. This
18 one I can't provide you with copies of what I'm going to be
19 saying about, but it's the -- if you go back to
20 Exhibit C-5-7, that's the YCS exhibit. And that was a table
21 entitled at the top Haeckel Hill Wind Energy.

10:55

22 Even though Ms. Middler didn't put a lot of
23 information to this, I think she misunderstood what I was
24 saying to her, so I'm quite willing to try to accommodate her
25 on this.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 She had sent along four aids to argument in
2 addition to this document the night before -- or five, I
3 guess. I'm not sure exactly how many she did. One of them
4 was the C-5-8, which is the article by Larry Hughes on the
5 space heating issue, you'll recall.

6 THE CHAIR: Yes.

7 MR. LANDRY: So that's one that's already
8 been marked. In addition, to that there were two other
9 documents that I'm quite willing to allow be put into the
10 record. One of them -- sorry, three other.

10:56

11 One of them is a title page from the 2008/2009
12 general rate application of Yukon Energy, which has attached
13 to it page 2-19, which is Table 2.5 from that application.
14 I'll provide copies to Ms. Lemke of these.

15 THE CHAIR: Thank you.

16 MR. LANDRY: So that's Number 1, and that
17 could be the next exhibit for YCS.

18 THE CHAIR: That would be, by my numbering,
19 I'll just confirm, would be C-5-9 -- oh, it will be C-5-10.
20 Sorry about that.

10:57

21 **EXHIBIT C-5-10 - 2008/2009 GENERAL RATE**
22 **APPLICATION OF YUKON ENERGY, WHICH HAS**
23 **ATTACHED TO IT PAGE 2-19, WHICH IS**
24 **TABLE 2.5 FROM THAT APPLICATION**

25 MR. LANDRY: The second one is -- I know I'm

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 not doing it in any particular order, but the second one is
2 in April 24th, 2009 letter to the Chair of the then Yukon
3 Utilities Board from Yukon Energy, and it's just the -- it's
4 only the first page of that letter.

5 The letter was longer than one page, but
6 there's only one page of that. And what is attached to it is
7 a 2008/2009 GRA, IR, IR number UCG-YEC-1-21 revised, and that
8 is a two-page document. So that one can be marked as I guess
9 it would be C-5 --

10 THE CHAIR: It should be C-5-11.

10:58

11 MR. LANDRY: I think this is the first time
12 I've ever marked somebody else's exhibits. That's a whole
13 different issue.

14 **EXHIBIT C-5-11 - LETTER WITH 2008/2009**

15 **GRA, IR NUMBER UCG-YEC-1-21 REVISED**

16 **ATTACHED**

17 THE CHAIR: Unique in the Yukon.

18 MR. LANDRY: The third one is a document.
19 It's the Yukon Energy Corporation 2005 required revenues and
20 related matters cover page, and one page is attached to it,
21 and it is page 2-13, table -- I'm going to say Table 2.6, I
22 believe.

10:58

23 THE CHAIR: Yes.

24 MR. LANDRY: So that would go as the next
25 exhibit which would be C-5-12.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 THE CHAIR: 12.

2 EXHIBIT C-5-12 - YUKON ENERGY
3 CORPORATION 2005 REQUIRED REVENUES AND
4 RELATED MATTERS

5 MR. LANDRY: Now, the one document that I
6 cannot agree to be put in, which is the final one that was in
7 the email to me, and that is a document of an article by
8 Mr. Maissan regarding wind power development.

9 There's no -- again, yesterday I was willing
10 to accommodate the other article being put in, but I'm not 10:59
11 willing to accommodate this. It's not appropriate to put an
12 article into evidence when there's nobody to speak to it.
13 And this article was never put to anybody nor was the table.
14 So I have to object to that one, but the other ones I'm quite
15 willing to allow into the record, even though they were not
16 specifically put to the panel.

17 THE CHAIR: And I don't believe that one
18 was spoken to specifically.

19 MR. LANDRY: It was not.

20 MS. BENTIVEGNA: Mr. Chair -- 11:00

21 THE CHAIR: Yes.

22 MS. BENTIVEGNA: -- I believe Ms. Middler is
23 here.

24 THE CHAIR: I think Ms. Middler is here.
25 So if she would like to speak to that.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 If you could come up to the microphone,
2 please.

3 MS. MIDDLEL: Thank you. That report, it
4 just merely was a supporting document for the numbers. So it
5 did contain the numbers that were compressed into the initial
6 graph. So that is why it's just a supporting document in
7 that way.

8 If you only wanted to put the part that had
9 the numbers in, if you wanted to not have the entire report
10 but just that section, maybe that would be okay.

11:00

11 THE CHAIR: I think the other article was
12 accepted into evidence if I'm not mistaken.

13 MR. LANDRY: The other article was accepted
14 into evidence and was put to -- this was not put to the
15 witnesses.

16 THE CHAIR: Right.

17 MR. LANDRY: And I cannot agree that a piece
18 of an article which is written by somebody who was actually
19 an intervenor here with no evidence on the record can be put
20 on the record here.

11:01

21 THE CHAIR: I think what I heard
22 Ms. Middler say was that the table is in, so she's fine with
23 not having that additional backup documentation come into
24 evidence. Is that correct? I don't want to --

25 MS. MIDDLEL: Yeah, it was just supporting

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 for the numbers which were included in that document.

2 THE CHAIR: Right. So we don't need it.

3 I'm accepting that.

4 MR. LANDRY: Fine with that. Thank you.

5 So I think, Mr. Chair, hopefully now we have a

6 clear, clean record with all the appropriate documents.

7 THE CHAIR: Thank you.

8 MR. LANDRY: I'll give to Ms. Lemke the

9 three that I...

10 THE CHAIR: We'll just verify with

11:01

11 Ms. Lemke and confirm, but it looks, subject to check, that

12 it's all right.

13 MR. MARRIOTT: Mr. Chair, just very briefly.

14 I was trying to keep track of exhibit numbers and I did not

15 have a C-5-9. Can somebody just say what that was?

16 THE CHAIR: It's the tab from the tab 12,

17 the UCG document.

18 MR. MARRIOTT: I see. Thank you.

19 THE CHAIR: Okay.

20 MR. LANDRY: That's it, Mr. Chair.

11:02

21 THE CHAIR: Thank you very much for sorting

22 all that out.

23 I'll return to Mr. Maissan.

24 MR. MAISSAN: Maissan.

25 THE CHAIR: Maissan, sorry. I always want

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 to put the French twist on it.

2 MR. MAISSAN: I'm not offended.

3 Q. I just want to start by going back to a discussion we
4 had earlier in regards to the water and the diesel. And
5 Mr. Osler couldn't -- or the panel couldn't come up with an
6 answer to my question in regards to winter 2010-2011, in
7 regards to diesel versus hydro. And I was wondering if they
8 could provide us an undertaking to obtain a response to that
9 question.

10 A. MR. OSLER: I think we undertook already to 11:03
11 do that.

12 Q. Oh, thank you.

13 A. MR. OSLER: And troops have been
14 dispatched.

15 Q. Thank you. My next question is in regards to
16 depreciation rates, and if you would pull up CW-YEC-1-22,
17 please. And in that response I'm looking in particular at
18 the tables, Table 1 attached to that revised IR. And if I
19 interpret the depreciation rates correctly that are listed
20 there, the ones that changed -- some are fairly large 11:04
21 changes.

22 Structures and improvements goes from 40 years
23 to 72 years, and I've converted the rates to years for my own
24 simplicity.

25 Reservoirs, dams, and waterways goes from

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 50-year depreciation to 103. Waterwheels and turbines from
2 65 to 85. Buildings and improvements from 40 years to 55
3 years.

4 Is that a correct reading, subject to check,
5 of the conversion or the extension of the depreciation rates?

6 **A. MR. MOLLARD: Yes, subject to check, yes.**

7 Q. Thank you. And you don't need to turn to this, but in
8 response to LE-YEC-1-31 E at page 3 of 3, Yukon Energy
9 provided capital expenditures on the three hydro plants -
10 Mayo hydro, Aishihik's hydro, and Whitehorse hydro over a
11 period of about 12 years from 2000 to 2011. And there are --
12 prior to that period, there were some substantial capital
13 expenditures as well.

11:05

14 And I'm wondering if Yukon Energy could
15 comment on some of these what seems to me to be fairly long
16 extensions to depreciation rates when, you know, already
17 within these lives we are having to invest a fair bit of
18 capital to maintain them and upgrade them. It seems like
19 these long extensions go way beyond what would be reasonable
20 based on experience here in Yukon so far.

11:05

21 Can you explain that, please?

22 **A. MR. MOLLARD: Mr. Chair, I'm not sure this**
23 **panel's equipped to respond to that. The findings in the**
24 **depreciation study were prepared by an expert consultant who**
25 **has specified expertise in this area in developing these**

1 rates. So, you know, we provided them with the input data as
2 to what our assets were and our history, but their findings
3 are their findings. I'm not qualified to say why -- how they
4 got there.

5 Q. So they would have had access to the information of
6 that -- for example, that you provided in response to
7 LE-YEC-1-31 E where there's capital reinvestment on a
8 year-by-year basis in these facilities?

9 A. MR. MOLLARD: Yes, we provided them with our
10 asset information and our retirement history.

11:06

11 Q. Right. Sorry, asset information, that includes the
12 reinvestment over the years?

13 A. MR. MOLLARD: Yes, the asset values, yes.

14 Q. Thank you. I guess the answer is we don't have an
15 answer, and we defer to the expertise of the studies.

16 I think it's KPMG?

17 A. MR. MOLLARD: Yes. And just to be clear, we
18 did offer up to bring the panel up for intervenors to cross
19 and we were told that that wouldn't be required, so.

20 Q. Yeah. Right.

11:07

21 My next question is in regards to the Aishihik
22 Third Turbine and interrogatory CW-YEC-1-28. And I will also
23 be referring to YECL-YEC-1-32.

24 I'd like to explore the use of the Aishihik
25 Third Turbine. In the CW-YEC-1-28 interrogatory on page 7 of

C. OSLER, D. MORRISON, E. MOLLARD**Cross-Examined by Mr. Maissan**

1 7 under E, there is a table, Table 1 labelled "Aishihik Third
2 Turbine Generation by Month" which seems to indicate that the
3 third turbine is fairly heavily used during the winter
4 months, as one would expect.

5 In response to YECL-YEC-1-32, there is a
6 discussion under part B. The comment that "Aishihik 3, the
7 third turbine is forecast to operate alone 30 to 40 percent
8 of the year typically during the summer periods when minimum
9 flow conditions exist."

10 So I wanted to explore that a bit. And I
11 wondered first, does the Aishihik water license require a
12 minimum flow through the hydro plant?

11:09

13 **A. MR. MORRISON:** Yes, it does.

14 **Q.** It does?

15 **A. MR. MORRISON:** As far as I'm aware, it does.

16 **MR. MAISSAN:** I wondered, Mr. Chair, because
17 I know that the previous water license did not. There was a
18 minimum flow --

19 **A. MR. MORRISON:** Then I guess I wonder why
20 **Mr. Maissan is asking me the question if he already knows the**
21 **answer to it. We haven't got a new water license. I thought**
22 **it did; my mistake. But I'm really not keen on answering**
23 **questions that somebody knows the answer to.**

11:09

24 **MR. MAISSAN:** Sir, Aishihik got a new water
25 license after I left Yukon Energy, so there is a new water

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 license that I'm not familiar with.

2 Q. MR. MAISSAN: The next question probably
3 don't know the answer to then. If there is a minimum flow,
4 what does this translate to in sort of megawatts through the
5 third turbine?

6 A. MR. MORRISON: It's not a question I can
7 answer. That's correct.

8 Q. Could I have that as an undertaking if there is a
9 minimum water flow what that translates to terms of megawatt
10 output from the third turbine?

11:10

11 MR. LANDRY: Maybe, Mr. Chair, Mr. Maissan
12 can explain to me what the relevance of that question is to
13 this application.

14 THE CHAIR: Can you do that?

15 MR. MAISSAN: Basically I'd like to know what
16 the main purpose and use of the third turbine is. Is there
17 summer generation that is required for water flows, and if so
18 what they are. I don't think it's unreasonable. I asked
19 similar questions of Mayo B and got responses on that.

20 THE CHAIR: So perhaps you could formulate
21 your question in the way you just did right now.

11:11

22 MR. LANDRY: It's okay, Mr. Chair. We don't
23 need to go any further. We'll take that as an undertaking.

24 THE CHAIR: Thank you.

25 MR. MAISSAN: Thank you.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 UNDERTAKING - TO ADVISE IF THERE IS A
2 MINIMUM WATER FLOW THAT TRANSLATES TO
3 TERMS OF MEGAWATT OUTPUT FROM THE THIRD
4 TURBINE

5 Q. MR. MAISSAN: And I wondered if there was any
6 time through the course of the year when, particularly in
7 summer, when a generate at Aishihik is required for
8 electrical grid stability and whether, if so, whether
9 Aishihik 3 performs that role.

10 A. MR. MORRISON: Well, Mr. Chair, the answer
11 would be, you know, relatively technical, and in the sense
12 that I don't -- I'm not an expert in the grid -- the
13 operation of the grid.

11:11

14 So but, you know, intuitively the units at
15 Aishihik, as the units everywhere, else are run as and when
16 required depending on what's going on in the system. So
17 whether or not Aishihik 3 is run in the summer will depend on
18 both load that we require, water in the reservoir. It's a
19 very efficient unit. It's more efficient than the other
20 units that are out there, which was part of the reason we put
21 it in.

11:12

22 It was -- it was installed to make the -- to
23 for two reasons. One was a peaking to replace peaking diesel
24 or to mitigate peaking diesel in the winter and to manage
25 water to the maximum ability we could in that reservoir.

1 That reservoir is our only storage reservoir on the system,
2 and the water in that watershed has traditionally been very
3 available because it's a bit of a temperamental watershed as
4 well. It's our driest watershed historically.

5 So the unit is used -- you know, whether at
6 one time during the summer or at different times during the
7 year. Whether we are running units for stability would
8 depend on load on the system, what was going on in terms of
9 units down for maintenance, a whole bunch of things.

10 But it isn't a number that I don't think
11 anybody would track, are we running it for grid stability or
12 not. We would run to provide load, and if we needed it on
13 the system for grid stability, you know, we could have
14 something else off in its stead.

11:13

15 So I don't think that it's an answer that I
16 can give you from a document or something we track.

17 Q. Would it be fair to say that there are benefits to the
18 Aishihik third turbine both in the summer and in the winter?

19 A. MR. MORRISON: Oh, I -- my apologies. I
20 thought that's what I was trying to get at. It's -- as I
21 said, it's the most efficient unit we have there, so
22 depending on the load -- I should go back just a little bit.
23 We have not traditionally -- and I'm talking about maybe
24 traditionally is the wrong word -- historically run the
25 Aishihik plant at all in the summer.

11:14

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Past practice was that we kept the Aishihik
2 units quiet all summer, and we stored water in that system so
3 that we didn't use any of it, and then we had it all
4 available in the winter. A few years ago that started to
5 change, so we have had to run Aishihik at different points
6 during the summer months depending on load and particularly
7 when we've been building Mayo B and had Aishihik running or
8 we've been doing major maintenance on units in Whitehorse if
9 there have been issues.

10 So yes, the Aishihik third turbine unit is
11 used at points during the summer. It is a very efficient
12 unit, even more -- I think a little bit more efficient in
13 terms of its use of water than we had previously thought.
14 And for those, you know, not to assume that everybody
15 understands, it's half the size of the other two units.

11:14

16 So previous to this if we needed -- even in
17 the winter if we only needed 20 megawatts we had to run 30,
18 and that meant we had to use water. So now we if we need 20
19 megawatts we run a 15 and a 7 and a half, and we're -- it's a
20 got a whole bunch of different combinations that can be to
21 make it much more efficient.

11:15

22 Q. Thank you. The last area of questioning I have is in
23 regards to the resource plan, which was filed as attachment
24 to YECL-YEC-1-18.

25 And I wonder if I could start by getting the

1 panel to explain in general terms the main purposes and roles
2 that the resource plan serves in the corporation.

3 A. MR. MORRISON: Thank you, Mr. Chair. The
4 purpose of providing or compiling the resource plan, this
5 version of the plan is an updating of the plan that we
6 submitted to the Board and was reviewed by the Board in 2006.
7 This is the planning document that guides the framework for
8 making decisions in terms of loads and new generating
9 capacity going forward.

10 It's a combination of preparing for the future 11:16
11 and having options available that we could advance when the
12 whatever version of the future emerges. And what I mean by
13 that is this is probably one of the most difficult times
14 we've had in terms of trying to forecast what's going to
15 happen in the next five-year period in a short period of
16 time.

17 We see great -- Yukon has had a very
18 significant economic boom over the last several years. We've
19 seen a great of growth within the system. We've used up all
20 the surplus that we have other than some minor bits during 11:17
21 the summer where we may have some available, some water
22 available. But primarily we're guaranteed we're burning
23 diesel in the winter, and we have for the last several years.

24 So when you think about it, we have got to
25 think about it in a near term and a longer term basis, and it

1 prepares us and gives us hopefully an inventory of projects
2 that we could advance depending on what happens going
3 forward.

4 So we've got small projects like Marsh Lake,
5 which may only add 6 or 7 or 8 gigawatt hours of energy up to
6 a 20 megawatt wind farm or a 20 megawatt LNG plant. We also
7 have in place the piece on long-term hydro that we're looking
8 at at Hoole which will give us kind of the 30 to 60 megawatt
9 range. We're not looking at larger than that at the moment,
10 but there are some big projects out there that we already
11 have an inventory, and we've had an inventory for a while.

11:18

12 So it's building that inventory of shelf-ready
13 projects. It's examining the different combinations of
14 generating assets that can be looked at to fit a number of
15 different load scenarios going forward. We've -- we have in
16 front of us some possibilities. We have certainly some
17 significant mining loads that could well materialize. But to
18 this date nobody's made decisions, specific decisions, on
19 those to go forward.

20 But as we've talked about in the past, with
21 all loads like this, if we're trying to play catchup when
22 people make decisions to do things, the time horizon for both
23 studying and building energy projects is very long, and the
24 range depends on the project. Obviously something, you know,
25 that we talked about yesterday, wind or waste or something of

11:19

1 that nature would be -- would be a fairly short time horizon
2 compared to hydro.

3 And it's one of the reasons that hydro
4 becomes -- larger hydro becomes somewhat more difficult
5 depending on the quickness of a load appearing, because we
6 certainly couldn't build hydro, you know, within -- it would
7 take us a ten-year period to do the studies, license,
8 construct, finance, and those kinds of things, where we might
9 be able to do wind much quicker than that.

10 So it's building the inventory, examining the
11 load options, giving us some opportunity to mix and match
12 going forward, because life will unfold the way it does, not
13 necessarily the way we want it to do. We don't have a lot of
14 control over that.

11:19

15 So I think those would be the guiding
16 principles of preparing a resource plan.

17 Q. Thank you. So it sounds as though it's very important
18 in regards to studies and preparing for a future, and I guess
19 with respect to the application on page 5-28 there's a
20 listing there of projects that are to go in the rate base
21 including, well, Marsh Lake, Gladstone, Atlin, Mayo Lake, and
22 then near-term generation projects adding up to 6.8 million
23 and long-term generation projects adding up to 2.6 million
24 for a total of 22 million.

11:20

25 So I guess it's fair to say that these kinds

1 of expenditures are informed by the resource plan?

2 A. MR. MORRISON: I would think the resource plan
3 is informed by these -- by these projects. I think we're
4 saying the same thing. They fit together.

5 Q. They fit together. Right.

6 A. MR. MORRISON: Very much so.

7 Q. I have some specific questions on the resource plan that
8 I would like to go through. Does Yukon Energy -- can Yukon
9 Energy provide a distribution in whatever time steps
10 convenient of load growth expected over the near term?

11:21

11 A. MR. MORRISON: Sorry. Could you say that
12 again?

13 A. MR. OSLER: Could I ask you in the context
14 of the attachment, Appendix A to this document, whether it is
15 a forecast update year by year of four different load
16 scenarios. So is that what you're asking for?

17 Q. No, I'm asking for the -- for load growth from now
18 forward, the new load increment, what sort of annual
19 distribution did you use? Is it the same annual or monthly,
20 weekly distribution as you have now, just higher, or did you
21 look at different scenarios where winter loads may grow
22 faster than summer loads because of electric heat or those
23 kinds of things?

11:22

24 A. MR. OSLER: For the sake of the transcript,
25 you're asking for the distribution within the year by the

1 months or weeks of the load and whether that shape is
2 changing; is that correct?

3 Q. That's correct.

4 A. MR. OSLER: Thank you.

5 Q. And, if so, what is it?

6 A. MR. OSLER: The short answer is the
7 modelling for the resource planning purposes doesn't tend to
8 get into that degree of detail. Certainly the earlier
9 documents in 2011 didn't tend to do that. There's only so
10 many things -- complexities you can get into for the purposes
11 of looking at various scenarios.

11:23

12 To the extent that we look at major industrial
13 load changes, such as Victoria gold, we're conscious of the
14 fact that there will be impacts, but our experience is that
15 they tend to be optimizing issues rather than the more macro
16 issues that you're trying to get at.

17 I have to check as to whether we bothered
18 to -- for example, in the latest version that you've asked
19 for and we'll put on the record for November whether we've
20 actually done that for Victoria gold. I get the impression
21 we probably have, but we didn't do it earlier.

11:23

22 And I would say that from experience,
23 listening to people discussing it, it's a small change. It's
24 important if you're actually dealing with Victoria gold and
25 trying to work out exactly how to deal with them if they for

1 sure were there, but it's an extra level of effort.

2 And in the bigger picture, I don't think it's
3 that essential other than just to know that that's what's
4 going to happen. It's not that essential to understand the
5 difference between three or four majorly different load
6 forecasts and all the options that Mr. Morrison described
7 that you're trying to understand.

8 Q. When you look at the generation options that you
9 examined in the resource plan, do you look at what time of
10 year that energy is available for your modelling from the
11 different projects? 11:24

12 A. MR. OSLER: Oh, yes. I mean, for example,
13 the hydro modelling we discussed earlier does that to start
14 with, and then we were -- it was emphasized yesterday that
15 the wind, for example, has a certain shape to it over the
16 year. That was taken into account when assessing wind as an
17 option. So yes.

18 Q. So when you look at the hydro projects in the plan, then
19 you also look at what time of year that energy is available.

20 A. MR. OSLER: You try to. 11:25

21 Q. Yeah.

22 A. MR. OSLER: It depends on what state the
23 modelling is at for that particular project. People try to
24 take account of a Marsh Lake or a Gladstone's ability to
25 focus the water when you need it.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Q. Yes. Thank you. And if I have read the resource plan
2 correctly, there is -- there is no level of secondary sales
3 that is projected when doing the comparison -- when doing the
4 analyses for the resource options.

5 A. MR. OSLER: Correct.

6 Q. And would it be the intent of Yukon Energy when they
7 actually come to make a decision on the project, then, to
8 look at that project with opportunities such as secondary
9 sales?

10 A. MR. OSLER: As you know, it was an element
11 in the modelling analysis done for Mayo B. So it has been
12 done -- it didn't make much difference in the end to the
13 overall economics but it was done.

11:26

14 I'm not sure that it would necessarily be done
15 when people do future work. It may have to be addressed more
16 as a comment as to, you know, what's the potential rather
17 than trying to get into modelling because, in the end, it's
18 not something that is easy to "model," at least not at the
19 moment. And it doesn't make a big difference to the answers
20 that we've been looking at so far if you did model it.

11:27

21 Essentially, though, I could see someone
22 looking at a particular project with a renewable resource
23 where if you developed it and you had a surplus which you
24 were going to head one way or the other, you couldn't turn it
25 off, I suspect that the people advocating the project would

1 need to and would want to look at any opportunities about
2 secondary and they would have to comment on it and people
3 have to discuss it. Whether modelling would help or not, I'm
4 not sure.

5 Q. You're not sure. But that's something that would be
6 looked at as part of the decision-making process?

7 A. MR. OSLER: If someone was advocating
8 putting a new capital project on the system that required you
9 to have more generation than you needed, I don't think the
10 discussion would be absent somebody asking, what can you do
11 about this?

11:27

12 I know some people who don't like us when we
13 discuss models and we talk about displacing hydro, things
14 like that. They do generate questions like that. What's the
15 point when you're getting a surplus that nobody can use?

16 Q. Right. Speaking of industrial customers, you mentioned
17 Victoria, that might have -- sorry, well, most recently
18 projected a variation in annual load through the course of --
19 sorry, in load through the course of a year, and you
20 mentioned that in regards to the most recent forecast.

11:28

21 Do you know at this time whether, if Carmacks
22 Copper is proceeding? Would it proceed on a similar kind of
23 basis? Is it flat load throughout the year, or do you know?

24 A. MR. MORRISON: No, I don't know. I have no
25 idea.

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 Q. Any idea about Brewery Creek or Golden Predator?

2 A. MR. MORRISON: No. We have no discussions
3 with them at that level.

4 Q. Thank you. When you looked at the big hydro projects in
5 the resource plan, the long term options, there were various
6 references to transmission requirements. And I noted that in
7 some cases, there were projects in the same geographic area
8 and there was reference to each of them about the
9 transmission costs.

10 At this level of work, have you considered
11 what synergies there might be if one project is built and has
12 a transmission line as part of the project, the other
13 opportunities, then, that become less costly for the
14 development? Has that sort of thing been taken into account?

11:29

15 A. MR. MORRISON: I think in a very general
16 sense. Are you talking about Moon and Tutshi and things like
17 that?

18 Q. Moon, Tutshi. The other area is Hoole Canyon Slate
19 Rapids?

20 A. MR. MORRISON: I would say on the Hoole Canyon
21 we haven't advanced the work enough to, you know, start
22 expanding our thoughts around what other possibilities does
23 that bring. But, in general, that's an issue that's foremost
24 in our mind. If we can get transmission, does it get -- you
25 know, what are the other benefits of getting transmission in

11:29

1 the area?

2 Q. Yeah.

3 A. MR. MORRISON: So one of the things -- you're
4 right, you could look at -- if, as I said yesterday, if we
5 end up connecting to Skagway for some reason to buy hydro
6 from West Creek on a surplus basis, does that, then, bring
7 Moon and then, you know, after that Tutshi into the system?
8 It sure enhances the opportunity by a great deal. It's never
9 out of our thinking when we look at these things.

10 A. MR. OSLER: I think if you looked at Table
11 7-2 in the overview document that's been filed, you would see
12 some grouping of opportunities in the hydro area that would
13 be suggestive of different transmission extensions and stuff
14 like that.

11:30

15 So people can think about these things in
16 terms of the implications for extending the grid in different
17 directions and what difference that might make in the future,
18 so that if a new mine surfaces in a particular area, what
19 opportunities might that create, that type of thought
20 process.

11:31

21 So it's on our minds. It's a longer term,
22 though.

23 Q. Right. The last question I have is in regards to --
24 sorry, it's not the last question but nearly the last
25 question -- in regards to wind project. I know there's been

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 extensive work done on the 21 megawatt option. It may be
2 that a project of different configuration fits better with
3 the capabilities of the WAF system to absorb, and I wonder if
4 you could just comment on that?

5 A. MR. MORRISON: Yes, thanks, Mr. Chair. That
6 is something that we do need to look at. I am hoping -- and
7 I, right now, can't commit to this, but I'm hoping this
8 winter we can at least, on a desktop basis, you know, do some
9 calculations to see where -- you know, perhaps it's 10 or 5
10 megawatts might fit as part of a portfolio or part of a set
11 of options that we might look at going forward. We're
12 certainly open to doing that.

11:32

13 I think the idea was to at least get the
14 technical part about, do we have wind and, you know, is it
15 constant, you know, what's the curve look like, and that. I
16 think we can then, with some work, you know, look at coming
17 down -- scaling down the size of that. And we're planning on
18 doing that. I'm hoping this winter that we'll be able to do
19 a little bit of work around that.

20 Q. Right. In regards to that kind of project I'm assuming
21 that similar to transmission extensions where you look at
22 synergistic opportunities where the wind project is, if a
23 smaller project is -- appears more expensive, then the flip
24 side -- the benefit of being able to expand the project
25 using, you know, same substation facilities, etcetera is a

11:33

C. OSLER, D. MORRISON, E. MOLLARD

Cross-Examined by Mr. Maissan

1 factor that would be recognized in that?

2 A. MR. MORRISON: Certainly. You know, when we
3 look at the -- and, you know, I'm -- as I've said, I'm not an
4 engineer so I don't know this for certain, but when you look
5 at the geographic location of Tetcho or Fairy Hill, it is now
6 very, very close to two substations that didn't exist before.

7 Now that the grid is connected, the Stewart
8 Crossing north substation is, you know, I would use the term
9 a stone's throw from the Fairy Hill site.

10 Whether it could accommodate, you know, that
11 project I don't know, but there's another substation, you
12 know, a few kilometres south of that. So those are very much
13 part of our thinking when we -- when we're looking at the
14 total system and advancing projects going forward. That was
15 also a big part of why we wanted to connect the grid and give
16 us that flexibility going forward about where we might locate
17 different generating assets, you know, becomes a much more --
18 we've got many more options now than we used to have without
19 the grids connected.

11:34

20 A. MR. OSLER: I think when the studies look
21 at the 10 versus 20 megawatts at Fairy Hill they effectively
22 looked at using the one substation versus the other one just
23 as an interim measure so that people are conscious of trying
24 to think about these choices. The smaller development, the
25 problem is as you just suggested. You do develop a bunch of

11:34

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 infrastructure that ultimately would pay off most effectively
2 if you get to the full size that you're talking about.

3 So that's why I think the 10 megawatts didn't
4 come up any better than we saw than compared to the 20.

5 Q. Right. My absolute final question then, or area of
6 questioning, is in regards to the modelling on the resource
7 plan, and we had a discussion earlier about the modelling and
8 the use of the reservoirs.

9 Does that apply equally to the modelling
10 that's done in the resource plan; i.e., does the modelling
11 take into account you have storage at facilities like
12 Aishihik and Mayo and make use of those facilities?

11:35

13 A. MR. OSLER: Yes.

14 Q. Thank you.

15 MR. MAISSAN: That concludes my questioning,
16 Mr. Chair.

17 THE CHAIR: Thank you very much.

18 So, Ms. Bentivegna, we're ready to go with
19 you.

20 MS. BENTIVEGNA: Thank you, Mr. Chairman.

11:36

21 Good morning, panel.

22 **MS. BENTIVEGNA QUESTIONS THE PANEL**

23 MR. MAISSAN: If I could ask the Chair's
24 indulgence, I'll be buzzing around here for a minute putting
25 my stuff away, so I hope I don't interfere with your

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 questions, Ms. Bentivegna.

2 MS. BENTIVEGNA: Thank you, Mr. Maissan, but I
3 think I can proceed.

4 Q. The first set of questions I have or few questions
5 relate to brushing. Now, in IR YUB-YEC-1-17, YEC explained
6 that it participated in a North American brushing study and
7 that its participation costs were 25,000. I believe that's
8 correct?

9 A. MR. MOLLARD: Yes.

10 Q. All right. Now, can you describe the criterion or
11 criteria that YEC used to decide whether or not to
12 participate in the technology review on best practices for
13 risk-based approach to vegetation management study?

11:37

14 A. MR. MOLLARD: Yes, I can. Mr. Chair,
15 it was -- from our perspective it was really just a question
16 of efficiency. If we were to have undertaken this by
17 ourselves, it would have cost significantly more than that
18 because there was, I believe, a half dozen other participants
19 in the study. We were able to get a large body of
20 information for a much lower price than we otherwise would
21 have been able if we had to do it ourselves.

11:37

22 Q. Thank you. Now, so you participated. Can you explain
23 sort of what YEC's participation was? For example, did staff
24 provide information?

25 A. MR. MOLLARD: Yes. I didn't participate in

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 the study, so I can't be really specific. But my
2 understanding from discussions with our staff is that they
3 were involved in the early stages as far as setting the scope
4 of the study, and then the questions that were set up in the
5 study were provided to Yukon Energy, and our staff provided
6 the responses in that regard. That's about as much as I know
7 on that unfortunately.

8 Q. Thank you. So now that the study's been done and you've
9 gotten the recommendations, can you explain what YEC has done
10 either to implement those recommendations or how it will be
11 implementing those recommendations? 11:38

12 A. MR. MOLLARD: There's -- well, there's a
13 couple of aspects to this. We have two studies. One was
14 based on our specific facilities, the study completed by ECI,
15 where they reviewed our system and our terrain and our
16 vegetation, and they made a series of recommendations, one of
17 which was to adopt IVM.

18 The survey gives a listing of what other
19 utilities do for IVM. Our intention is to take those two
20 studies together, and, with respect to developing our own
21 program, trying to determine which of those approaches will
22 work best for Yukon Energy in the future in terms of
23 efficiency and effectiveness of a brushing program. 11:39

24 Q. Sorry, Mr. Mollard, because I was thinking of the
25 acronym. IVM stands for what?

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. MOLLARD: Integrated vegetation
2 management.

3 A. MR. MORRISON: Brushing.

4 Q. I thought maybe it was something fancier.

5 A. MR. MORRISON: That's what you would be led to
6 think.

7 Q. Now, so you just mentioned that you had the two studies,
8 but where are you at with those recommendations from ECI and
9 the ones from this other study, risk-based?

10 A. MR. MOLLARD: Absolutely. So the first -- 11:40
11 Mr. Chair, the first recommendations that came out of the ECI
12 study, they did an aerial survey of basically all of our
13 lines, transmission lines. In coming out of that they
14 identified critical and priority areas that required
15 attention. So since the time of the study we've been really
16 focusing our efforts on getting on top of those areas.

17 There was I think 10 or 12, but the key
18 recommendations were dealing with those priority areas and
19 then to start on the process of developing an IVM program for
20 Yukon Energy, and for us the first step is to look at the use 11:41
21 of herbicides potentially.

22 The report recommendations felt that based on
23 the make-up of the tree species and climate that we have here
24 that the use of herbicides would be of a great benefit to
25 Yukon Energy in terms of making their program very efficient,

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 so the plan for the work in 2012 is to look at -- and I
2 believe one of the reports, I can't recall which one, makes a
3 recommendation with a series of different herbicides.

4 We need to do some work to determine from a
5 regulatory perspective which one we can use and from an
6 efficiency and effectiveness perspective which ones will work
7 best for our trees here.

8 Q. All right. Has YEC adopted any of the cycles for
9 brushing proposed by ECI, for example, moving to a seven-year
10 or eight-year or ten-year cycle of vegetation management?

11:42

11 A. MR. MOLLARD: I believe, Mr. Chair, that was
12 answered in an IR, but it escapes me which one it was. I
13 think we determined that the seven or eight year cycle was
14 going to be cost probative, so I believe we are pursuing a
15 ten-year cycle.

16 Q. Thank you. Now, it could be this might be the IR you
17 were referring to. In LE-YEC-1-32-B YEC stated that:
18 (as read)

19 "The following recommendations were
20 still under evaluation and
21 consideration as the existing budget
22 could not support the mobilization and
23 demobilization of costs were YEC to
24 adhere to ECI's recommendation."

11:42

25 The thing is these were the type of recommendations that was

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 being referred to in that IR, removing trees under the
2 conductors in locations designated as critical, removing
3 trees under conductors in locations designated as priority to
4 for the next growing season, removing trees designated as a
5 hazard over the next two years, and budget funds to address
6 critical locations as they are identified.

7 So in relation to that -- I understand what
8 you just said to me, but in relation to those recommendations
9 has YEC gone any further in its evaluation or consideration
10 of this tree removal? I understand you said herbicides, that 11:44
11 you were going ahead with herbicides.

12 A. MR. MORRISON: Ms. Bentivegna, if you don't
13 mind, can we just have a few seconds?

14 Q. Sure.

15 A. MR. MORRISON: Mr. Chair, Ms. Bentivegna, I
16 think there's -- I think there's an error in the preamble to
17 those. I think if to go back to what Mr. Mollard mentioned
18 earlier, those are actually the things we are doing, not the
19 things we're not doing. Those are the primary initiatives
20 that we have undertaken. 11:45

21 Q. Okay.

22 A. MR. MORRISON: So I think the preamble has
23 erred in saying these are the things that are under
24 consideration. It should have said these are the items that
25 we're proceedings with.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Q. So the update is that you're proceeding with these?

2 A. MR. OSLER: That's correct. Yes.

3 Q. All right. And is there a program in place as to when
4 these will be completed, and are the costs forecast for this
5 program?

6 A. MR. MOLLARD: I believe, subject to check,
7 that we have now completed all of the critical areas and
8 the -- is it priority -- yes, priority areas. I understand
9 those two recommendations have been met.

10 Q. And I would assume that then you will be undertaking in 11:46
11 the next two years in the test years the -- or have you done,
12 then, the removal of trees designated as a hazard. I think
13 that was the only one because the other one was a budget.
14 Obviously, if you've done them, the budget was there.

15 A. MR. MORRISON: Yeah. I think on that number 3
16 item, you know, that's underway and, you know, the resources
17 to try to -- you know, it's a long -- there's a number of
18 kilometres of line, so trying to get at them all. But
19 we're -- I can -- I should say that, you know, we're not off
20 schedule on that recommendation, so it's -- it should be on 11:47
21 track.

22 A. MR. MOLLARD: Just to be clear. So, you
23 know, we're trying to deal with the areas that they
24 designated as problem areas first, and roughly in parallel to
25 that because the direction of the Board was to come back with

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 a policy for managing vegetation. We need to do this -- a
2 little bit of work on this herbicide application and decide
3 what works best for us. And coming out of that we will,
4 then, have that policy drafted that said this is how we're
5 going to deal with this on an ongoing basis. So that sort of
6 works in parallel with dealing with these identified problem
7 areas.

8 Q. All right. And for the herbicides, am I correct -- did
9 I understand you correctly, you said that you are still
10 looking at it, that you haven't done any testing or --

11:47

11 A. MR. MOLLARD: No, we have not tested it yet
12 because we have to figure out which ones we are allowed to
13 use and which ones will work best for us. And we are
14 supposed to have that done this year, is my understanding
15 from our operational personnel.

16 Q. Thank you. Now, am I correct in understanding the ECI
17 stated that YEC does not have an electronic recordkeeping
18 system that tracks contractor production cost or work
19 location, line work history, last maintenance, that type of
20 thing?

11:48

21 So this first question, has YEC now put in
22 place any kind of electronic tracking?

23 A. MR. MORRISON: Well, almost. Sorry.

24 Q. Almost. What does almost mean?

25 A. MR. MORRISON: The new management information

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 system that we just installed, the Great Plains system, we --
2 also, in conjunction with that, there is an electronic
3 maintenance management system, and we are -- we are doing it
4 -- we are rolling that out in kind of a steps or a staged
5 process. We do now have a couple of plant areas in
6 Whitehorse that we are utilizing the maintenance management
7 system for. And we are --

8 You know, in an accounting system, we have a
9 whole lot of accountants who are used to using an electronic,
10 you know, accounting system. In this maintenance management
11 system, as you correctly pointed out, we have not in the past
12 had an electronic system. So we're moving people from a
13 paper system to an electronic system, and it has its
14 struggles. It has its challenges.

11:49

15 So instead of trying to roll it all out at
16 once, we've elected to do it in steps so that we can get
17 people used to the system, used to using it on a computerized
18 basis. But we see great value in having this system in place
19 so we can utilize it on, you know, on a more detailed basis,
20 I would say.

11:50

21 One of the -- you know, one of the challenges
22 that we're going through, and which brings us to this and for
23 some good reasons from a financial perspective as well, is
24 we've got a really strong dedicated staff that know what the
25 record and the history is of maintenance and what needs to be

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 done. But you can't rely on that, you know, on a small
2 system like ours forever, so you've got to get some of these
3 electronic records into place.

4 This is the opportunity to bring in a new
5 financial management system, gave us the opportunity to say,
6 you know what, time to move -- move up a level in terms of
7 our maintenance recordkeeping. We have good paper records,
8 but this electronic system I think will do us some great
9 service.

10 A. MR. MOLLARD: And, Mr. Chair, my
11 understanding from the operational personnel coming out of
12 the ECI study, they were provided with fairly detailed
13 spreadsheets of all of our lines on a -- we have -- all our
14 structures are numbered. So they've identified sort of on a
15 structure-by-structure basis where the priority and hazard
16 and critical areas are so that they're able to plan their
17 work out in the interim until we get them on the CMMS.

18 Q. Has, or is this still to be done, YEC established
19 metrics with regards to track the efficiency of the
20 vegetation maintenance program? Will you be?

21 A. MR. MOLLARD: That would be the intention,
22 yeah. They're starting to build the database now of what
23 areas are brushed and when they're brushed, and they're
24 trying to keep track of what that growth is in those areas so
25 that they can identify what needs to be done when in

11:51

11:51

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 conjunction with going to this ten-year cycle so they know
2 when things are brushed.

3 Q. All right. Now, moving to the administrative costs and
4 basically the non-fuel O&M.

5 Now, I understand that YEC and Yukon
6 Development Corporation share office space; is that correct?

7 A. MR. MORRISON: Well, we have some YDC
8 personnel that have an office in the YEC building, yes. And
9 "some" meaning one full time, and the corporate secretary for
10 Yukon Energy and myself have also -- we do some YDC duties,
11 and so part of our costs are allocated to YDC. 11:53

12 Q. All right. So that's the only positions that share or
13 have offices in your -- in YEC building?

14 A. MR. MORRISON: That's correct.

15 Q. Thank you. Now, are there -- other than this
16 arrangement for the office, are there any other resources
17 that YEC and YDC share other than the personnel? I'll get to
18 that.

19 A. MR. MORRISON: I just want to back up.

20 Q. Sure. 11:54

21 A. MR. MORRISON: The chief financial officer for
22 YDC comes in from time to time and uses a cubicle in our
23 office as well, but that might be a day or two a month. So,
24 sorry.

25 Q. All right.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. MORRISON: And then --

2 Q. Are there other resources other than the personnel
3 that's shared in the president's office?

4 A. MR. MOLLARD: So I just want to be clear.
5 Are we talking about nonlabour or labour or both?

6 Q. First nonlabour.

7 A. MR. MORRISON: You know, they have the use of
8 the photocopier, you know, that -- but that would be it. I
9 can't think of anything else.

10 A. MR. MOLLARD: We do charge them a small
11 portion for the space, office space. We use a -- we try to
12 use a market rate for rent for office space so we charge them
13 for the footprint, nothing beyond that.

11:54

14 A. MR. MORRISON: Sorry. And we do pay their --
15 we do actually pay their bills for them. They come in and do
16 their own accounting but we process the bill payments. But,
17 again, a few -- a handful of invoices a month. And we do --
18 as part of charging them, we charge them some small fee as
19 part of --

20 A. MR. MOLLARD: That was.

11:55

21 A. MR. MORRISON: In the administrative.

22 A. MR. MOLLARD: That was an area that I was
23 going to get to eventually because I think that's where you
24 are going.

25 There is an error in the application with

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 respect to Table 3.4, the Employment Complement History.
2 There is a allocation within that table of point -- you can't
3 see it, but it's an allocation of .71 positions to YDC. That
4 consists of .5 of the -- from the president's department and
5 a .21 from finance. The error occurred when we did the
6 allocation of the labour dollars for the purposes of
7 generating revenue requirement. We did not do the allocation
8 for the finance piece. So it's our intention to correct that
9 in the compliance filing. It's approximately a \$30,000
10 reduction in revenue requirement for a test year.

11:56

11 Q. Right. And would that finance component, is that the
12 person who does these invoices or --

13 A. MR. MOLLARD: Yeah, that's the bookkeeping
14 accounts payable and we help them with their year-end
15 schedules for audit and that sort of thing.

16 Q. All right. Thank you. So you were saying basically for
17 the office space, it's a rental at a market value that you
18 charge them?

19 A. MR. MOLLARD: That's correct.

20 Q. Thank you. Now, regarding the .55 FTE in the
21 president's office, how has YEC determined that it's a .55?
22 Is it tracking? How are the duties separated? How did it
23 arrive at a .55? It's very specific.

11:56

24 A. MR. MOLLARD: Yes. Well, on a budget basis,
25 we do a estimate. The two positions that are allocated are a

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 portion of Mr. Morrison's time for his role as CEO of YDC,
2 and it's a portion of the corporate secretary's time who
3 supports the board of directors.

4 It's we try and look -- we look at the past
5 history of roughly how much time they spend. Again it's a
6 forecast, so the actual is going to be somewhat different.
7 But it's really we look at the total year of 2,000 hours and
8 how many meetings are there, and how much time do they think
9 they're going to spend, and that's you how we get to that
10 number.

11:58

11 Q. So then it would be on an hourly type basis based on
12 past experience?

13 A. MR. MOLLARD: **Absolutely.**

14 Q. Now, going to that table, Mr. Mollard, you referred to,
15 Table 3.4, it refers to that the network administrator, or in
16 that area the application anyway, the network administrator
17 was promoted to manager of IT in the 2009/ 2010 fiscal year.
18 And in YUB-YEC-1-21, YEC stated that the manager of IT
19 assumed the overall managerial responsibilities for the IT
20 department, performance manage of budget preparation, short
21 and long-term planning, job assignments, etcetera.

11:59

22 My question is who was responsible for the
23 overall managerial responsibilities of the IT department
24 before that promotion?

25 A. MR. MORRISON: **The director of HR.**

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Q. And why did the change come about?

2 A. MR. MORRISON: I'm -- it came about because
3 it's my fault. We were trying to -- we were looking at the
4 management structure, and we moved the IT department under HR
5 and gave the director of HR responsibility for the IT
6 department on top of her -- we didn't take any of her HR
7 duties away.

8 And quite frankly it just became -- on a
9 frontline basis it became far too much of a workload, so when
10 we looked at it we -- to help defer some of that workload of 12:00
11 dealing with individual employees and scheduling and all of
12 the HR -- sorry, the IT issues, we looked at the staffing and
13 were able to find within the group, you know, an employee
14 that we thought we could elevate so to take some of those,
15 you know, day-to-day managerial duties away.

16 The director of human resource still has
17 overall responsibilities, but she gets -- having a manager
18 within the department itself gives her some relief from
19 duties that were just becoming too much for her.

20 A. MR. MOLLARD: And as well the manager 12:00
21 directed of HR is not trained in IT, so the ability to have a
22 manager who had sort of day-to-day responsibility for dealing
23 with technical issue as they came up, we found that to be
24 just more efficient in getting their job done.

25 Q. And the IT section --

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. MORRISON: Yes.

2 Q. -- or department, how many people in that, and what
3 systems are they running?

4 A. MR. MORRISON: They're running -- they're
5 running -- sorry, go ahead.

6 A. MR. MOLLARD: So they're -- if I could
7 qualify it this way. There's two key data systems, one being
8 the ERP that we have running right now, the Great Planes
9 Wensoft that runs our financials and runs our maintenance
10 system and our project accounting system. That's a key
11 corporate system.

12:01

12 We also have the SCADA system, which is what
13 our operators use to keep the lights on. And the third piece
14 of it really is the communications that makes it all work
15 together. So it would be those three areas if I could
16 characterize it at a high level.

17 Q. And how many people doing the IT besides the manager?

18 A. MR. MORRISON: He's an accountant. He's
19 counting on his fingers.

20 A. MR. MOLLARD: I usually have people to do
21 this for me.

12:02

22 A. MR. MORRISON: I think it's 3 point --

23 A. MR. MOLLARD: So there would be the manager,
24 three full-time staff, and a .25 for help desk.

25 Q. Okay.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 **A. MR. MOLLARD:** **Subject to check.**

2 Q. Thank you. Now, in relation to -- I just want to be
3 clear. Did the number -- because of the promotion to
4 manager, did the number of personnel, IT personnel, increase?

5 **A. MR. MOLLARD:** **It did not.**

6 Q. All right. Thank you. Now, with regards to the SQL
7 SharePoint administrator, that position was hired in 2010; is
8 that correct?

9 **A. MR. MORRISON:** **I just want to -- we'll just**
10 **check for it.**

12:03

11 Q. Sure, it's on page 313 of the application, I believe.

12 **A. MR. MOLLARD:** **I believe we -- if memories**
13 **serves, I believe we created the position in 2009. It wasn't**
14 **actually staffed until sometime in 2010.**

15 Q. All right. Then in YUB-YEC-1-22, YEC noted that the
16 most cost effective method was to increase the employee
17 complement by one person year instead of outsourcing to a
18 third party consultant that on average would charge \$100 plus
19 per day. It was more advantageous for the corporation to
20 staff the position rather than outsource the work in order to
21 keep the corporate knowledge and skills in-house since the
22 job requirements were deemed ongoing.

12:04

23 Now, if you hadn't hired the administrator,
24 what would have been the, in your experience, the total
25 outsourcing costs to have the work done by the third party?

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. MOLLARD: Well, you know, the person that
2 occupies that job is pretty fully -- pretty fully engaged, so
3 on rough numbers, a 2,000 hour work year, less a couple of
4 hundred hours for leave and training and that sort of thing,
5 you'd be looking at -- and \$100 an hour I would argue is a
6 bit light on the rate, but it's probably \$150,000 in
7 consulting fees at least. Plus you'd have to travel because
8 there's that -- that particular skill does not exist in Yukon
9 that I'm aware of.

10 Q. So the consultant would have to be from outside of
11 Yukon?

12:05

12 A. MR. MOLLARD: I would expect, yeah. That
13 would be my expectation.

14 Q. Now, moving on to the director of major projects on
15 page 3-14 of the application, it states that: (as read)

16 "The director of major projects
17 coordinates the development and
18 implementation of short and long-term
19 strategies, budgets, and work plans to
20 ensure efficient and cost effective
21 delivery of capital projects."

12:06

22 Now, in 2011 the director of resource planning and regulatory
23 affairs moved to the position of director of major projects
24 specifically with the focus on planning for expansion of
25 generation using LNG, and consequently a manager of resource

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 planning is required to manage the resource planning
2 departments led by the previous director.

3 Now, YEC then describes that due to the scale
4 of resource planning, a resource planning engineer and
5 environmentally coordinator are required to assist with
6 ongoing workload.

7 Now, can you first confirm that the manager of
8 resource planning, the resource planning engineer, and the
9 environment coordinator have been added as a result of the
10 move made by the director of resource planning and regulatory 12:07
11 affairs?

12 A. MR. MORRISON: No, Ms. Bentivegna.

13 Q. Okay.

14 A. MR. MORRISON: I wouldn't characterize it that
15 way. Let me try it a little differently.

16 We have been -- through our experience of
17 building Carmacks-Stewart and Mayo B and the various resource
18 projects that we've been developing in terms of the plan
19 going forward, it became clear to us that even though we have
20 contractors or consultants helping us perform some of the 12:07
21 technical work and the environmental work and the modelling
22 and so on, we still have to manage them.

23 So in addition to trying to find an ability to
24 manage people, contractors who are doing work for us, we also
25 saw some real -- when we sat down and did a review of our

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 costs we saw some real benefit in trying to bring some of the
2 skills in-house.

3 On the environment side, our environmental
4 department is housed within the resource planning office, if
5 you will. And the environmental manager that was there is
6 not able to keep up with all of the requirements of the
7 regulations and monitoring on our hydro projects and our
8 transmission lines in addition to doing, you know,
9 environmental briefings or -- I guess what we call it.

10 Before we let contractors go into our
11 facilities, they have to have -- they have to have a -- I've
12 lost the word -- they have to go through a safety and
13 environmental orientation. There, somebody found the word.

12:09

14 And so we do several of these a week. They
15 take a few hours. So with the combination of keeping up with
16 the environmental requirements that we have internally with
17 assisting on projects and the orientation pieces, we were
18 more -- more than convinced that we needed to add to our
19 environmental staffing in order to keep up with the work.

20 Even just the requirements of reporting that
21 we now have from regulators is an enormous job. So we added
22 the resource planning engineer to help us and take away
23 from --

12:09

24 And I would say that on both the environmental
25 coordinator and resource planning engineer's position, those

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 are dollars saved that we would otherwise outsource, and the
2 environmental planning engineer provides a great deal of
3 expertise.

4 It is the position where, if you recall, or
5 you may recall either yesterday or the day before,
6 Mr. Mollard talked about repatriating modelling, particularly
7 the modelling that Mr. Osler was talking about earlier,
8 bringing that back in-house so it wasn't being outsourced in
9 terms of the water or the power benefits model and our water
10 management models, and the ability to manage contractors and
11 conduct and give advice to senior management on environmental
12 and resource planning issues, we were constantly outsourcing
13 all of that work.

12:10

14 So we looked at the numbers and felt that
15 there was some real benefit in us bringing those positions
16 in-house. These were positions that were recruited locally
17 and our ability to do that also helped us kind of make that
18 decision. It's not a skill set that we had to go externally
19 for.

20 I should -- so I want to continue, if I'm not
21 taking up too much here, because we moved the director of
22 resource planning. We originally had an individual in the
23 director of major projects position. So we hired that person
24 to help us with some project management skills so that we
25 when we were managing large capital programs that we would

12:11

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 have an individual who could oversee more than one project
2 but could help through the planning and implementation of
3 major capital projects and we had not previously had that
4 ability in-house.

5 We do -- we do use some of our engineering
6 people to do that from time to time or some of our
7 maintenance staff, but it's become far too much of a job for
8 any of those people, even though they help as best they can.

9 So we hired a director of major projects. We
10 were able to recruit somebody from another utility, which was 12:12
11 great, a hydro utility, but after -- and one of the things we
12 do suffer from is we exist in a very competitive industry
13 from a staffing point of view.

14 So there's lots of places to go in North
15 America if you're a qualified, you know, electrical or hydro
16 engineer. And he -- after about a year and a half, I think
17 it was, he moved to a job at Columbia Power, and, you know,
18 it sounded to me like it was a good job so you have to wish
19 him well.

20 Then we started looking at the organization 12:13
21 again, so how we were going to fit this. We needed somebody
22 to do the work on the LNG option that we were looking at, and
23 it is a full-time job. And so we moved the director of
24 resource planning over to that position, (a) because it was a
25 job that he was interested in doing, and we didn't have

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 anyone else that could do the work -- we don't have anybody
2 else in the organization that can do that kind of work.

3 Subsequent to that, we do have to recruit a
4 director of resource planning which is sitting vacant. At
5 the moment, the job is being done partly by me, partly by the
6 director of special major projects who is still,
7 unfortunately, being asked to help because of his background
8 and partly by our vice-president. So we're tag-teaming at
9 the moment.

10 I would say to you that it's too much of a job 12:14
11 for any of us, even the little bit that we're doing. So
12 hopefully get through this GRA process and we'll be able to
13 do a recruitment and bring somebody in there.

14 We're also experiencing, over the next few
15 years, some fairly significant potential retirements, me,
16 maybe some others, and we are trying to make sure that we've
17 got the right structure in place and the right people in
18 place so when that happens, there's a pretty smooth
19 transition.

20 THE CHAIR: Ms. Bentivegna, is now an 12:14
21 appropriate time for you to break? It's 12:14.

22 MS. BENTIVEGNA: Certainly. I've got a few
23 other questions.

24 THE CHAIR: It works now. Because I'm
25 going to suggest that we shorten the lunch break and return

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 at 1. It will still be the same time but return at 1 --
2 1:30, but the lunch break would be shortened by 15, 20
3 minutes. Thanks.

4

5 PROCEEDINGS ADJOURNED TO 1:30 P.M.

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Volume 3

2 November 14, 2012

3 P.M. Session

4

5 THE CHAIR: Be seated. Thanks.

6 Before we go back to the Yukon Utilities
7 Board, are there any preliminary matters?

8 MR. LANDRY: Mr. Chair, very quickly a
9 couple of undertakings. This morning the panel gave an
10 undertaking about the updated resource plan forecast for
11 November, so I have that now. I gave it to Ms. Lemke, so
12 we'll mark that as the next exhibit.

13:31

13 THE CHAIR: Would I be correct if that was
14 B-20?

15 MR. LANDRY: And that's being circulated,
16 sir.

17 THE CHAIR: Thank you.

18 **EXHIBIT B-20 - ANSWER TO UNDERTAKING,**
19 **UPDATED RESOURCE PLAN FORECAST FOR**
20 **NOVEMBER**

13:32

21 MR. LANDRY: The other one is a response to
22 actually a further update on an undertaking from yesterday
23 regarding Mr. Mollard's undertaking on the insurance expense
24 forecast for 2012, and Mr. Marriott was looking for a
25 breakdown, a full sort of spreadsheet for that year.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 I provided a copy to him, and the spreadsheet
2 will go in as the next exhibit, which is B-21. There is a
3 possibility Mr. Marriott might want a few of the invoices or
4 some of the invoices. If that happens, then what we would do
5 with the other undertakings that we're going to be providing
6 after the close of the hearing we would put those invoices on
7 the record. If not, this will be sufficient, but I'll work
8 that out with Mr. Marriott.

9 THE CHAIR: All right. This one you just
10 handed out, just to confirm, is B-21.

13:33

11 MR. LANDRY: Yes.

12 THE CHAIR: Thank you.

13 **EXHIBIT B-21 - ANSWER TO UNDERTAKING,**
14 **SPREADSHEET OF THE INSURANCE EXPENSE**
15 **FORECAST FOR 2012**

16 THE CHAIR: Now, any other undertakings --
17 I don't know if you'll be returning those this afternoon.

18 MR. LANDRY: There are a number of
19 undertakings still outstanding. Unfortunately in the
20 timeframe we have we won't be able to do them today. For the
21 purposes of the record, we will file them, and we usually
22 pick a date for that, and our suggestion is by the close of
23 business on Friday.

13:33

24 THE CHAIR: Okay. I think that would be
25 acceptable unless I hear any opposition.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 So with that I'll turn this back to

2 Ms. Bentivegna.

3 MR. LANDRY: Oh, sorry, I apologize,

4 Mr. Chair. There was one further undertaking that Mr. Osler
5 can speak to quickly.

6 A. MR. OSLER: We had questions about Aishihik
7 and minimum flows this morning we undertook to clarify.

8 There is a minimum flow requirement in the license downstream
9 of Aishihik Lake during the summertime. It doesn't
10 necessarily have to go through the power plant, but there is
11 a minimum flow. 13:34

12 The smaller unit, the 7 megawatt unit, would
13 be able to utilize that fully I'm told, so that's one of the
14 advantages that was always understood for the smaller unit to
15 be installed is that it could make efficient use of what we
16 had to release anyway and could put it through the power
17 plant and get electricity from it.

18 THE CHAIR: With that I'll turn it back to
19 Ms. Bentivegna.

20 MS. BENTIVEGNA: Thank you, Mr. Chair. 13:34

21 Q. Good afternoon, panel. The first question for you,
22 we're still in the human resources and adding of personnel.

23 Now, with regards to the energy conversation
24 office can you just briefly tell me what the function of the
25 office are, how many persons in that office?

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. MORRISON: Yes. So I think I mentioned
2 yesterday we -- when we put our minds to looking at within
3 the resource plan the need to bring demand side management in
4 as a resource plan option given that we had diesel on the
5 margin now, and when we also put our mind to the Board's
6 order from the last hearing about developing a demand side
7 management or energy conservation program and bringing it
8 back to the Board, we sat down, and we tried with -- again
9 with existing staff.

10 So we started off giving the assignment to one 13:35
11 of our existing employees, and that young lady began to, you
12 know, a) first of all, do the research and bring together
13 information that we could find from resources that other utilities
14 that now conduct demand side management or energy
15 conservation programs and look at, you know, what we were
16 going to need to develop a program to the extent that we
17 could meet the test of both utilizing demand side management
18 initiatives within the resource plan and meet the Board's
19 requirements as they had outlined.

20 The individual also began the process of 13:36
21 consulting with YECL and with government as was outlined in
22 the plan and starting to look at public consultation again as
23 part of the overall requirements.

24 It became very evident fairly soon -- and we
25 probably, you know, kept the individual on this file longer

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 than we might have, but, you know, we had -- we had then to
2 go through a recruitment process. But it became evident that
3 this was this was more than -- this was a very large job that
4 we were asking somebody to do, and they had other assignments
5 and could not continue in that, you know, doing it on a
6 part-time basis.

7 So we sat down, looked at how much work there
8 was, analyzed the work that had been done, and came up with a
9 proposal for the hiring of two positions to work on the
10 energy conservation plan both from an internal Yukon Energy
11 perspective and the external work that had to be done with
12 stakeholders and partners and the development of programs and
13 plans.

13:37

14 We do not have extra office space at the Yukon
15 Energy office. We are maxed out. We've -- we've divided
16 up -- taken walls down and divided areas into cubicles as
17 much as we can. And so we rented some office space downtown
18 and went through a recruitment process, hired these
19 individuals, and they have been diligently working on trying
20 to get this program into place, do the consultation, work
21 with partners, and put a plan together that we can hopefully
22 bring to the Board as I said earlier sometime in the next few
23 months.

13:38

24 Q. Are these the manager of energy conservation and energy
25 conservation administrator?

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. OSLER: That's correct.

2 A. MR. MOLLARD: The energy conservation
3 administrator also was the position that ran the internal
4 audit work that we did this year.

5 Q. Mr. Mollard, can you explain a little bit the internal
6 audit?

7 A. MR. MOLLARD: We did the internal review of
8 our own facilities and the energy conservation administrator
9 ran that program. Sorry.

10 Q. Okay. Thank you. Now, there's a few positions that
11 were not hired. For example, the communication and
12 protection control technologist wasn't hired in 2010, and
13 then there's a financial administrator.

13:39

14 Now, I'm wondering, have these positions been
15 hired, or what would be the impact if you didn't hire these
16 two positions?

17 A. MR. MORRISON: They have been hired.

18 Q. Okay.

19 A. MR. MOLLARD: So I'll just speak to the
20 financial administrator. So we have done some changes in
21 that area, a couple of things that happened. We were very
22 fortunate when we hired our backfill coordinator. We stole a
23 position from Northwest Tel, a chartered accountant
24 originally from Saskatchewan with quite a good resumé and we
25 very much wanted to keep that person. So that was one

13:39

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 decision point. We really wanted to make that person
2 permanent.

3 The second factor we had -- one of our
4 analysts, financial analysts, who has been spending a fair
5 bit of their last several years working in support of the
6 major projects, Carmacks-Stewart, Mayo B, Aishihik, they had
7 quite a heavy workload dealing with the federal funding
8 partners. There's quite heavy reporting requirements and
9 data requirements to administer that. So those duties, of
10 course, are coming to an end now as the projects are built
11 and the funding arrangements are wrapped up. So that person
12 basically had some additional capacity.

13:40

13 So the duties that we described here in the
14 financial administrator as support for capital projects, we
15 were able to reallocate that work to that person that was
16 already on staff.

17 We then looked at the new system and how it
18 was unfolding. The previous controller had been assigned to
19 the project to do the implementation. We looked at, again,
20 sort of having that new controller coming in and this other
21 manager level person working on the implementation. We
22 recognized that the implementation was going to go on
23 effectively for some time.

13:41

24 You'll see in our capital plan, we have the
25 initial rollout of the system and then we have some staged

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 work happening this year and next year to do the enhancement
2 of the system. So we recognized that there was effectively
3 another position there that needed to be filled in terms of
4 working on enhancements to the functionality system as well
5 as developing a lot of the reports in the system.

6 Right now -- I imagine we'll talk about it a
7 little later when we get into projects about the system
8 itself. We've got the basic functionality going. We've got
9 all the data conversion done and that sort of thing, and now
10 we're looking at the enhanced reporting and that sort of
11 stuff to make the system more accessible to the entire group.
12 And that is what we're looking at that person doing now.

13:41

13 So the financial administrator that we did not
14 hire we reclassified as a manager of reporting, and the
15 previous controller is occupying that position on a permanent
16 basis.

17 Q. Which position? Who's in what spot?

18 A. MR. MOLLARD: Okay. So at the time of the
19 application preparation --

20 Q. Right.

13:42

21 A. MR. MOLLARD: -- there was a backfill
22 controller.

23 Q. Yes.

24 A. MR. MOLLARD: There was a manager of projects
25 who was doing the implementation. There was a financial

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 administrator which was not staffed. The backfill controller
2 is now a permanent controller. The manager of projects is
3 now manager of reporting, and there is no financial
4 administrator.

5 Q. All right. Thank you.

6 A. MR. MORRISON: And just on the second half of
7 that, Ms. Bentivegna, if we could just have a second.

8 A. MR. MOLLARD: And I can confirm that the
9 communications and protection control technologist has now
10 been staffed.

13:42

11 Q. All right. Now, with regards to your Faro office, it
12 just wasn't clear what positions you have there and whether
13 they're part time or casual and why you need it appears to be
14 two positions, but, anyway, if you can just explain.

15 A. MR. MORRISON: Sorry, Ms. Bentivegna, I'm just
16 trying to look at the -- I don't have it in front of me so I
17 just want to see what the reference is to two positions that
18 you just --

19 Q. Yes. Well, there's a senior power line technician and
20 then there was a casual operator to assist with the general
21 maintenance and diesel unit operation, but then there seemed
22 to be a relocation of the power line technician, but it
23 wasn't clear as to who was doing what.

13:43

24 A. MR. MORRISON: Let me try to help and be
25 clear.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 At Faro, we have a plant, a diesel plant, but
2 it's a -- we use it as a standby or backup plant but,
3 nonetheless, it still has to be checked and it has to be
4 monitored and it has to be run up. So we had a plant
5 operator there on a part-time basis.

6 What we have done is taken that part-time
7 operator -- in terms of location, we've just taken that
8 position and put it into the operator pool and we just rotate
9 the operators and go out -- it was getting -- it's somewhat
10 difficult to keep an employee on, you know, a half time,
11 quarter time basis. So we do a rotation out of the pool. So
12 that stays.

13:44

13 We moved the power line technician to Mayo.
14 So there are no employees resident in Faro at this time.

15 Q. All right. So there's no casual position?

16 A. MR. MORRISON: No, that's in the casual --
17 it's in the pool in Whitehorse.

18 Q. All right. Thank you. Now, has the capital mechanic
19 been hired? It appears from the application, page 3-16, that
20 there hadn't -- there wasn't one in place.

13:45

21 A. MR. MORRISON: Well, this is a little of
22 the -- you know, some days you try things and they work and
23 some days you get talked into things and you're not sure if
24 they work or not. We did have a capital mechanic -- let me
25 back up for a second.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 We use, as I think we've talked about in the
2 past, so we have a mechanic -- a pool of mechanics, a group
3 of electricians and power line technicians and so forth. And
4 when we have capital work or operations and maintenance work,
5 we allocate those employees into these various projects.

6 As much as you think that everybody always
7 gets along and nobody wants to argue about who gets what
8 employee to do their jobs, either the capital -- because the
9 capital budget is run out of the engineering department and
10 the operation and maintenance.

13:46

11 So the operation and maintenance guys want to
12 take all the mechanics and electricians and go and do their
13 work and the engineers want to take them to go do their work.
14 So we tried running the process in a pool. So there is a
15 pool of mechanics and you could draw your resources out of.

16 There was some inefficiencies around that. We
17 went to a concept -- or we went back to a concept of saying,
18 okay, we have now dedicated one of the mechanics and one of
19 the electricians during our busy capital period to just the
20 engineering group and they assign them to capital jobs. So
21 that's the capital mechanic and that's how it comes about.
22 We have both a capital electrician and a mechanic.

13:46

23 Now, in the period where there isn't a lot of
24 capital work going on, that mechanic and that electrician do
25 operations and maintenance work.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 **A. MR. MOLLARD:** And just if I could add on to
2 that. The reason we weren't able to just reallocate
3 positions from the pools, reflecting the addition of the new
4 equipment that we have to look after now, six or seven new
5 substations in the last few years, the Carmacks-Stewart Stage
6 1 and 2, plus the addition of three hydro units to our fleet.
7 All those units, even though they're new, they're still
8 required maintenance. They have to go out and do their
9 checks and all that.

10 So there wasn't that additional resource in
11 the pool that we could have allocated out. We needed to hire
12 the extra body.

13:47

13 **Q.** Thank you. Now, again, there seemed to be a move or
14 there was a move, the manager of operations to the role of
15 coordinator of capital projects. Now, has that person been
16 moved back or what's the situation with that position?

17 **A. MR. MORRISON:** Now, we -- I'm just trying to
18 get my timeline here, but I think it was last year. We --
19 oh, hang on a minute. Sorry, I'm getting something mixed up
20 here and I'm just about to mix you up.

13:48

21 So, Ms. Bentivegna, just to be clear. You're
22 talking about the manager of operations position and the
23 manager of capital --

24 **Q.** Seemed to be the coordinator of capital projects.

25 **A. MR. MORRISON:** Coordinator of capital

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 projects.

2 So I think just a changing in terms of
3 functionality. We weren't as specific. The manager of
4 operations position was a broader based position and we
5 wanted to focus the individual on projects. And it's just a
6 change, you know, reflecting the nature of that.

7 Q. So that's not a new position, but is there -- was there
8 a new position hired in order to take over some of the
9 functions?

10 A. MR. MORRISON: Well, I hate to confuse things. 13:49

11 Q. All right.

12 A. MR. MORRISON: We've changed a couple of
13 things. We had a -- we had our director of operations leave
14 about a year or so ago, and rather than replace that
15 individual we moved -- we restructured the department, and we
16 brought in a second operations manager so that we could
17 divide the company up into -- what we did was we took the
18 mechanical group and the power line group and the systems
19 operations centre as one and the electricians -- sorry,
20 sorry. The electricians and the power line group in one, and 13:50
21 the system control centre and the mechanics in another. And
22 they were both being managed by two individuals, and we just
23 didn't replace the director, so a wash there.

24 Q. Thank you.

25 A. MR. MORRISON: Okay.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Q. Now, with regards to the safety -- the acting safety
2 coordinator, seems to have taken documentation
3 responsibilities from the term documentation specialist. So
4 are there now two employees doing those functions, or is it
5 one employee?

6 **A. MR. MORRISON: No. It's just one employee.**

7 Q. Thank you. Now, it's proposed or it has been added a
8 term system controller operator, system control operated?

9 **A. MR. MORRISON: Yes.**

10 Q. Or SCC operator has been added to the current operator
11 that you have now. Do you have two, or is it just the one?

13:51

12 **A. MR. MORRISON: It's just one, sorry.**

13 Q. Thank you. Now, with regards to the communication
14 budget, again still in O&M?

15 **A. MR. MORRISON: Yes.**

16 Q. There were some questions regarding the benefits that
17 the program will result in to ratepayers. And first of all,
18 do you have any examples of public input that can be
19 attributed to the activities that resulted in an increased
20 communication -- that resulted in the increased communication
21 budget? So what feedback did you get that resulted in you
22 proposing that you had to increase your communication budget?

13:52

23 **A. MR. MORRISON: Oh, yeah. Mr. Mollard's**
24 **pointing to me an IR. I'm not sure. I think you probably**
25 **wouldn't have asked me the question if that would have**

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 answered it.

2 Q. Yes. It refers back to IR YUB-YEC-1-20. It's just if
3 you can give us --

4 A. MR. MORRISON: Yeah.

5 Q. -- concrete -- something that resulted in that or what
6 type of feedback were you getting?

7 A. MR. MORRISON: Well, we were -- and I would
8 start off with this is -- this is an initiative that came as
9 a result of not just, you know, our day-to-day operations but
10 the kind of feedback we were getting in, pardon me, in trying
11 to or attempting to advance either resource projects or new
12 large generating projects.

13 And when we started -- we started the
14 process -- this actually started as a board discussion. I
15 mean, not the utilities board but the Yukon Energy Board.
16 And a large significant discussion around what the Board
17 felt -- and I don't have examples to show you today -- was
18 the fairly -- what they believed was a more negative attitude
19 that the public had towards us than the Board was satisfied
20 with.

21 And, you know, it was difficult I think at the
22 time. We, you know, we're -- we have been a fairly
23 traditional utility in past years in many ways, and I'll use
24 the -- I hope it's helpful, but I use the example of the
25 resource plan and the differences between the two pieces if I

13:53

13:54

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 can -- or even projects that we've proposed.

2 When we did the first resource plan we wrote
3 it and then brought it here and said here, this is our
4 resource plan. What do you think? And we didn't get a very
5 a great reception on that on the public basis. Maybe perhaps
6 the board used its own process to analyze it.

7 But people were saying to us, well, hang on a
8 minute. You put that out there, and we haven't had a chance
9 to have our input. So this time we did it the exact opposite
10 way. We've certainly had lots of people give us feedback in,
11 you know, in meetings that we've had and, you know, in
12 written feedback as well.

13:55

13 So the issue was a public perception, and I
14 think through the survey work that we've seen, that was
15 proven to be correct. People didn't really have a lot of
16 faith in some of the things that we were doing that we could
17 continue to do and do a good enough job of.

18 So the shift started to take place with the
19 board saying to management, you know, we really need to see
20 something that improves this public attitude towards the
21 utility because it means getting things done becomes much
22 more difficult and costly when it's a negative approach
23 rather than a positive approach. So that was the genesis of
24 where we came to from getting to the communication program.
25 Q. And what benefits do you think the ratepayers glean or

13:55

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 get from that?

2 A. MR. MORRISON: I believe that the ratepayers
3 get -- and I believe very strongly the ratepayers get a lot
4 of benefit that aren't necessarily tangible benefits, but
5 they certainly -- we have a lot more information that people
6 can turn to. We got a lot more input both positive and
7 critical, and critical I don't mean in the sense -- I didn't
8 use the word negative -- but critical in the sense that we've
9 really critically looked at what you're trying to do, and
10 here's our suggestions and our input.

13:56

11 And I think it overall paves the regulatory
12 processes. It makes them much more, not easy, but it
13 enhances our ability to get through them in a more timely
14 manner, because we have an understanding out there, and
15 people in the public, including regulators -- and I'm
16 thinking more of water boards and YESAB and people like that
17 who we have to deal with have a much broader and better
18 understanding.

19 And we're not getting the -- I'm not saying we
20 don't get opposition to things, but I don't think we're
21 getting the kind of rousing opposition to things we may have
22 had in the past to certain things.

13:57

23 Q. Thank you. Now, it with regards to the Faro dewatering
24 account, YEC is proposing that the .398 million that's left
25 be transferred to the Yukon Energy reserve for injuries and

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 damages.

2 Now, does that mean that the Faro dewatering
3 account will continue to exist, or are you closing it out?

4 A. MR. MOLLARD: It would be closed out at that
5 point.

6 Q. All right. Thank you. Now, with regards to -- this
7 series of questions are with regards to the diesel
8 contingency fund, first trying to understand what exists and
9 then what -- to clarify what you're asking for.

10 We have an aid to cross, which is the 1996-97
11 decision of the Board regarding the rate stabilization
12 mechanisms, so I'll just wait until you...

13:58

13 MS. BENTIVEGNA: And, Mr. Chair, that will be --
14 I don't think we need to mark it. I'm just handing it out
15 for the purposes of information. I mean, it is a Board --

16 THE CHAIR: It doesn't need an exhibit
17 number?

18 MS. BENTIVEGNA: No.

19 THE CHAIR: Okay.

20 MS. BENTIVEGNA: And then there was an also an
21 Order 1999-03, which dealt with the diesel contingency fund.

13:59

22 Q. Now, I don't know if anyone on the panel was there
23 during that time, but the letter attached to that order makes
24 it clear that this -- the DCF at that time came about through
25 a negotiated settlement process. Is that --

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. OSLER: Yes.

2 Q. Am I correct in that?

3 A. MR. OSLER: Yes.

4 Q. So --

5 A. MR. OSLER: And it mentions that there was
6 a low water fund of some type that existed, but out of the
7 negotiated settlement process that got moved into becoming
8 the diesel contingency fund.

9 Q. Exactly. So as far as you're aware, has the existing
10 one, has it ever been tested at a hearing? I mean, other
11 than that, those were the only two orders that refer to it.
12 The other one just says that it's continued, the 1999-03.

14:01

13 Well, the Board approves the deletions and
14 additions to the diesel contingency fund as filed. But as
15 far you're aware, has it ever been looked at or tested in a
16 GRA proceeding?

17 A. MR. OSLER: Well, because there wasn't a
18 proceeding beyond the negotiated settlement being brought to
19 the Board for its approval in '96 and there wasn't a GRA
20 afterwards that involved both companies concurrently, yes, it
21 has not been tested in a GRA.

14:01

22 But it was the subject of a very intensive
23 review by Board staff. And I think a Board order was issued
24 accordingly afterwards to sort out certain issues that
25 involved an implementation and making sure everybody was

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 copacetic with how it was been administered.

2 And I think the settlement made provision for
3 the Board each year to approve the additions and deletions to
4 the fund. So it was not absent from the Board's review I
5 guess is my point on an ongoing basis when it was active.

6 Q. And how long -- are you aware how long it was active or
7 when the last time it was used?

8 A. MR. OSLER: If it's important, what I'm
9 going to say is subject to check, but, generally speaking,
10 people didn't expect it to be used when the Faro mine was off 14:02
11 because diesel would not, according to its definition, be on
12 the margin. But there was a string of events with a fire and
13 also with some low water where the other element of the fund
14 came into activity I think in late '99.

15 So to the best of my recollection, the fund
16 for -- diesel contingency fund for the purposes that it was
17 enacted was not really operational thereafter. And it only
18 had -- the only changes that would take place thereafter
19 related to the interest additions year after year to the
20 amount in the fund pursuant to its provisions. 14:03

21 Q. Now, would you be able to provide the Board with a
22 continuity table of the fund for the years from the
23 inception, which I believe is 1995 to the end of 2011,
24 December 31st, 2011?

25 A. MR. MOLLARD: I'm reasonably confident we can

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 get back to '98 for sure. '95 I'll do my best to obtain
2 that.

3 Q. Sure.

4 A. MR. OSLER: I think the order may deal with
5 the time periods that you're worried about, but we'll check
6 that.

7 The subject -- I think the order, if I'm not
8 mistaken, in '99 sort of approved going back. If that's the
9 case, then it's straightforward enough to keep Mr. Mollard's
10 suggesting to go forward from there.

14:04

11 I don't think anybody who was in the
12 accounting department is around. Even though I was around,
13 I'm not sure I could help.

14 Q. That's fine. Whatever you can provide to show us.

15 A. MR. OSLER: Yeah.

16 UNDERTAKING - TO PROVIDE THE BOARD WITH
17 A CONTINUITY TABLE OF THE FUND FOR THE
18 YEARS FROM THE INCEPTION, 1995, TO
19 DECEMBER 31ST, 2011

20 A. MR. OSLER: We would have reported on it in
21 2005 revenue requirement. And, presumably, people checked at
22 that time as to its continuity up to that point. So I'm
23 optimistic.

14:04

24 Q. All right. Now the DCF that's proposed in this
25 application, new and improved, shall I put it. Now, it's a

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 fund -- can you confirm it's a fund that's going to be billed
2 up through direct customer contributions through customer
3 rates, or is it funded by YEC retaining certain amounts that
4 would otherwise reduce customer rates? It wasn't clear.

5 A. MR. OSLER: I'm not certain I understand
6 the distinction you're making. So let me -- if you could
7 repeat it or I could attempt to --

8 Q. Certainly. Well, I can -- the question is how was that
9 the fund going to be billed up?

10 A. MR. OSLER: Okay. Essentially the same way 14:06
11 as it was before, in principle. Okay? Just start from
12 there. And the fund is built up by charging -- by setting a
13 pricing basis -- and I'm going to keep it at long-term
14 average for the sake of this discussion because it's a bit
15 simpler. Agreeing that we're not going to have the company
16 paying for diesel based on what it actually burns, but we're
17 going to have it pay for diesel based on the long-term
18 average, okay?

19 So Mr. Mollard would then enter into his
20 accounts for the year essentially based on what the long-term 14:06
21 average diesel requirement should have been for that load and
22 he will pay that.

23 How much money goes into the fund depends on
24 what actual diesel was burned. If, in fact, the actual
25 amount of diesel burned was less than the long-term average,

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 then that money -- the difference between what he's paying
2 and what was actually paid for diesel will end up in the
3 fund, and will augment the fund.

4 The fund can only get augmented that way
5 unless the Board was to order, because the fund has gone
6 outside its boundary, its cap, or outside its limits, order a
7 special charge to replenish the fund.

8 The fund would be drawn down by the opposite,
9 by the -- essentially having a situation where the diesel
10 requirement, in fact, was bigger than the long-term average. 14:07
11 Mr. Mollard would still be paying the long-term average; the
12 fund would be paying the difference between the actual diesel
13 requirement and the long-term average.

14 So, in that sense, it's exactly the same in
15 principle as what the diesel contingency fund was doing
16 before. The changes are more to do with the issue of how you
17 calculate the long-term average that is applicable in a given
18 year and taking into account in doing that the integrated
19 grid that exists today rather than just the Whitehorse
20 Aishihik Faro system that the fund applied to before. 14:08

21 I'm talking at a very high level, but I think
22 that's the essence of it.

23 Q. All right. Now, can you, again, at a high level -- I'm
24 not expecting specific number. For example, if the Board did
25 not approve the changes to the DCF, or that the DCF ceased

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 since there's still money there, what would be the
2 approximate rate impact on nongovernment residential
3 customers during a low water level year or a drought year?

4 A. MR. OSLER: Well, I guess my question would
5 start by saying, it's very hard to know.

6 The problem that would exist can be described
7 as a potential \$20 million bill for a situation that would on
8 average have been a few million dollars, okay? So it's a big
9 problem.

10 And, as I said in answer to somebody else
11 earlier, when we describe it the way I just did, i.e., low
12 water years, you asked me the question and we've used that
13 language ourselves, we're not really getting to the degree of
14 the problem because it tends to come in multiple years
15 together.

14:09

16 So when we're doing our resource planning at
17 the moment, we are actually looking at that situation over
18 the string of years in the late '90s when the situation
19 looked to be the worst one in the 28-year record.

20 So it's bigger than the worst year, and I'm
21 not going to try and give you a number. The \$20 million
22 number I gave you is the type of number that applies for the
23 load forecast in this GRA.

14:10

24 Obviously, as you consider some of the larger
25 loads that we've been talking about that could emerge, that

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 number doesn't shrink; it gets bigger.

2 And I could use a graph to describe it that's
3 in the exhibit that was just handed out this morning if that
4 would be helpful so people could see how the shape of this
5 changes. But when I said I'm not sure or it's hard to know,
6 you can't just turn around, Mr. Morrison, to tell me in three
7 milliseconds and charge everybody \$20 million more.

8 A. MR. MORRISON: Not going to happen.

9 A. MR. OSLER: So the question that has to be
10 asked and answered is it's a ratepayer risk and how would you 14:11
11 deal with that? How would Mr. Mollard get the financing
12 needed to pay the bill? He and his banker and the
13 government.

14 And, secondly, how would this be charged to
15 ratepayers, over what reasonable time period? But in the
16 end, it would have to be recovered, otherwise the company
17 would not be solvent. And, secondly, it would have to
18 ultimately be recognized to be a ratepayer risk. And that
19 would be about the worst way you could handle a problem like
20 that is sort of reacting to it as it occurs. 14:11

21 So the concept of the fund way back originally
22 arose not so much out of fear but out of a realization that
23 we wanted more rate stability, and we didn't want the rates
24 going up and down depending on how much water there was in
25 Aishihik in any one year. And it was about that simple

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 because when we took over -- when YEC took over NCPC assets,
2 Aishihik was reasonably full because the mine had been shut
3 down for a while just before we started up and they got some
4 water.

5 I can well remember the year when we suddenly
6 began to realize that there would have to be a rate increase
7 because Aishihik -- it wasn't a question of being empty; it
8 just wasn't super full. We'd have to go towards long-term
9 average rather than getting the benefit of a very full lake.
10 And that rate increase was announced in an application to
11 this Board.

14:12

12 And I can remember it rained very well in
13 August, and decisions were made to change the application
14 because the problem was all solved.

15 People did think about things a bit after that
16 and came to the conclusion we wanted a low water reserve fund
17 in order to set the rates based on the long-term average and
18 get out of this type of nonsense. But it was more based on
19 that type of a history at the time.

20 If the Faro mine had not closed in the time it
21 did, everybody in this room would know what you were just
22 asking me about because that's when we have the lowest water
23 period on record, and that's when we still had to use the
24 fund a little bit even though the Faro mine was closed.

14:13

25 The point would have had to -- we would have

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 been over the top of that fund probably. I haven't done the
2 calculations. That's not a matter of direct evidence in the
3 sense of -- but my supposition, from everything I know, is we
4 would have been in a lot of trouble and everybody would know
5 about it and become part of the Yukon history because the
6 Faro mine was closed.

7 We really haven't had that situation in the
8 time period that we've dealing with YEC. I think NCPC had it
9 before and knew about it from the point of view of its senior
10 management. And they didn't have a fund either.

14:14

11 So the suggestion strongly from the history
12 and everything else is whether it's this fund or some other
13 fund, this is not a problem that it's recommended anybody
14 ignore, and it really is between the utility and its
15 regulator because it's on behalf of the ratepayers as to how
16 to manage this risk.

17 Q. Thank you, Mr. Osler.

18 Now, regarding the fund and Fish Lake hydro,
19 now, is it correct that changes in Fish Lake -- in Fish Lake
20 average hydro are not known to YEC, so for example, right now
21 it's not functioning. It's scheduled to be up again and
22 running in I believe in 2013. So how does that Fish Lake
23 hydro fit into the DCF and the administration of the DCF?

14:14

24 A. MR. OSLER: Well, it doesn't -- in the case
25 of the DCF as it currently exists, Mr. Mollard can confirm

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 the practice. He may not even know because maybe nobody is
2 paying attention to it in these days.

3 Essentially in the records you would see I
4 presume in what you handed me there would be a set of tables
5 for YEC, and there's a table for Fish Lake. And my
6 recollection unless YEC administered the fund on behalf of
7 YECL, they were treated as though were they two separate
8 accounts because one was YECL, and one was YEC's. And
9 certainly the exchange of monies would be between in the one
10 account YECL and the other account YEC, okay, even they
11 they're administered according to the same set of rules.

14:15

12 I don't know at the moment myself what
13 allocation of the amount of money -- whether there's an
14 allocation of amount of money sitting over in YECL. I don't
15 know that.

16 But when the -- when the companies were
17 jointly managed of course there wasn't an issue of who knew
18 what. But as soon as the companies weren't jointly managed,
19 YEC directly does not have anything to do with the Fish Lake
20 account unless for some reason they exchange information that
21 I'm not aware of. But nobody's been taking attention it for
22 it long time.

14:16

23 YEC does get to know about Fish Lake by the
24 process of annually wholesale forecasts because it likes to
25 pay attention to how well Fish Lake is functioning and how

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 it's working and everything else. In that sense it has a
2 discussion process between the utilities, but it's for that
3 purpose, nothing to do with the DCF.

4 And if we were to try and -- if somebody was
5 to try and deal with it, they'd have to come to grips with
6 the issue of what is the appropriate long-term average and is
7 this functioning -- is this serving a useful function in the
8 total context, or are there other methods that could be used
9 to sort out the Fish Lake level issue. I don't think Fish
10 Lake -- I think this settlement agreement introduced Fish
11 Lake into the package. Hector Campbell was reminding me the
12 other day. And it wasn't in the package before. The low
13 water reserve fund was only for YEC. It was something that
14 came out of this settlement.

14:17

15 Q. Mr. Osler, would it be possible as an undertaking to
16 confirm whether the DCF fund as proposed includes Fish
17 Lake in the sense that it be could used for that purpose or
18 not?

19 A. MR. OSLER: I thought you were asking me as
20 it existed.

14:17

21 Q. Well, as it existed and then -- fine, as it existed.
22 But as applied for it would only be for YEC?

23 A. MR. OSLER: I can confirm that.

24 Q. All right. But if we can -- if you wouldn't mind
25 confirming as it existed what it applied to.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. OSLER: Yes. It did used to apply to
2 both, but I think what we'll do is confirm where the funds
3 were and how it's administered. I think that would probably
4 sort it out for everybody.

5 Q. Thank you.

6 UNDERTAKING - TO CONFIRM WHETHER THE
7 DCF FUND AS IT EXISTED INCLUDES FISH
8 LAKE

9 Q. MS. BENTIVEGNA: This is just a labelling, but
10 it seemed to say it was in the millions, but it should have
11 been thousand. I'll take you to CW-YEC-1-26 in the IRs, A
12 and B. And it related to CSTP Stage 2 costs and the Table 1,
13 and there it seemed to be we were wondering when looking at
14 it if the number should be thousands instead of millions as
15 stated.

14:18

16 A. MR. MOLLARD: That is confirmed.

17 Q. Thank you. Now going to capital projects. Starting off
18 with the Aishihik third turbine, this is page -- application
19 page 5-9.

20 Is there a better way to determine the
21 efficiency of a project other than comparing it to diesel
22 generation when you're determining whether a project should
23 go ahead?

14:19

24 A. MR. MORRISON: I don't know how -- I don't
25 know if there is a better way. There certainly are different

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 ways, you know, that we could -- that we could do. You know,
2 in the case of an asset when we look at it, I think the -- so
3 take a project like Aishihik third turbine, and we think
4 about, you know, how -- we think about how we can manage the
5 system and maintain, you know, the lowest cost possible for
6 ratepayers. And we start -- you know, we tend to gravitate
7 to the diesel because we know that that's what our
8 alternative is.

9 I think if we were in an interconnected system
10 where we could purchase or buy or sell, I think yes, there's
11 probably several other different analytical tools that could
12 be used to prove a projects' worth or not. 14:20

13 But when we come back to, you know, looking at
14 things from a different point of view, we always have this --
15 we always end up back at, well, if we don't do -- if we do
16 nothing, this is what the cost is going to be. So what is
17 the comparator. The comparators are, are there different
18 options that fall underneath that cost, and which is the best
19 of those.

20 So yeah, I think there are probably other
21 tools. They're not tools that we readily use because I think
22 of some of the characteristics of our system -- the isolated
23 grid, sorry. 14:21

24 Q. Now, can I take you, rather than just reading it all, on
25 page 5-9 of the application, Footnote 5, which talks about

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 the Aishihik third turbine and the assumed net capital costs.

2 A. MR. OSLER: Yeah.

3 A. MR. MORRISON: Yes, we're there. Sorry.

4 Q. Okay. Now, in looking at that, with the Mayo B project
5 completed, how does this affect the economics of the business
6 case for the Aishihik third turbine?

7 A. MR. MORRISON: Well, I don't -- I don't
8 believe it does. Not with the growth in load that we've had.
9 We do not have -- system wide we do not have a surplus
10 particularly in the winter. The overall output of the Mayo
11 plant has some winter restrictions but -- you know, using
12 both plants and outflows.

14:22

13 So the one benefit of Aishihik is that it
14 doesn't really have mechanical restrictions in a sense. It
15 doesn't have the, you know, icing issues that even Whitehorse
16 has right now where we're trying to set the ice cap, and
17 we've got to throttle back for a week or two, and then we can
18 go back to production.

19 So I don't see the Aishihik units being less
20 used. I see them over time hopefully being more utilized and
21 that Aishihik third turbine giving us greater benefit.

14:23

22 Mr. Osler want to add.

23 A. MR. OSLER: In terms of the footnote where
24 you noticed that it says it assumes no Mayo B, we can do the
25 analysis with Mayo B. It will be a little bit less, a little

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 bit less beneficial. That's what you're getting at.

2 The sequential of decision-making was that
3 Aishihik was decided on first, and when we ran all the Mayo B
4 analysis for Part 3 we assumed Aishihik in place, so it's
5 appropriate. I don't have the answer as to what the
6 difference is. There's some difference. Otherwise -- it's
7 not a big deal, but it was a difference, and that's why we
8 put in the fact that it was run with no Mayo B.

9 Q. So is the assumption that it's 4 gigawatt hours per year
10 diesel displacement, is that still valid?

14:24

11 A. MR. MORRISON: Well, again it is, and it could
12 go up if loads go up, but that's pretty valid.

13 A. MR. OSLER: Sorry, when you say "is it
14 still" do you mean with Mayo B?

15 Q. Yes.

16 A. MR. OSLER: No, I can't -- I'd have to
17 check that.

18 Q. All right. Can you undertake --

19 A. MR. OSLER: Yes.

20 Q. Thank you.

14:24

21 **UNDERTAKING - TO CONFIRM THE ASSUMPTION**
22 **THAT MAYO B IS 4 GIGAWATT HOURS PER**
23 **YEAR DIESEL DISPLACEMENT IS STILL VALID**

24 Q. MS. BENTIVEGNA: So does Aishihik third turbine,
25 would it add capacity to the system?

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. OSLER: Subject to the fact that we
2 have N minus 1 criteria, yes. But because of the N minus 1
3 criteria, it doesn't get credited when we're doing capacity
4 planning.

5 Q. Thank you. In your IR response YECL-YEC-1-32 B to D,
6 what does including Fish Lake generation in the forecast do
7 to the economics for the Aishihik third turbine, if anything?

8 A. MR. OSLER: What was the first part of
9 that? What does including which? Fish Lake?

10 Q. Fish Lake generation?

14:26

11 A. MR. OSLER: I don't think it has any
12 effect. I think the point's made that the analysis of the
13 load that's being examined is net of Fish Lake. It doesn't
14 affect the economics of the assessment. We often say that,
15 but it's just to remind us that we've looked at the load
16 assuming Fish Lake is operating.

17 Q. And does YEC's projections of levelized cost of energy
18 for the Aishihik third turbine assume any lost mining loads
19 such as Minto in the future?

20 A. MR. OSLER: I'm assuming it does, but I
21 can't -- I can't see words that say that here because we
22 usually run everything using the same load forecasts and
23 stuff. I just can't see language here that confirms what
24 exactly was assumed.

14:27

25 Q. All right. Now, does modelling exclude the times that

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 the third turbine is running when either units 1 and 2 are
2 running or some combination of 1 and 2 are not running or the
3 whole thing is not running at full capacity?

4 A. MR. OSLER: It's supposed to in the sense
5 that it's running -- it's running the world without Aishihik
6 third turbine and then with Aishihik third turbine. So what
7 difference did it make? It's not doing a theatrical
8 analysis. It's doing a model assessment to the best of my
9 knowledge.

10 It's not like an engineer's estimate of how
11 much do you get out of this plant, making some assumption
12 about how much water is going through it. It's supposed to
13 be based on the models for the system.

14:28

14 Q. Now, moving to the enhancements to the Mayo hydro
15 substation. It appears from the application in the record
16 that the problems with the substation seem to go back to
17 2004, were identified in the engineering report in 2004, but
18 were addressed only in 2010. So can you explain why it took
19 so long to deal with the issues that were identified? And if
20 you needed a reference, it's in page 5-10 of the application.

14:29

21 A. MR. MORRISON: Ms. Bentivegna, thank you for
22 that. Maybe we'll have a quick look at it and I'll see if I
23 can be helpful. I may not be able to help you.

24 A. MR. MORRISON: Ms. Bentivegna, to be more
25 helpful, I'd have to talk to the engineering staff, but in

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 general, this report -- and I don't have it in front of me,
2 but I can only -- I can -- I can think through a couple of
3 reasons: One, in the report it would say that, you know --
4 that it said within the next short while you need to replace
5 this, not -- you know, not today or tomorrow. If it had have
6 been critical, I'm sure we would have addressed it quicker.

7 Now, that -- I think we had, as Mr. Mollard
8 reminds me -- you know, coming into 2008-2009, we did have a
9 lot of things on our plate, but --

10 A. MR. MOLLARD: I do recall now, just
11 reflecting back now. There was -- the report was fairly
12 specific with regards to -- I mean, the whole plant -- the
13 whole substation is roughly the same age. It's about 50
14 years old.

15 And it's been awhile since I read the report,
16 but my recollection is that there were certain pieces of
17 equipment that were identified as issues, specifically
18 transformers. What we did do in that interim period from the
19 time of report until we have replaced -- and we did up our
20 maintenance and oversight on the station. So we were
21 watching it quite closely, making more -- checking for
22 dissolved gas and oil and that sort of thing on a more
23 frequent basis.

24 We weren't having issues as far as breakdowns
25 within the substation, but we were upping our maintenance

14:31

14:31

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 just to watch it more closely to ensure that we didn't have a
2 problem.

3 Q. All right. Now, was part of the reason for the
4 substation in order to correct those, but was part of the
5 reason due -- the enhancements -- of the enhancements due to
6 loads for Alexco and Victoria gold, as far as you're aware?

7 A. MR. MORRISON: Sorry, Ms. Bentivegna, I was
8 too quick there.

9 No, they're not -- nothing to do with Victoria
10 gold at all. That's a whole different load with its own
11 substation or transformer issues. It really was the
12 50-year-old age of the substation, time to get it done. And
13 we thought we could take advantage of, you know, some of the
14 work going on around the Mayo B project to keep the costs
15 down.

14:32

16 Q. Now, with next to the Aishihik station redundancy
17 project.

18 A. MR. MORRISON: Yes.

19 Q. Now, in the application YEC states that it was
20 undertaken to rectify a very serious system reliability issue
21 relating to redundancy identified as a result of a major
22 system outage in January 29th, 2006. And it became a top
23 priority for the company.

14:33

24 Now, again, my question to you is if it was a
25 top priority after that outage in 2006, how come it took six

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 years to implement?

2 A. MR. MORRISON: Sure. The -- to be a bit
3 illustrative, as I said the other day, these are cables that
4 run down the 400-foot shaft from the floor of the generating
5 plant back up to the substation. Was identified after that,
6 we had a major failure of those cables within the shaft, and
7 they had to be replaced. And in the middle of all of that,
8 we had almost a 12- or 14-hour outage in the middle of
9 winter.

10 So we had brand-new cables. We had a
11 brand-new setup in there. We knew that -- and it's like
12 everything else. You come down to some judgment, but we knew
13 we could get a few years out, you know, in terms of our
14 capital spending programs because we had brand-new cables,
15 but, you know, each year you go out you're taking a little
16 more risk.

14:34

17 We did look at doing it a little earlier, but
18 the mobilization costs and demobilization costs of just a
19 single project, we thought we'd try to fit it in and we're
20 probably a year or so later than we wanted to be, but we
21 tried to fit it in with something else that was going on up
22 there on other work. So that we were taking advantage of the
23 fact that we had the system down.

14:34

24 So we had Aishihik down for the installation
25 of the turbines and things like that so we could do -- we did

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 some hydro maintenance while that system was down. We did
2 this project while that system was in that construction stage
3 just to try to save some money. Little bit of -- -you know,
4 little bit of taking some risk going forward a couple of
5 years, but we didn't feel we could go much longer than we
6 did. We felt we had pushed it to the limits.

7 Q. Now, with regards to the Mayo head gate repairs.

8 A. MR. MORRISON: Yes.

9 Q. Now, I believe you mentioned yesterday --

10 A. MR. MORRISON: Yes.

14:36

11 Q. -- that the additional work was done -- or the work on
12 the gate was done because of the new safety -- dam safety
13 standards came into effect. Did I understand you correctly?

14 A. MR. MORRISON: No, no. I may have mixed you
15 up.

16 The core raise project that we did on the dam
17 was part of the dam safety standards.

18 I would say to you that the biggest reason
19 that we did this was a safety issue. We went to -- we had to
20 do some work on the Mayo A system, and it required us to
21 dewater the plant. And when we went to look at planning that
22 work, the -- well, we -- staff -- somebody raised a concern
23 about the gate, raised a question about the gate, I should
24 say.

14:36

25 We had some engineers come in and look at it

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 and they would not certify the gate to a -- so they wouldn't
2 certify the gate for work to be done behind the gate. So we
3 could not dewater the system.

4 In other words, it's a single gate, and the
5 gate was old and could not be certified for safe work
6 practice behind the gate. So we couldn't dewater the plant.
7 We couldn't do the work. The gate had to be replaced. It
8 has just been replaced. We thought we could get it done both
9 prior to or in the middle of the Mayo B piece. We were not
10 able to do that. The gate was engineered and purchased and
11 it was on site. We just put in here recently. 14:37

12 The gate is now and will be just as they
13 finish commissioning it will have a certification to allow
14 our staff to work behind that gate when it's isolated.

15 Q. Thank you. Now, getting to the deferred costs.

16 A. MR. MORRISON: Yes.

17 Q. And the amortization of the deferred costs. And you had
18 discussions yesterday with Mr. Janigan regarding should those
19 costs that you're proposing be capitalized, or should they be
20 added in as expenses. 14:38

21 Now, my first question with regards to that is
22 I believe there was some discussion that there may have been
23 the practice of deferring these costs as capital -- or
24 amortizing, sorry, these costs, that it may have been an
25 approved practice.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 So if there is a Board order that it was
2 approved dealing with those costs in that way, would YEC
3 undertake to provide that order?

4 **A. MR. MORRISON:** Ms. Bentivegna, just so that
5 we're clear because obviously we're asking each other a
6 question, I think what we were talking about yesterday was
7 that there was projects held in work in progress.

8 **Q.** Yes.

9 **A. MR. MORRISON:** Versus now taking those
10 projects instead -- and leaving them there until you went
11 ahead with a project or decided you were no longer going to
12 do it, and now we're amortizing -- we're proposing we
13 amortize that over a period of time.

14:39

14 So you're asking us if there was a Board order
15 regarding past practice.

16 **Q.** Exactly. Allowing that to happen.

17 **A. MR. OSLER:** Well, the Order-in-Council
18 1993-08 -- Board Order 1993-08 was a decision coming out of
19 that hearing where a lot of these matters were addressed in a
20 comprehensive matter. And certain costs were disallowed, and
21 certain costs were entered into the books of the company.

14:40

22 My -- subject to check so that we can sort of
23 get this off our plate unless I find something different, I
24 think that's the order. It doesn't explicitly approve the
25 policy I'm advised, but it implemented the policy effectively

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 by doing what Mr. Janigan described as making decisions of
2 the Board as to what was prudent and what wasn't prudent.

3 But costs of things that were finished in
4 terms of not going anywhere, but studies over with were
5 subsequently then amortized for the purpose of the hearing
6 and the revenue requirement based on the policy as YEC had
7 described it to the Board of its policy.

8 So subject to check that's as good as we can
9 do. I'm told that there isn't an explicit approval of the
10 policy, but it was put into evidence in that hearing, and
11 there were decision made on matters the type of thing
12 Mr. Janigan was describing, that after the prudency decisions
13 were made, the rest of it was amortized over five years, and
14 it was certainly dead. Whether it was this matter or that
15 matter, that wasn't going any further at that time.

14:41

16 Q. But, Mr. Osler, just to be clear, were the decisions
17 made, as far as you can recall -- I mean, we'll of course
18 look at that order.

19 A. MR. OSLER: Right.

20 Q. Because the project was not -- had the potential to go
21 ahead. Like, it wasn't stopped, for example, like the Atlin
22 project, which you know is not at this point anyway or in the
23 near future so that that has come to an end for now, but what
24 about -- and I'll go through them, I mean, the other ones
25 where --

14:41

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. OSLER: Right.

2 Q. They may still be ongoing, but you're asking or YEC is
3 asking that those be -- those costs be amortized.

4 A. MR. OSLER: Right. And I was referring
5 specifically to the first group. There were examples of that
6 which Mr. Janigan was asking. I'd have to check and make an
7 undertaking to do so.

8 A. MR. MOLLARD: We will check.

9 Q. All right. Thank you.

10 UNDERTAKING - TO CHECK FOR THE
11 INFORMATION REFERRED TO REGARDING
12 MS. BENTIVEGNA'S QUESTION RE YEC ASKING
13 THAT THE COSTS BE AMORTIZED AND
14 MR. OSLER'S REFERENCE TO THE EXAMPLES
15 OF THAT WHICH MR. JANIGAN WAS ASKING
16 (SEE TEXT)

14:42

17 Q. MS. BENTIVEGNA: Now, what I'd like to do if --
18 I'm trying to think of the easiest way to go through these
19 questions without having to -- now, so I'd like to -- what
20 I'd like to do is go through the different projects.

14:43

21 A. MR. OSLER: Sure.

22 Q. And ask questions, but so that you know, the purpose of
23 the questions is to deal with whether those should remain as
24 work in progress or should be as proposed by YEC amortized
25 and understanding the reasoning.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Now, with regards to -- the first thing I
2 noticed, for example, is in these projections Fairy Hill was
3 not included as a deferred cost project, and I'm just
4 wondering in the nine projects there were listed such as
5 Marsh Lake and all the others, this one wasn't, and is there
6 a reason why it was not included?

7 **A. MR. MOLLARD:** It was just because of the
8 dollars. It was less than a million dollars.

9 Q. Okay.

10 **A. MR. OSLER:** It would be treated the same
11 way as everything else. It's just that it didn't hit the
12 ceiling, so you don't see it. I'm advised that it's in the
13 tables in the back, Appendix 5.4.

14:44

14 Q. All right. But in relation to the ones that are listed
15 now, let's go through the ones that are listed. So let's
16 start with other than the Atlin Lake storage.

17 **A. MR. OSLER:** Okay.

18 Q. Are there other projects for which the decision has been
19 made to discontinue the work, so those other ones that are
20 listed in the application such as the Marsh Lake storage, the
21 Gladstone, and the others. As I said there's nine: The
22 geothermal, the waste energy. If you could take me through
23 those, I think it would be easier if we did them that way
24 rather than if I kept going through the same question over
25 and over again.

14:45

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. MORRISON: Sure. Just so I make sure I'm
2 helping answer the question, are we really talking about
3 whether we're talking about projects that are going to
4 continue?

5 Q. Yes.

6 A. MR. MORRISON: Versus projects that aren't?

7 Q. Exactly.

8 A. MR. MORRISON: All right. So if I take you
9 through that list, I'm going to try and be helpful and not do
10 it one at a time. So I'm going to try to do it in groups of
11 what I don't think is going anywhere and then what projects
12 are going to continue.

14:46

13 With the exception of the one that you've
14 mentioned already, Atlin -- and I think we've been clear
15 about that -- the only other project that we have been very
16 clear about is the waste energy project. We cannot proceed
17 with that project at this time.

18 We have, however -- I put some brackets around
19 that saying that part of the reason for that is that the
20 technology in that space is very expensive and, while not new
21 at all, it's still very expensive. But with the
22 proliferation of waste energy plants, you know, in the recent
23 years and the future coming years, that technology is
24 expected to come down quite a bit in terms of cost.

14:46

25 So that may well be a project that either

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 ourselves or the city or somebody could look at a number of
2 years down the road. But to be reasonable about it, we've
3 stopped. We're not spending any money. It's a project in
4 our minds that isn't -- has proved to us to be too costly to
5 advance.

6 Marsh Lake, Gladstone, Mayo Lake, demand side
7 management, of course -- well, and I'm going to stop at
8 those -- LNG, geothermal -- let me make three groups then,
9 sorry. So Marsh, Gladstone, Mayo Lake, demand side
10 management, LNG, biomass are all projects that are alive,
11 could very much contribute to the system, and that I see as
12 either in the next few years or in the next kind of three to
13 five-year period those could produce some significant assets
14 for customers of the system.

14:47

15 So we're going to the keep them alive. We may
16 not spend on some of them a lot of money in the next few
17 years because we want to try to get either some regulatory
18 issues clarified or some partnerships with First Nations
19 sorted out, but we're going to actively keep those projects
20 alive.

14:48

21 I'm looking at a -- Mr. Mollard reminds me
22 that DSM is not on that list, but I just want to -- I think
23 in my excitement I want to make sure we're continuing to do
24 DSM.

25 There is a project -- so district heating is a

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 brand-new project, and I don't unfortunately have the final
2 report but should have in the next month or so. We -- I
3 mean, it's got a number of -- and I haven't talked about it,
4 but really it's a project that would look at using either a
5 fuel source to run a district heating system or waste heat
6 from -- and we got to it through both our -- well, waste when
7 we started, the biomass piece, LNG, all really could be fuels
8 and have waste heat attributes that could be used to heat a
9 small number of buildings or a large number of buildings.

10 And I would say that -- tell you in our waste
11 project we looked at because it was a fairly small plant
12 heating large buildings in Riverdale so the public schools
13 that are over there, the hospital, you know, those kind of
14 institutional type things, and there was enough heat to do
15 that, which I think would be worth us looking at when the
16 resource is there and it spreads the cost.

14:49

17 Geothermal, the final piece. We are not going
18 to spend a lot of money on geothermal in the next little
19 while, but we have settled to a point that we need to find
20 some resource funds from somebody else because the costs of
21 doing kind of the next stage work are very significant and
22 they're fairly risky. So we want to look at trying to find a
23 contributor, a grant program or something like that that we
24 could use to do some additional work.

14:50

25 We are focused, and have taken our focus from

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 kind of Yukon wide down to Whitehorse, and it's the
2 Whitehorse area for a whole bunch of reasons. Again, it's
3 close to the grid, large population centres. Again, there's
4 a heat component there, but those are --

5 Geothermal is an active project but maybe not
6 as active as the others would be. Is that helpful?

7 Q. It is very helpful.

8 A. MR. MORRISON: Okay.

9 Q. So, then, taking it from that --

10 A. MR. MORRISON: Yes.

14:50

11 Q. -- if most of these, as you've described them, are
12 active --

13 A. MR. MORRISON: Yes.

14 Q. -- why wouldn't you keep them as work in progress as
15 opposed to wanting them as capital amortized?

16 A. MR. MORRISON: Let me let Mr. Mollard give you
17 the accounting side of it.

18 But essentially, we're -- in some ways, the
19 capitalization or the amortization of these projects is a
20 little like the DCF, in my mind, which is much simpler than
21 these guys's minds -- their complicated minds. I have a
22 simple mind.

14:51

23 The DCF, to me, is just an insurance program.
24 It's trying to build up a little insurance fund so that in
25 the event we have a large event like a very low water year,

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 that ratepayers aren't hit with a big spike for a couple of
2 years and then it comes way down again. So it's just
3 spreading that risk. It's really a risk mechanism. And
4 that's what we're doing here.

5 These costs have built up. They're sitting in
6 our work in progress, but eventually, you know, there's a day
7 when you have to pay the piper and we're trying to spread
8 that -- amortize those costs out over time so that we don't
9 have big buildups of lumpy pots where we have amortized
10 dollars and then we've got -- they've got to be hit --
11 there's a big hit to ratepayers in the end.

14:52

12 A. MR. MOLLARD: I would just reiterate what Mr.
13 Morrison has said. This really is about managing risk.

14 As we talked, I believe yesterday, we see the
15 situation in B.C. Hydro with \$2 billion odd dollars or
16 whatever it is on their balance sheet that they have no plan
17 for collection.

18 These projects are a new type of project for
19 Yukon Energy. We haven't had to do planning projects where
20 we're starting basically from ground zero. We're recognizing
21 that there's lots of costs there, but there's a risk that
22 you're not going to be able to build it.

14:52

23 So for our purposes, we could spend money for
24 another five years on some of these projects and then come
25 back to the regulator and say "Now, we've got, what was it, 2

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 million project in 2013 is now \$10 million and we need to
2 shelve it." Well, that's going to be pretty hard for
3 ratepayers to swallow. Under our current policy, five-year
4 amortization, those are huge lumps.

5 So, as Mr. Morrison said, it's really just
6 about managing that risk and introducing some predictability
7 into those cost streams as they flow into rates.

8 A. MR. OSLER: If I could just add. The
9 amount of money that has built up I think people have
10 realized is more than they've seen in the past. And,
11 secondly, the world of other utilities is different than it
12 was 10 or 15 years ago with new accounting rules.

14:53

13 The reasonable assurance type of test, if any
14 of these projects meet that test, they will get into work in
15 progress, you know.

16 So it's sort of a discipline that after a lot
17 of discussion and looking at how big the accounts have got,
18 that the company decided it wanted to bring forward.

19 The options were expense it each year, like
20 some accounting rules are saying. No, we can't do that. We
21 wouldn't do the programs.

14:54

22 The other extreme is to just leave it in WIP
23 until you know for sure it's dead. No. On reflection,
24 that's getting to be too big, but the reasonable assurance
25 test had some precedence elsewhere and would let those things

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 that have got to that stage stay in WIP, but the rest of them
2 could be amortized, and maybe that will keep the risk at a
3 reasonable level and five years for amortization.

4 So there was a lot of thought went into this,
5 and a lot of people sort of reacting to the new realities.

6 Q. What about the argument that if it's capitalized or
7 amortized, that then there's ROE return. How would you
8 address that question? I think that was part of the
9 discussion that while if it was work in progress, it would
10 just be interest.

14:55

11 A. MR. OSLER: I recognize that part of the
12 discussion. And, frankly, I can say that nobody was really
13 sitting around worrying about that issue. It's more the
14 management of the lump sum amounts and how to get them
15 recovered.

16 And nobody discussed the options that I was
17 being asked questions about yesterday. It was just simply if
18 you have it in WIP, it's one treatable. If you amortize --
19 if you have it based on our history.

20 So I think for a crown utility who's trying to
21 focus on developing things properly and viewing equity return
22 as simply a method of helping it do its job, I don't think
23 that they get fixated on that problem. Is that fair?

14:55

24 A. MR. MORRISON: I think that's fair,
25 Ms. Bentivegna. We haven't addressed ourselves to that.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Q. Okay. Now, how do you determine when something --
2 you're going to stop. So you've put in these costs. You've
3 done the study, but the project is not going to go ahead.
4 So, for example, the waste to energy, one that you mentioned.
5 I understand we talked about the Atlin and that is fairly
6 clear I think to everyone, but --

7 A. MR. MORRISON: There's no -- there isn't a set
8 rule. You've got to look at it on each project as we talked
9 about yesterday. Atlin was pretty simple. All of a sudden
10 there is a regulatory change, and you can no longer do the
11 project.

14:56

12 Waste, again was fairly -- it was fairly
13 straightforward. The cost of the project, even though in the
14 beginning of looking at the project, the costs that we saw
15 and were given and provided by people, you know, gave us, you
16 know, hope that there were some economics there.

17 As we did our due diligence and dug into the
18 question, two issues became pretty clear. One was that --
19 I'm going to -- it's a bit funny, but the City of
20 Whitehorse's garbage or waste load is a little like our hydro
21 supply in the winter. It goes like this: So in the winter,
22 it actually comes -- in the summer it goes up, but in the
23 winter, it comes way down. And so there's an inconsistency.
24 You'd have to smooth that out by adding biomass to it. It
25 made the project uneconomic, and it had a high capital cost

14:57

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 and it didn't produce -- it produced very few gigawatt hours
2 for that high capital cost.

3 So it was quite evident. And I think all of
4 these projects have some -- either a regulatory test or an
5 economic test that when they're not economic or you can't do
6 them because of a regulated issue or -- they become fairly
7 clear at some point. There's a big bright red line that gets
8 drawn.

9 Q. So how does YEC -- that's what I'm trying to understand
10 is how does YEC -- you're going along, you're spending money,
11 you're investigating things. How much, I guess, on a project
12 is it -- do you look at it in terms of dollars? Do you look
13 at it in terms of like when you hit that wall, you know, of
14 regulatory or, you know, it becomes very clearly uneconomic,
15 I'm just trying to get a sense.

14:58

16 A. MR. MORRISON: I hope I was answering the
17 question where the question was on projects that we know
18 aren't going ahead.

19 Q. Yeah.

20 A. MR. MORRISON: And I think you're asking me
21 now about projects that we might continue spending on.

14:58

22 Q. Yeah.

23 A. MR. MORRISON: Again, we do a review of
24 projects and the projects that are even in our inventory now
25 when I talk about Marsh and Mayo Lake and Gladstone. We look

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 at those on a regular basis throughout the year as work that
2 we're doing, you know, as produced in a reportable form.

3 So, you know, if we're doing, you know, some
4 fish biology in Mayo Lake, for instance, you know, the result
5 of the work showed that, you know, there was -- you know, was
6 a problem with the fish, you know, that would cause us to
7 pause and say, "Okay, let's reassess now. How big is this
8 problem? How is it going to be dealt at -- what's our risk
9 in terms of the regulatory piece? What's our risk in terms
10 of the economics? What work would have to be done to
11 mitigate it?"

14:59

12 So we test it on both those fronts at every
13 step as we go forward. And there's a natural process with
14 any project where once you've done the baseline work and
15 you've looked at the economics, you really have to kind of
16 get to a decision stage that says does this project needs 'X'
17 dollars to go further?

18 And we get -- we have a system, an internal
19 system that -- through the management team and the management
20 group and the Board where we only do projects in small
21 chunks. So we get small chunks of money, do that much,
22 assess, request another allocation of dollars, do that work,
23 recess again. But even within that period, as I was saying,
24 we assess when we have work that's reportable. We still have
25 to do the work. We have to do something in order to make

15:00

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 that analysis.

2 We would also, during that period of time,
3 look at each and every project and say, you know, what's
4 changed in terms of the load forecast and the environment
5 going forward? You know, let's say for instance, there was a
6 world economic downturn again and, you know, all this
7 industrial load went away and people started leaving to go
8 look for other jobs. Well, that would also halt our work on
9 a project or a few projects because we'd have too much going
10 on in order to -- you know, to go forward in the future. We 15:01
11 may just pull them back, keep them in the inventory at that
12 point, and bring them out again later, which has been the
13 real value of a lot of the work that we have.

14 So we try as best we can. And we don't have a
15 single economic test or there's no perfect number that you
16 can do an assessment of for each project because they're
17 different, but we needed -- in this reality that we're in
18 now, we needed a basket of options.

19 We never -- we never thought that we had one
20 great option that we could look at. We didn't have enough 15:01
21 capacity in any of the projects to deal with potential load
22 growth.

23 So that's one reason why we've got a number of
24 varied projects there, but we also think they all fit under
25 different load scenarios. You can't just have the big load;

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 they may not materialize. You may get small chunks of load,
2 and these projects are smaller. So we look at the
3 suitability as well.

4 But I hope, without being too wordy there,
5 that that's getting to what you were looking for.

6 Q. Yes, well, the concern being that when you look at some
7 of these numbers, I mean, there's been significant amounts
8 spent on them.

9 A. MR. MORRISON: Yes.

10 Q. And so wanting to know if YEC just sort of keeps going
11 or when it assesses. So thank you.

12 A. MR. MORRISON: Yes.

13 A. MR. OSLER: I think Gladstone is a good
14 example of when the text says there's a certain decision
15 point that the company is looking at before it goes to
16 another set of spending in terms of working with the First
17 Nation, so each project tends to have that.

18 But the other reason for the accounting
19 proposal is that it also is difficult to come to a firm
20 conclusion that a project's dead, and one doesn't like to see
21 things building.

22 Q. Now, these are some specific or more specific questions.

23 With regards to the liquid natural gas
24 project, the LNG, what monies have been spent in 2012?

25 A. MR. MORRISON: Mr. Mollard's going to have a

15:02

15:03

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 quick look and see if he can get you that number.

2 Q. Sure.

3 A. MR. MORRISON: So Mr. Mollard tells me that
4 the forecast is a million five. We haven't spent that. It's
5 really important. I'm thinking in the 800 to 900 thousand
6 dollars, but that's a very rough estimate.

7 Q. So has that project, in your view, attained the
8 reasonable assurance status?

9 A. MR. MORRISON: The project, when we started
10 looking at it, we didn't -- we didn't look at the smaller
11 version of it, the utilization of LNG, to replace current
12 diesel engines that we have in the plant and thinking about
13 the fuel switching for those.

15:04

14 But once we expanded it I think the project
15 itself has some real value for customers in the immediate
16 future because unless -- until we confirm, you know, some of
17 the economics, some of the numbers, you know, we need a firm
18 price. We need transportation costs. We need -- there's a
19 number of numbers that look good so far, but they need a
20 little more work.

15:04

21 We could use -- we could save significant
22 amount of money going forward by having LNG as a backup fuel
23 for our Whitehorse plant and replacing our current diesel
24 engines that are due for retirement with gas fired engines.
25 So I think the LNG project meets -- very much meets the

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 reasonable assurance test.

2 Q. And is my understanding correct that for 2013 it's
3 forecast of a million in expenditures?

4 A. MR. MORRISON: Currently, yes.

5 Q. Thank you. Now, with regards to Marsh Lake, can you
6 explain reasons or provide an explanation for forecasting
7 expenditures out to the end of the 2012 of 3.23 million and
8 in 2013, .800 million. As I said, I know you're suggesting
9 those be closed and amortized over ten years, but can you
10 just give us a synopsis of what that forecast is going to be, 15:06
11 those dollars?

12 A. MR. MORRISON: The \$800,000 in 2013 is a
13 finalization of the environmental baseline work and providing
14 some estimates and options around shoreline erosion
15 mitigation. So those have to be developed as part of that,
16 and it's a fairly complicated piece because the shoreline.

17 And the lake is -- it's two lakes. It's Marsh
18 Lake and Tagish Lake that are impacted by this, and the
19 shoreline is very different in different areas of the lake,
20 and there are there are a number of solutions and options 15:06
21 that you can use, but they need an engineer. They have to be
22 an engineered option solution.

23 The work that's been gone on to date has been
24 environmental baseline work, some work around -- well, sorry,
25 some work around groundwater impacts because there are some

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 issues around that. We have spent a great deal of time in
2 consultation with residents of the Marsh Lake area, and again
3 we've been trying to measure -- we have piezometers in a
4 number of places in terms of the groundwater because they're
5 large geographic areas, these two lakes, and there's
6 different geography in different parties of the lake.

7 So there are people who are impacted greatly
8 by erosion currently, and as I said earlier that would be
9 somewhat additionally impacted by work we do. But then
10 there's high water also brings high groundwater for some
11 residents in some areas.

15:08

12 So we've been doing that in both those lakes
13 and both those areas for the last few years. That
14 environmental baseline work is a necessity for us to go
15 forward in that project, and also to make that assessment
16 that I talked about earlier where are there major
17 environmental issues that would, you know, would cause us to
18 rethink this? I can tell you at the moment no, there haven't
19 been.

20 But we wouldn't know that unless we did the
21 work, and we can't mitigate those risks or we can't check
22 those risks off without having this valuable information
23 database. I think the only other piece I'm missing is we had
24 to do some hydrology, in other words, looking at how the lake
25 system interacts, how water flows in and flows out of the

15:08

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 various lakes, because there was a number of related lakes.

2 But we have done a lot of consultation with
3 residents of both those areas over the last few years. I
4 think it's been a really beneficial exercise from our
5 perspective because we've certainly -- as I said earlier, I'm
6 not saying that everybody in those areas is supporting this
7 project, but I can tell you we've come a long way in our
8 understanding and the ability to work with those people.

9 I think the consultation efforts we've made
10 have advanced this project significantly where we could have
11 ended up with a big roadblock. 15:09

12 Q. And now there for 2012 the forecast was 3.23 million,
13 and I'm wondering, seeing it's November and the Board would
14 like to work with most current numbers, would you be able to
15 update the actual that has been spent on these projects,
16 these particular projects?

17 A. MR. MORRISON: Sure. We'll get you the number
18 we can.

19 Q. Thank you.

20 **UNDERTAKING - TO PROVIDE THE ACTUAL**
21 **NUMBER THAT HAS BEEN SPENT ON THE**
22 **PROJECTS THAT UPDATES THE 3.23 MILLION**
23 **FORECAST** 15:10

24 Q. MS. BENTIVEGNA: Now, as far as you're aware,
25 are there any changes to the benefits, the project benefits,

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 and the levelized cost of energy of the Marsh Lake storage
2 and the Gladstone diversion?

3 A. MR. OSLER: No, not to the best of our
4 knowledge. No.

5 Q. Thank you. Now, looking at the Gladstone project that
6 YEC forecasts an in-service date of late 2017 and an
7 estimated project costs totalling 40 million, would YEC be
8 able to provide a year-by-year description of the work to be
9 completed with commensurate forecasts annual costs of what
10 you believe -- how you believe you'll be spending. Would
11 that be possible? 15:11

12 A. MR. MORRISON: We could do that.

13 Q. Thank you.

14 **UNDERTAKING - TO PROVIDE A YEAR-BY-YEAR**
15 **DESCRIPTION OF THE WORK TO BE COMPLETED**
16 **WITH COMMENSURATE FORECAST ANNUAL COSTS**
17 **OF WHAT YEC BELIEVES IT WILL BE**
18 **SPENDING**

19 Q. MS. BENTIVEGNA: Now, there was a terminology
20 used on page 5-34, and I'll just read it to you, and again it 15:11
21 wasn't clear what was meant by the following: (as read)

22 "Assuming full utilization of added
23 energy generation of up to
24 36.6 gigawatts..."

25 And this is still talking about Gladstone, sorry.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 "...gigawatt hours per year and YEC
2 blended capital costs averaging 6.56
3 percent per year."

4 So it wasn't -- it wasn't clear what was meant by that. So
5 that's page 5-34 in the application.

6 A. MR. OSLER: Do you know which line it is?

7 A. MR. MORRISON: It's line 17.

8 A. MR. OSLER: First of all, there's a
9 correction of YUB 1-43. The number is 5.7, not 6.3.

10 Q. Okay.

15:12

11 A. MR. OSLER: Just because I've got a note
12 here that tells me that. So you're worrying about in the
13 bracket assuming full utilization?

14 Q. Exactly.

15 A. MR. OSLER: Well, okay. In the context of
16 our discussion yesterday about the wind --

17 Q. Right.

18 A. MR. OSLER: -- that means that that isn't
19 modelled for loads and fallouts and everything else. That's
20 just, assuming that the energy is fully utilized at
21 36.6 gigawatt hours a year, and I would just emphasize that
22 the date, late 2017, is simply an earliest date. It isn't a
23 commitment date of course.

15:13

24 And I thirdly would say that information as to
25 how that might change is in the resource plan, the overview,

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 probably Table 8.2 off the top of my head, but I could check
2 for you and confirm as to how that might change depending on
3 different nodes and areas. I believe it's there. It says it
4 was done in the resource planning process, and it's still not
5 a bad project when you plug in an actual load growth.

6 Q. All right. Now, again, with these projects -- if I can
7 take you to a table because, again, just trying to get an
8 understanding of how YEC does the work on projects or decides
9 on projects. If I can take you to YUB-YEC-1-39 E at page 7
10 out of 8, there's a table there called "The Pre-tendering
11 Project Phases and Engineering Activities." 15:15

12 A. MR. MOLLARD: Sorry, can you repeat that
13 reference, please?

14 Q. Yes. I've got the table -- sorry. Because there's one
15 in 40 -- I think this one actually -- I apologize, it's 1-40

16 B. Part of it was in the other one, but the one I'm
17 interested -- the table I'm interested in is in 1-40?

18 A. MR. MOLLARD: Is that table one
19 "Pre-tendering Project Phases?"

20 Q. Exactly. So would you be able just to walk us through 15:15
21 -- at, again, a high level. For example, you've got Phase 1,
22 project definition initial business case. So does that mean
23 that the very first thing that happens is that someone has
24 come up with a project, and then you have to determine what
25 the parameters are going to be at a high level and what the

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 initial -- how you're going to develop your business --

2 So basically, can you take us through this
3 table with the steps? You can take one of the projects
4 that's already been listed or -- and it's just because,
5 again, just again trying to get an understanding --

6 A. MR. MORRISON: Sure.

7 Q. -- of what all these steps mean and how you work.

8 A. MR. MORRISON: I'll do my best. I'm not --
9 you know, I'm not the best person to be giving you the -- you
10 know, an overview of this kind of a process. This is part of 15:16
11 our resource planning and engineering processes that we
12 develop.

13 And you were right. You know, when we look at
14 the development phase in Phase 1 of a project, we do exactly
15 that. We -- you know, we will have looked at growing loads
16 and the future and said, "How are we going to meet those
17 loads?" We've either from our inventory of projects that we
18 have in-house, which we have a large inventory of, or
19 material related to, we would -- let's use Mayo B as an
20 example. 15:17

21 We had in previous years looked at Mayo B a
22 number of times. We knew it was a 10 megawatt -- roughly a
23 10-megawatt potential. So we pull that out, look at it, and
24 say, "Okay, do we have a load that this could fit into? Yes,
25 yes, we do." So we get a project definition. We scope out

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 the project generally. We have a look based on what we know
2 to determine whether or not we have some ballpark and it's a
3 real ballpark of the costs and what we think the energy
4 benefits are. But that's the starting point.

5 We gather -- you know, this is a bit of a
6 process that goes both across and down the table kind of
7 collectively.

8 I have to apologize. I have to put my glasses
9 on to read, but if I look up, I can't see you.

10 So you do the definition phase. You have to
11 get some environmental baseline started. You have to think
12 about the very, very preliminary and conceptual engineering
13 process. You've got -- this phase deliverable, so the fourth
14 column going across is that one of those check-ins where you
15 would look at it and say, "Do you have enough information?
16 Does it still tell you that this project looks like it's got
17 substantive benefits and makes contributions to the system,
18 no show stoppers, things like that." You've got to move on
19 to --

20 And when it talks about there preparing a
21 project description for environmental assessment meaning by
22 that point, do you have enough information that you could
23 submit this project to a regulator, an environmental
24 regulator.

25 But in that period, you've got effects

15:18

15:18

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 assessment. You follow through with -- you're going to have
2 to complete the environmental effects assessment as part of
3 the description or as part of the project filing. You're
4 going to have to do a further level series of information to
5 do engineering and costing. Then you get to a step where you
6 talk about filing that environmental application.

7 A big piece of all of that is we can't file
8 and proceed with any project these days until we have
9 demonstrated meaningful and substantive consultations with
10 stakeholders. So that is what is referred to there in terms 15:19
11 of the consultation piece. And that's a really -- that's a
12 process that has to start. We can't all of a sudden come
13 along and say, "Oh, now we're ready to consult. We have to
14 have started from the beginning." So it adds some time and
15 effort to the process. But in my mind, it's a very
16 beneficial time and effort, and it's a practice that we
17 should have been doing many, many years ago.

18 The process continues through a regulatory
19 review -- I'm sorry -- into Phase 3, but what you're doing,
20 and even going down to Phase 4, what you're doing is 15:20
21 gathering more and more and more information and refining
22 that information with more and more accuracy. So, you know,
23 if you'll note that in Phase 1, the engineering feasibility
24 is plus or minus 50 percent. You know, that's not a very
25 refined number and not a number you'd go to pre-tendering

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 with.

2 And if you come down to, you know, in the
3 pre-tendering stage, you want to be in the plus or minus --
4 you know, I would like us to be even closer than that. It
5 says 15 percent. That's engineer speak, you know. President
6 speak is about 5 to 10 percent, but it's refining the costs.

7 And costs are refined merely by having more
8 information. And the more information you get, the better
9 your cost estimates are.

10 And I'll give you a really good example of
11 this. When we went to the Mayo B project and when we went to
12 tender, one of the -- there was a couple of things in the
13 tender -- the construction tender package that the contractor
14 brought back and said, you know, there's a whole lot of risks
15 here and we need to have contingency funds to address risks.
16 And really what he was saying is the risks are we don't know,
17 we have no information that gives us enough understanding of
18 what this issue is in order to make a good -- give you a good
19 estimate of price so we want to give you a really big
20 estimate of price.

15:21

15:22

21 And the one that was -- the very significant
22 one was geotechnical. And they said, you know, we don't know
23 enough about the geotechnical conditions in this area and
24 you're asking us to dig a three and a half mile ditch or
25 three and a half kilometre ditch. You're asking us to dig a

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 tunnel. You know, there could be water problems. There
2 could be major rock problems, we don't know.

3 We said let's take that one off the table
4 because we know -- we have spent a considerable amount of
5 time drilling this route for the Penstock and we've drilled
6 the tunnel area and we were able to reduce the contingency
7 risk from a very substantive number down to a very low number
8 because we had really good information.

9 As part of our planning process, we had had
10 the sense to think about if we're going to have a ditch or a
11 power canal and a tunnel, we really need to understand the
12 geotech. 15:23

13 Now, could we have bid it without it, sure,
14 but the pricing spread would have been bigger. And that's
15 all this chart is trying to do is take the environmental, the
16 engineering, and the costing issues and start from a little
17 bit of information and expand that into a very large piece of
18 information, following these steps under these headings, and
19 so we get to a pre-tendering stage. We should have really
20 good information. That means that that price is a very -- is 15:23
21 as close to being firm as you can get in a construction
22 project.

23 Mayo B is the best example I have of that. We
24 did a significant amount of work. We had really good
25 information. We got a great contract out of it, and we were

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 able to stick to it.

2 You can tender at any stage you want, but
3 you're taking the risks. You know, if you tender at the plus
4 or minus 50 percent stage, my guess is it's not 50 percent,
5 it's 150 percent from my experience.

6 But that's all this chart is trying to do is
7 take us through the steps, the kinds of things that we have
8 to do in each project in order to get from the start to the
9 finish and it's all expanding the information base.

10 Q. Okay. Now, for example, now if we can just -- could you 15:24
11 tell me, let's say using that type of table --

12 A. MR. MORRISON: Yes.

13 Q. -- where Marsh Lake is, at what stage?

14 A. MR. MORRISON: Sorry, Marsh Lake is in
15 Phase 2. It isn't --

16 Q. It doesn't have to be precise.

17 A. MR. MORRISON: It's in Phase 2. It hasn't
18 finished Phase 2, but it's in that phase.

19 Q. Okay. What about Gladstone?

20 A. MR. MORRISON: Gladstone is in the same -- is 15:24
21 in the same phase.

22 Q. Okay. And the geothermal? You were just mentioning --

23 A. MR. MORRISON: Yeah. I would say geothermal
24 is in the early stages of Phase 1.

25 Q. Okay. And the waste energy, I can't remember if you

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 said that one was stopped or --

2 A. MR. MORRISON: We've dropped that one.

3 Q. You've dropped that one. Okay.

4 Now, I'm just trying to see what else was on
5 the list?

6 A. MR. MORRISON: If you want to look at --

7 Q. The LNG, for example.

8 A. MR. MORRISON: Yeah. Mr. Osler just points
9 out to me, Ms. Bentivegna, that on -- I'm just going to give
10 you a page reference.

15:25

11 Q. Sure.

12 A. MR. MORRISON: So it's on that YUB 1-40.

13 Q. Okay.

14 A. MR. MORRISON: 6 of 12, there is a notation
15 starting on -- basically at the start of the page, at the top
16 of the page, it talks about what -- where projects are in
17 terms of pre-Phase 1 work and Phase 1 and Phase 2 work.

18 Q. Okay. Great.

19 A. MR. MORRISON: So we have pointed that out --

20 Q. All right.

15:26

21 A. MR. MORRISON: -- in the document.

22 Q. Okay.

23 A. MR. OSLER: A lot of the work that you're
24 seeing is in Phase 1 or even if the phrase is used

25 Pre-phase 1 because it's in the project definition stage. To

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 get beyond the project definition stage I think internally it
2 becomes -- we are starting to prepare documentation
3 potentially for YESAB submission subject to the Board's
4 approval to go ahead, right.

5 That sort of is a clear step, and you don't
6 get to file until you're finished end of Phase 2, and the
7 filing starts Phase 3. So if you're talking about reasonable
8 assurance, something that's going towards a YESAB submission
9 is obviously well on its way. It doesn't mean it's
10 guaranteed is the point.

15:26

11 Q. Right. Well, this might be though the -- if I'm
12 understanding of what you mean by project definition. You
13 see, this is where, I mean, we saw those explanations, but it
14 almost sounds like project definition, you're right at the
15 beginning, not that work has been -- all this work has been
16 done.

17 A. MR. OSLER: Yeah.

18 Q. So again maybe if you can -- that's why I wanted the
19 clarification according to the table because if the first
20 step is project definition, then what is all that money
21 that's been spent if it's still not defined.

15:27

22 A. MR. MORRISON: That's right. Unfortunately we
23 tend to speak in the terms of either, you know, the utility
24 business or in this case I can't get past the thought in my
25 head that when we file an application to YESAB we call it a

1 project description.

2 And, you know, I'm with you is what I'm
3 saying. It's just terminology and that's in the regulatory
4 format that YESAB works. That's what you file, something
5 called a project description, but it's not a project
6 description. It's a full environment review of that project.
7 And I understand your problem.

8 A. MR. OSLER: And I think it's worth trying
9 to get language that works here, but if I'm looking at
10 Manitoba Hydro and projects there, they can be spending money
11 for year and years to try and get what you would call
12 anything close to be prepared to go to make a submission.

15:28

13 So lot of the work that's being done in the
14 deferred cost project is in the context of this diagram a
15 long way back, and it takes that in order to get to the point
16 where you're ready to make a submission on a hydro project
17 like Gladstone. You have got to go through your pathogen
18 studies. You've got to get certain people onside. You may
19 have to do two or three years of that.

20 You really don't know that you can make a
21 submission until you've got all that in hand. Once you got
22 there though you could move relatively adroitly through the
23 phases and start getting on with it. I think what everybody
24 is learning is on certain types of projects, they take a lot
25 of stuff before you've got to be really starting to march

15:28

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 through this table.

2 Wind is a bit better in the sense that you
3 don't have a great deal of environmental issues by
4 comparison, but you do have to do your wind monitoring. We
5 just don't have the data for somebody to give the board of
6 directors a good estimate what you're going to get out of the
7 project.

8 A. MR. MORRISON: Ms. Bentivegna, I don't want to
9 belabour the point. I just would like to quickly make I
10 think what is an important point from my perspective.

15:29

11 The project in those first 2003 phases and
12 going all the way across from left to right is years of work,
13 years of work because when we do environmental baseline it
14 isn't sufficient to do a single year.

15 So we can go out and do pathogen studies or
16 hydrology studies or fish studies on Marsh Lake, but it's not
17 one year. One year will not test -- it will not meet the
18 test of the environmental regulator. We have to have -- and
19 depending on what the project is and what the issue is it
20 might be -- it is certainly two years, but in a lot of cases
21 it's three years.

15:29

22 So most of the work -- a great deal of the
23 work is done -- a great deal of work is done by the time you
24 get to the end of Phase 2, a great deal of work.

25 Q. So if I can put it this way, the project definition is

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 not when you're trying -- looking in to see what project
2 you're going to proceed with. The project definition, in
3 your terms, is when you actually have a project that you can
4 take to whatever regulator or take firm steps on. Did I
5 misunderstand that?

6 A. MR. MORRISON: No. I think you're getting to
7 the right point. The project definition isn't just, you
8 know, we think we have a project at Gladstone. No, you're
9 right. It's a much more fulsome analysis of the fact that
10 there might be a potential project here, and we have done
11 some work around that.

15:30

12 We have with some -- we have looked at what
13 the issues might be, you know, what the potential would be.
14 It is more of a desktop, first stop, first step, internal
15 step in, and it doesn't necessarily always be internal. We
16 might bring some people in.

17 But it's that first look at the project and
18 enough to get -- to bring an argument through the budgeting
19 process that this project deserves some funding. Here's how
20 the funding needs to be allocated and so forth. So it's a
21 very preliminary business case.

15:31

22 A. MR. OSLER: Giving an example at Mayo B,
23 when we retained people to look at a range of options, that
24 was a range of option study for about six or nine months to
25 get the focus on which one to go for. They still have to do

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 a project definition phase in latter part of that summer -- I
2 think 2008 -- because there were two or three or four
3 different ways you could do the project, and they had to make
4 up their mind which one they're going to do and submit.

5 I think that would be a classic example of --
6 you've got lots of inventory. You've got lots of different
7 ideas. But if you're going to make a submission next
8 February you better figure out what you're going to do and
9 you better figure it out about by November so you can finish
10 off your submission. And that would be project definition
11 despite years of information on Mayo B.

15:32

12 Q. All right. Now, moving on to the planning cost
13 accounting policy in Appendix 5 --

14 THE CHAIR: Ms. Bentivegna, I'm just
15 wondering it's 3:30. I'm going to propose that we take a
16 five-minute break because I know there's people trying to
17 catch potentially earlier flights. Now we don't want to rush
18 things, but if we can take just a short environmental break,
19 would that be acceptable, and if this is the right time.

20 MS. BENTIVEGNA: Certainly, yes. I was just
21 going to the policy.

15:32

22 THE CHAIR: It's not me that needs the
23 environmental break, but if we can just grab a coffee and
24 come right back, please.

25 (ADJOURNMENT)

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 THE CHAIR: So please continue whenever
2 you're ready.

3 MS. BENTIVEGNA: Thank you, Mr. Chair.

4 Q. All right. Now to proceed with the planning cost
5 accounting policy that YEC is asking the Board to approve,
6 and it's in Appendix 5.1 if you need to refer to it.

7 Now, with regards to community engagement and
8 discussions, Mr. Morrison, you referred to it. I'm just
9 wondering what steps YEC has taken to ensure that whatever
10 discussions go on are recorded and kept so that in case the 15:44
11 same type of information is needed for a similar project or
12 that same project later on they can be referred to, is
13 there -- what system does YEC have in place for that type of
14 information?

15 A. MR. MORRISON: Sure. We do our best to make
16 sure that we have a record of -- I wouldn't call them minutes
17 but, you know, a record of any public meetings that we have,
18 try to record, you know, the discourse and the questions. I
19 wouldn't guarantee you that every time, but I'll give you an
20 example even. 15:44

21 Our environmental manager and I went out to
22 Marsh Lake to meet a couple of individual residents, and we
23 took notes and, you know, exchanged those we like to exchange
24 them with the community as well to make sure that, you know,
25 we're not keeping in our notes something that they didn't

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 think was correct. So we do our very best to do that.

2 We certainly if we have formal meetings, you
3 know, we record and exchange notes on those with whomever
4 we're doing that with. So the practice is I think fairly
5 sound that way, and we try our best to make sure we are not
6 duplicating anything.

7 But I will tell I that sometimes when you've
8 been to a public meeting and you go back several months later
9 you think you might not have been there because the
10 questions -- it's not the same people, and you get similar
11 questions, so it's a little difficult that way.

15:45

12 Q. And how is knowledge shared from these different
13 projects amongst YEC staff? So again, either things can be
14 changed or things that went well can be continued.

15 A. MR. MORRISON: We have a SharePoint site
16 internally that we share documents on. And within staff, you
17 know, there's a group of people working on different
18 projects. We're not a very large organization, so we have
19 meetings. We have project updates. We try to keep each
20 other, you know, advised as best as possible. But the
21 document management system is a SharePoint management system.

15:46

22 Q. Okay. Great. Now, with regards the policy mentions
23 annual milestones, and I'm just wondering, for example, if
24 you can give us an example with Marsh Lake and Gladstone,
25 what would be the annual milestones expected for 2012 and

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 2013?

2 A. MR. MORRISON: We're referring to in the
3 accounting policy?

4 Q. Yes.

5 A. MR. MOLLARD: I'm sorry. Where is that
6 referenced in the policy? I'm not seeing it, sorry.

7 Q. I believe there's a reference to project requirement for
8 annual milestones. I think the term was used in
9 YUB-YECL-1-24.

10 A. MR. MOLLARD: Yes. I see it now. In the
11 policy it's 2.3-B. So the reference there is really just one
12 of ensuring that as Mr. Morrison said when we do these
13 projects we do the staged funding of them. The project
14 manager is required to do an authorization for expenditure
15 where they define what the activities are that they're going
16 to do and what the deliverables are coming out of that.

15:47

17 So at the annual review we're just checking to
18 see did the project manager in fact accomplish what those
19 milestones were as set out in the authorization.

20 A. MR. MORRISON: Just to add a tiny little bit
21 to that. Each of these projects in each and every year has a
22 work plan, and that work plan is part of what Mr. Mollard is
23 talked about when we look at the project milestones. Did we
24 accomplish the work that was done? You know, were there
25 issues? Are we going to advance this work based on the

15:48

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 outcomes? Are they positive or negative?

2 But there is a work plan for all of this work
3 on each of these projects.

4 Q. Now, if the policy were to be approved, if costs are
5 closed out in annual stages and amortized over five years as
6 is being proposed, how -- or what mechanism should we use for
7 the Board or intervenors to judge the reasonableness of such
8 costs? When will the reasonableness of those costs be
9 tested?

10 Like, if the policy is approved and they just 15:49
11 go in, what is YEC thinking or proposing as to how those
12 costs will be tested or be transparent?

13 A. MR. OSLER: Just to start, essentially by
14 amortizing them this way whether there's a GRA or not the
15 company has to put them under their expenses, and they show
16 up therefore as a cost that hasn't yet gone into the rates.

17 So in that sense the board of directors and
18 all those people paying attention to the cost structure know
19 that they have a cost that, how is their ROE doing and
20 everything else. So it's not sort of not seen because it's 15:50
21 in deferred. There's no board approval. It's not in rates.
22 It's just a cost.

23 So the next time they're before the board this
24 is going to be subject to review and approval on an ongoing
25 basis as to whether or not it's included in rates. If the

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 policy is adopted then the issue would be prudence.

2 Q. Okay. And I assume -- and maybe it's a wrong
3 assumption -- that there is an existing planning cost
4 accounting policy, or is this a new policy?

5 A. MR. MOLLARD: There is a policy. Yes.

6 Q. Can you explain what the differences are, again at a
7 high level? I'm not asking you --

8 A. MR. MOLLARD: Absolutely. No, understood.

9 Really, the fundamental difference is that
10 there is no provision in the current policy to stop a project 15:50
11 early. Effectively what the policy says now if you are
12 investigating the -- and I'll simplify things somewhat, but
13 if you're investigating the addition of a new asset to the
14 system, you're allowed to defer those costs until such time
15 as you make the go, no go decision.

16 So for a major hydro project, you could be
17 into tens of millions of dollars before you -- and you could
18 still hit a point where you say, "You know what, I haven't
19 got a project. I have to stop it."

20 So the difference is that in this policy we 15:51
21 make a distinction where we say "We don't know if it's a go
22 or no go, but we think it could go ahead, so we're going to
23 defer it, or we still think it's a good project, but we need
24 to get these costs off of our balance sheet because they're
25 just too risky to have that much money sitting there

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 deferred."

2 A. MR. OSLER: In a sense, the reasonable
3 assurance test is the key element, is a fair way to, I think,
4 put it. And the transition measures for certain projects,
5 the ten years is a special case for transition.

6 Q. And is it correct that the existing accounting policy
7 was reviewed, I believe, as part of the 1993-1994 GRA. And
8 also could you undertake to file that existing accounting
9 policy?

10 A. MR. OSLER: I'm being advised it is in
11 CW-33.

15:52

12 Q. Is it? Thank you.

13 A. MR. MORRISON: We'll double-check that.

14 Q. All right.

15 A. MR. OSLER: If it isn't, we'll file it.

16 Q. All right. Thank you.

17 UNDERTAKING - TO FILE THE EXISTING
18 ACCOUNTING POLICY

19 Q. MS. BENTIVEGNA: Now, with regards to the
20 amortization period for Marsh Lake, it's being proposed as a
21 ten-year. And the question is how was the ten years advised?
22 For example, the Manitoba has a 15-year. Why not a 5-year?
23 So my question is how did you arrive at a 10-year period?

15:52

24 A. MR. MOLLARD: That was -- it was purely to
25 manage the dollars that were there. We felt that if we went

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 to a more aggressive five-year length, that would put too
2 much -- too much rate increase on to the ratepayers at a
3 given time. So we felt with those large projects over a
4 million dollars, it was prudent to spread the cost out so
5 there was less rate shock.

6 Q. Thank you. Now, a couple of questions on wind.

7 Now, the facilities at Haeckel Hill, I believe
8 the smaller of the two turbines, is .15 megawatts and it was
9 installed in 1993, and the other one was installed in the
10 fall of 2000 and it's capable of producing .66 megawatts.

15:54

11 Now, can you confirm if full project
12 utilization is defined as receiving maximum megawatt output
13 of the unit 24-7 for the life of the unit? I believe this is
14 in -- I'm referring to YUB-YEC-1-7.

15 A. MR. OSLER: We're talking about wind?

16 Q. Yes. Those turbines at Haeckel Hill.

17 A. MR. MORRISON: Haeckel Hill.

18 Q. I guess I should have known, jeckle, heckle.

19 A. MR. MORRISON: It is.

20 A. MR. MOLLARD: Is there a specific part of YUB
21 7 that you're referring to? There's about 20 parts to it or
22 10 parts of it.

15:54

23 Q. I'm just trying to see here. Let's see, not -- it
24 really is referring to --

25 A. MR. MORRISON: Let me try to be helpful.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Q. -- the overall --

2 A. MR. MORRISON: Let me try to be helpful. I
3 think you were asking is full utilization -- maybe you could
4 ask me again, sorry.

5 Q. Yes.

6 A. MR. MORRISON: I don't need a reference. I
7 think we can answer it.

8 Q. It's basically what you consider full utilization when
9 looking at the maximum megawatt output of the unit.

10 A. MR. MORRISON: Well, you -- I'll try my best,
11 but I'm not, you know, I'm not the best to answer this.

15:55

12 We would look at it -- full utilization would
13 be what we fully expect to get out of that unit given its
14 efficiencies and its operation on a year-round basis, but it
15 would have efficiencies in it.

16 We don't expect to get 100 percent out of
17 anything 24/7 365 days out of the year, but it would be the
18 calculation, I believe -- is what I said.

19 A. MR. OSLER: A full utilization would vary
20 depending on what generation assets you're looking at.

15:56

21 In the case of wind, I can't imagine anybody
22 would think of it as anything other than how much could you
23 get out of it given the amount of wind that you are thinking,
24 leaving aside, you know, special maintenance or other
25 problems that might afflict the asset. So it wouldn't be 100

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 percent.

2 A. MR. MORRISON: No, it's not 100 percent in any
3 case.

4 Q. All right. Do you have a utilization factor that you
5 would expect for the life of Haeckel Hill wind farm?

6 A. MR. MORRISON: I don't at the moment. I
7 mentioned, or I thought we mentioned yesterday that the bonus
8 turbine, the older turbine, is going through a life
9 assessment by Siemens, the manufacturer of the turbine at the
10 moment. We're trying to figure out to what extent it needs
11 replaced. And this will be a technical piece. We'll look at
12 the costs and determine, you know, appropriate -- whether
13 there is appropriate technology there or what we might do
14 after we get this life assessment, but that's underway right
15 now. We should have it in our hands in the next month.

15:57

16 We'll -- we are looking, as well, on a more
17 informal basis from our maintenance what the issues are with
18 the Vestas turbine.

19 Q. And as far as you know, is a 20-year average life of a
20 wind turbine -- it seemed to be that's what was being
21 suggested in YCS-YEC-1-10 for the WW 1 turbine.

15:58

22 A. MR. MORRISON: Sure. Yeah. You know, that,
23 you know, in my recollection, sounds like a reasonable life
24 span, but with any asset, you know, it can have a hard life
25 or it can have an easy life. So, you know, you've got to

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 take that with some -- it's got to have some leeway in it.

2 But 20 years, you know, sounds about right.

3 A. MR. MOLLARD: 20 years is our most recent
4 depreciation study rate.

5 Q. All right. Thank you.

6 Now, I know you addressed this a little bit
7 yesterday, but if you wouldn't mind, what would be -- you
8 mentioned the differences between the Haeckel Hill and Fairy
9 Hill wind generation in that you're looking at Fairy Hill,
10 that it's going to be much easier --

15:59

11 A. MR. MORRISON: Yeah.

12 Q. -- to build and...

13 A. MR. MORRISON: Just to clarify a little.
14 Yesterday, we were talking about Mount Sumanik and Fairy
15 Hill --

16 Q. Yes.

17 A. MR. MORRISON: -- which is a different wind
18 project. Geographically, Mount Sumanik is behind Haeckel
19 Hill. So they're relatively high mountainous hills compared
20 to Fairy. It doesn't have the height that these have.

15:59

21 There's a road at Fairy Hill. There's no road
22 at Mount Sumanik. There's potential -- as far as our wind
23 consultants tell us, there's more potential rime ice issues
24 at Mount Sumanik than at Fairy Hill.

25 There is some benefit from our perspective if

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 it was wind, that perhaps locating it at the end of the grid,
2 having more generation on the end of the grid is also another
3 factor that we're looking at. There are some technical
4 benefits to that.

5 So those are kind of the key factors. They
6 both produce -- they both have a good wind regime. They both
7 produce about the same amount of output. They'll both be
8 similar in cost. One would be a little bit cheaper than the
9 other, but those are the main issues.

10 Q. All right. Now, going back to the application and some 16:00
11 of the costs in tab 5 at page 5-5-1.

12 Now, there seemed to be SCADA costs -- or
13 SCADA connection for Minto diesel, and I was wondering if you
14 could explain -- from my understanding, the Minto diesels are
15 not in rate base -- what that SCADA connection is and the
16 costs for it -- there being asked for or applied for.

17 A. MR. MOLLARD: Yes. Yeah, I can help with
18 that, I think.

19 Mr. Chair, what we were doing there -- that
20 was work that we had started while we were in negotiations to 16:01
21 purchase those diesels. And when it was determined that we
22 weren't going to buy them, we did ask the question as to
23 whether we should complete that project. The advice we got
24 from our operations staff, our operating system control
25 centre and our engineering staff was that there would be

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 benefit to us having visibility into these diesels in
2 instances where we have outages and we're trying to bring
3 them back onto the grid. Operationally, it's easier for us
4 to bring them on to the system if we can see what their
5 diesels are doing.

6 So it was, really, just our ability to run the
7 system better if we had that project done.

8 Q. And what about the Mayo diesel SCADA connection?

9 A. MR. MOLLARD: Mayo diesel?

10 Q. That's what I think, yeah -- that's what I've got it
11 noted here.

16:02

12 A. MR. MOLLARD: That's just a visibility thing,
13 but we weren't up until -- before that project, our system
14 control centre was not able to see those engines. So, again,
15 with that -- in the absence of that project, you need to have
16 an operator on site on the phone or the radio communicating
17 with SCC to explain what's going on with the engines with
18 that project. SCC can see what's happening from Whitehorse.

19 Q. Okay. And maybe just to back up just a little bit.

20 A. MR. MOLLARD: Sure.

16:02

21 Q. And how does that help the system controller, I mean,
22 like, if he's able to see -- like, how does that help the
23 whole system, I guess, or him or her operate the system?

24 A. MR. MOLLARD: He can control it remotely, so
25 he so can actually call into Mayo and say, "I want to start

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 that engine, or want I want to take it on line or off line."
2 Or if there's an problem, he can see, like, if there's a
3 particular breaker is open on the unit or something like
4 that, it gives him more information so he can respond
5 accordingly.

6 Q. Okay. And what about the Minto diesel? I mean, if
7 the --

8 A. MR. MOLLARD: Minto --

9 Q. Would the operator be able to call those into the
10 system? I thought --

16:03

11 A. MR. MOLLARD: My understanding with the Minto
12 project, it's not a control project, it's just visibility.
13 They can see what's going on with the units.

14 Q. All right. And what about the Lewes Lake structure
15 SCADA? I believe, is that part of the Marsh Lake project,
16 and how is that being used?

17 A. MR. MOLLARD: No, that's a water control
18 facility upstream from Whitehorse. It's been around for, I
19 think, as long as Whitehorse has been around, a hundred
20 years, yes, and so the system -- that gate or that control
21 structure consists of a boat lock and some -- I think there's
22 24 gates out there.

16:03

23 What we've done with that SCADA project --
24 there's four gates out there that are automatic, and the
25 operators can now with this project control those gates from

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Whitehorse. We used to have to physically send an operator
2 out there to manually operate those gates.

3 Q. Okay. Now, at page 5-61 there's a reference to a hydro
4 storage and generation prefeasibility, and there is two
5 projects there. And I'm just wondering, what did that refer
6 to? What are those projects, or what are they?

7 A. MR. MOLLARD: We're just trying to locate
8 those ones.

9 Q. Sure.

10 A. MR. MORRISON: So, Ms. Bentivegna, just so we 16:04
11 have the reference, we're on 5, table 5.7, page 5-61?

12 Q. Yes.

13 A. MR. MORRISON: And there's a line that says
14 "2008 dam safety upgrade?"

15 Q. I thought the line was hydro storage and generation
16 prefeasibility.

17 A. MR. MORRISON: Okay. And that's right under
18 that?

19 Q. Yeah. Because one is at 4,000 -- 409,000 and the other
20 one, 185,000 and change. 16:05

21 A. MR. MORRISON: We'll -- off the top of our
22 heads, we can't give you that, but we can undertake to get
23 you that.

24 Q. All right. Thank you.

25 UNDERTAKING - TO ADVISE AS TO WHAT THE

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 PROJECT ARE THAT ARE REFERRED TO AT
2 PAGE 5-61 AND THE REFERENCE TO A HYDRO
3 STORAGE AND GENERATION PREFEASIBILITY

4 Q. MS. BENTIVEGNA: Now, on that same table,
5 there's one, the Southern Lakes hydrology study.

6 A. MR. MORRISON: Yes.

7 Q. Would you know what that was and what it related to, if
8 it was a system-wide of if it's just...

9 A. MR. MORRISON: The Southern Lakes are a series
10 of lakes from Atlin all the way through Tagish and Marsh and
11 Bennett that supply the water for the Whitehorse hydro
12 facility so the water that comes into there comes in the
13 Southern Lakes.

16:05

14 We were lacking some data a number of years
15 ago on how these lakes operated together, because they --
16 they do -- and there's a number of tributaries to those
17 lakes, and we didn't have enough information in the system to
18 really understand the impacts of something happening on one
19 lake versus something happening on another.

20 And as this lake system is one of our most
21 valuable resources we engaged some consultants, some
22 hydrology consultants or specialists, to come in and model
23 this for us, and it's been very helpful in terms of our
24 operations.

16:06

25 Q. Okay. The next question is regarding the geothermal

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 preliminary engineering and environmental studies.

2 A. MR. MORRISON: Yes.

3 Q. There's a reference to a 2.6 million hydrology project.

4 And my question is, so was that part of the geothermal

5 project? Is that how -- has that assisted you in moving the

6 project forward or...

7 A. MR. MORRISON: In -- for the sake of time, we

8 will also undertake to get you that as well as,

9 Ms. Bentivegna.

10 Q. Okay.

16:07

11 UNDERTAKING - TO ADVISE AS TO WHETHER

12 THE REFERENCE ON PAGE 5-61 OF THE

13 APPLICATION IS A REFERENCE TO A HYDRO

14 STORAGE AND GENERATION PREFEASIBILITY

15 Q. MS. BENTIVEGNA: Now, regarding the Mayo and

16 Aishihik water re-licensing projects.

17 A. MR. MORRISON: Yes.

18 Q. Can you just explain the costs for those projects. It's

19 a large number, and I'm just wondering if --

20 A. MR. MORRISON: Sure.

16:07

21 Q. -- what those costs include when you speak of the

22 re-licensing. Oh, it's page 5-62.

23 A. MR. MORRISON: Yeah, I think we have it.

24 Q. Okay.

25 A. MR. MORRISON: We're seeing if we can help

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 you.

2 Q. Sure.

3 A. MR. OSLER: Sorry, the question again?
4 Mayo Lake, yes.

5 Q. And it's with relation to -- and the Aishihik water
6 re-licensing projects.

7 A. MR. OSLER: Okay.

8 Q. We're just wondering what those costs that are outlined
9 there, what they include.

10 A. MR. OSLER: Let's start with the Aishihik
11 re-licensing. I believe that is the amortization of a cost
12 incurred some time ago.

16:08

13 A. MR. MOLLARD: Yeah, that would have been
14 related to when we did the license, I believe, and Aishihik
15 was renewed in 2002 for a 17-year period, and it would have
16 been all those costs associated with acquiring that renewal.
17 Similar for the Mayo one. There may be some

18 additions in years subsequent to that we would normally
19 charge in -- no, I shouldn't say that. That would just be
20 the re-licensing cost, yes, to acquire that new license. In
21 Mayo it's a 25-year license, and in Aishihik it's a 17-year
22 license.

16:08

23 Q. Okay. And, sorry. Are we still talking amortized costs
24 that are shown there, or is that the actual costs, like, all
25 of the costs to re-license?

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 A. MR. OSLER: The columns on the left are the
2 total costs. If you go over to the right-hand side it tells
3 you at December 31, 2012 what was accumulated. So it's a
4 lower number.

5 A. MR. MOLLARD: Yes, so for instance, Aishihik,
6 the total cost of the Aishihik re-licensing was approximately
7 \$8.8 million of which 5.4 of that has been amortized to the
8 end of 2012.

9 Q. And can you just at a high level tell me what those type
10 of costs would have included?

16:09

11 A. MR. MORRISON: They would have included a very
12 lengthy regulatory process in front of the Water Board with
13 environmental baseline information.

14 There were costs related to -- yeah, a
15 significant cost related to fish monitoring. There's
16 significant costs related to compensation claims that were
17 not paid at the time the facility was built, and they were
18 paid during this process. There was a long regulatory
19 battle, so there was lots of hearings and public meetings.

20 So those are the types of costs that were in
21 there, but mostly consulting costs for environmental and
22 engineering related to the re-licensing.

16:10

23 Q. Thank you. Now, yesterday when you were talking about
24 the Minto load forecast.

25 A. MR. MORRISON: Yes.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Q. I believe, Mr. Morrison, you said it had been adjusted,
2 or you recently learned that it had been adjusted to lower.
3 I'm just wondering, does that change? Does that mean you're
4 changing your load forecast for Minto, or does it remain as
5 it is in the application?

6 A. MR. MORRISON: We are not changing it for the
7 purposes of the application.

8 Q. Thank you. Now, with regards to the applied-for return
9 on equity, these questions that I'll be directing to you
10 really address how familiar you are on the decision of the
11 AUC. And I will be distributing a couple of passages because
12 I want to understand whether you agree with some of those
13 statements as they would apply to YEC and particularly the
14 additional spread that gets added on when it was the EUB --
15 BCUC rate of return.

16:11

16 THE CHAIR: Sorry, Ms. Bentivegna, while
17 we're waiting, will this be an exhibit? Or again you're
18 going to deal with it in the same way you did the last
19 documentation?

20 MS. BENTIVEGNA: I'll deal it as part of a
21 question --

16:12

22 THE CHAIR: Okay.

23 MS. BENTIVEGNA: -- if there's nothing -- the
24 only reason is so that I can refer the panel to the
25 particular passages.

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 Q. All right. Now, the proposed rate of return arises out
2 of that Decision 2011-474 of the Alberta Utilities
3 Commission. And in that decision the Commission discussed
4 the economic recovery -- and it's paragraph 28 of the
5 Decision -- and: (as read)

6 "...that bond spreads had largely,
7 although not completely, returned to
8 historical levels."

9 And my question to you is, does YEC believe that the economy
10 has further improved in 2012 when compared to 2010 and 2011? 16:13

11 A. MR. OSLER: I'm not sure that YEC has
12 developed a point of view on that. As I said the other day,
13 that the focal point of YEC's perspective was to find a
14 simple method to use other regulatory findings and without
15 getting into adjusting them.

16 So I don't think there is a particular view
17 that YEC developed on that matter.

18 A. MR. MOLLARD: I think generally I could say
19 that, just based on my own research of the local economy in
20 preparing business plans for our own internal board of 16:14
21 directors, the local economy has improved in the last couple
22 of years, not a lot. It has plateaued somewhat, but we've
23 been doing fairly well up here for the last number of years.

24 Q. That was going to be my next question. So, I mean, in
25 relation to the national economy you believe that you've

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 fared better?

2 A. MR. MOLLARD: We've been doing better for a
3 number of years than the rest of the country.

4 Q. Do you have any explanation as to why that would be?

5 A. MR. MOLLARD: It's largely going to be the
6 commodities, right? 16 to \$1,800 an ounce gold gets a lot of
7 people excited, so there's the -- we have set a couple of
8 records in the last few years for exploration, and that was
9 has a trickle-down effect to a variety of businesses in the
10 Yukon, so we've benefitted from that.

16:15

11 Q. So if in your view the, well, I think you qualified it
12 that the Yukon economy has fared better, then does YEC
13 believe that based on that perceived improvement that
14 corporate bond spreads have improved better than they were in
15 2010/2011?

16 A. MR. MOLLARD: Nationally? No, they have not.

17 Q. All right. But from the Yukon context, do you believe?

18 A. MR. OSLER: I'm not sure -- you can talk
19 about national beyond yields in the Yukon context,
20 unfortunately.

16:15

21 Q. All right. The national level is fine.

22 Now, if you refer to paragraph 43, I believe
23 it's one of the paragraphs on the excerpts. You'll see there
24 that there paragraph 43, that -- and that starts the:
25 (as read)

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 "Consensus economics forecast is
2 traditionally been used by the
3 Commission and its predecessors to
4 estimate the risk-free rate..."

5 And then it goes on about 2009, and then what the rates were
6 in 2011.

7 Now, the above suggests that, this paragraph,
8 that the risk-free rate has declined from 2009 to 2011. Does
9 YEC believe that there was a further decline in the risk-free
10 rate in 2012 compared to 2011? And you may not have a view,
11 but I'm asking. 16:16

12 **A. MR. MOLLARD:** No, I could not say at this
13 time.

14 **Q.** All right. Now again, there was -- there's a whole
15 discussion in paragraphs 144 to 149 of that decision
16 regarding the financial crisis. And my question again to you
17 is if you have any views or if you can assist the Board as to
18 whether YEC believes that the financial crisis still exists
19 in relation to the third quarter -- in relation to 2007,
20 which is what the passage or the paragraphs are referring to. 16:17

21 **A. MR. OSLER:** Yeah, the paragraph's referring
22 to, I guess -- because I haven't gone through this in
23 detail -- but it's referring to the world that got shook up
24 in that time period and where are we today. And again for
25 the purposes of this application, I'm not sure that YEC

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 developed a particular set of views on this. It did what it
2 did, and I've described that.

3 But from the point of view of the subjects
4 that do come home to roost in Yukon, yes, there's been a
5 robust economy, but on the other side of the coin, are these
6 projects going to go forward, or will they be affected by the
7 world economy?

8 These are serious concerns that have occupied
9 a lot of time and attention that I've heard. So that the
10 crisis in terms of ability for people who have to get money
11 for new projects and have to have markets and have to have
12 reliable secure market prices, yes, it's very good. But
13 we're looking at projects that have to get developed, and
14 there's no assurance that the world has solved all their
15 problems that are necessary for any one of these big projects
16 to go forward.

16:18

17 So I just put that -- you know, as I said at
18 the beginning, we didn't put our minds to these types of
19 questions for the reasons I gave you, but to the extent that
20 we do put our minds to things -- YEC does put its mind to
21 things that are related to the world economy and where it's
22 at, I don't think everybody is sitting around saying the
23 crisis is over.

16:19

24 Q. Now, and again if you've addressed your mind to this in
25 making the request? Do you believe that the utilities, given

C. OSLER, D. MORRISON, E. MOLLARD

Questioned by Ms. Bentivegna

1 the risk premium that was attached to the utilities regulated
2 by BCUC and the comparable utilities -- all right. Let me --
3 do you believe that the utilities are comparable to those
4 that are regulated by the AUC and BCUC for the type of
5 utilities, the risk, the low-risk utilities, in order for the
6 premium to be -- the risk premium to be applied, continue to
7 be applied?

8 A. MR. OSLER: That is an assumption that is
9 implicit in what was filed. It wasn't based on calling in
10 experts to, you know, give an opinion on that. We've --
11 we're confident that the Board would have advisers who could
12 review this.

16:20

13 But as I said before, the basic problem was
14 that relying on what we've used before and the BCUC process,
15 the last order that they had given of a benchmark bond in
16 2009 was for Terasen at 9.5 percent, and we did not think
17 that that was an appropriate number to bring forward at the
18 current time, but we didn't have a better one from BCUC.

19 And for the purposes of cross-checking it, we
20 noticed that an Alberta-based utility active in Northwest
21 Territories had used some reference points to their own
22 situations in Alberta. So again, not being as knowledgeable
23 as others, we thought it was probably a reasonable approach
24 to keep it simple.

16:21

25 But I have to say that's about the limit of

1 the depth of the investigation.

2 Q. Are you aware whether BCUC has come out with their
3 generic rate for 2011?

4 A. MR. OSLER: I believe they have not, but I
5 could be always wrong. I'm advised that it would be early
6 2013 is the expectation, but again, we could double-check
7 that if you like if there's any doubt about it.

8 Q. Certainly, if you wouldn't mind checking that. It's
9 always best to have the most current information.

10 A. MR. OSLER: Thank you.

16:22

11 UNDERTAKING - TO ADVISE AS TO WHETHER
12 BCUC HAS COME OUT WITH THEIR GENERIC
13 RATE FOR 2011

14 MS. BENTIVEGNA: Those are my questions, panel.
15 Thank you.

16 THE CHAIR: Thank you.

17 So the Board has no questions.

18 So, Mr. Landry, do you have any re-direct.

19 MR. LANDRY: I just have one quick
20 re-direct.

16:22

21 MR. LANDRY RE-EXAMINES THE PANEL:

22 Q. I guess I can throw this at the panel because there's
23 been a number of questions asked of you about the Minto
24 corrected forecast for 2012-2013. Do you know what revenue
25 reduction that will be relative to what you have forecast in

C. OSLER, D. MORRISON, E. MOLLARD

Re-examined by Mr. Landry

1 the application?

2 A. MR. MORRISON: Well, it's significant. It's a
3 million -- I'm struggling with the 2012 number, but it's in
4 the range of a million and a half dollars.

5 A. MR. OSLER: It's over a million dollars.

6 A. MR. MORRISON: It's over a million dollars in
7 2012, and it's close to 2 million in 2013, or a million and a
8 half.

9 A. MR. OSLER: And we'll confirm it for the,
10 record if you want.

16:23

11 Q. As you indicated in a question earlier, you're not
12 asking that your application be adjusted.

13 A. MR. MORRISON: We are not asking our
14 application be adjusted.

15 MR. LANDRY: Those are all the questions I
16 have, sir.

17 THE CHAIR: Okay. Thank you very much
18 everyone. Is there any other matters before we close?

19 So I will dismiss the panel, and I guess the
20 only closing remarks I would make is just to remind people
21 that in my opening remarks I did mention the dates for
22 written argument and written reply. They're also in the list
23 of the dates in the schedule for the hearings. And with that
24 I bring the hearing -- oh, and the undertakings I'll remind
25 people the commitment to get those undertakings. I believe

16:23

1 we talked about trying to get them by Friday of this week.

2 And with that I'm going to the close this hearing.

3 Thanks very much.

4

5 PROCEEDINGS CONCLUDED

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 Certificate of Transcript

2

3 We, the undersigned, hereby certify that the foregoing pages
4 449 to 654 are a complete and accurate transcript of the
5 proceedings taken down by us in shorthand and transcribed
6 from our shorthand notes to the best of our skill and
7 ability.

8 Dated at the City of Whitehorse, Territory of
9 Yukon, on November 14, 2012.

10

11

12

_____ "A. Jones"

13

A. Jones, CSR(A)

14

Official Court Reporter

15

16

_____ "M. Allred"

17

M. Allred, CSR(A) RPR

18

Official Court Reporter

19

20

21

22

23

24

25

- I N D E X -

VOLUME 3C. OSLER, D. MORRISON, E. MOLLARD

(For Yukon Energy Corporation)

8	MR. MAISSAN CROSS-EXAMINES THE PANEL	452
9	MS. BENTIVEGNA QUESTIONS THE PANEL	528
10	MR. LANDRY RE-EXAMINES THE PANEL	651

EXHIBITS

14	EXHIBIT C-4-13 - AID TO CROSS-EXAMINATION	468
16	EXHIBIT C-4-14 - CBC NEWS TRANSCRIPT	494
18	EXHIBIT C-4-15 - WHITEHORSE STAR ARTICLE OF	494
19	SEPTEMBER 28, 2012	
21	EXHIBIT C-5-10 - 2008/2009 GENERAL RATE	503
22	APPLICATION OF YUKON ENERGY, WHICH HAS ATTACHED TO	
23	IT PAGE 2-19, WHICH IS TABLE 2.5 FROM THAT	
24	APPLICATION	

1	EXHIBIT C-5-11 - LETTER WITH 2008/2009 GRA, IR	504
2	NUMBER UCG-YEC-1-21 REVISED ATTACHED	
3		
4	EXHIBIT C-5-12 - YUKON ENERGY CORPORATION 2005	505
5	REQUIRED REVENUES AND RELATED MATTERS	
6		
7	EXHIBIT B-20 - ANSWER TO UNDERTAKING, UPDATED	552
8	RESOURCE PLAN FORECAST FOR NOVEMBER	
9		
10	EXHIBIT B-21 - ANSWER TO UNDERTAKING, SPREADSHEET	553
11	OF THE INSURANCE EXPENSE FORECAST FOR 2012	
12		
13		
14	<u>UNDERTAKINGS GIVEN</u>	
15		
16	UNDERTAKING - TO PROVIDE THE UPDATED THE FORECAST	453
17	TO REFLECT EVOLVING CONDITIONS	
18		
19	UNDERTAKING - TO ADVISE IF THERE IS A MINIMUM	513
20	WATER FLOW THAT TRANSLATES TO TERMS OF MEGAWATT	
21	OUTPUT FROM THE THIRD TURBINE	
22		
23		
24		
25		

1	UNDERTAKING - TO PROVIDE THE BOARD WITH A	572
2	CONTINUITY TABLE OF THE FUND FOR THE YEARS FROM	
3	THE INCEPTION, 1995, TO DECEMBER 31ST, 2011	
4		
5	UNDERTAKING - TO CONFIRM WHETHER THE DCF FUND AS	581
6	IT EXISTED INCLUDES FISH LAKE	
7		
8	UNDERTAKING - TO CONFIRM THE ASSUMPTION THAT MAYO	584
9	B IS 4 GIGAWATT HOURS PER YEAR DIESEL DISPLACEMENT	
10	IS STILL VALID	
11		
12	UNDERTAKING - TO CHECK FOR THE INFORMATION	594
13	REFERRED TO REGARDING MS. BENTIVEGNA'S QUESTION RE	
14	YEC ASKING THAT THE COSTS BE AMORTIZED AND	
15	MR. OSLER'S REFERENCE TO THE EXAMPLES OF THAT	
16	WHICH MR. JANIGAN WAS ASKING (SEE TEXT)	
17		
18	UNDERTAKING - TO PROVIDE THE ACTUAL NUMBER THAT	611
19	HAS BEEN SPENT ON THE PROJECTS THAT UPDATES THE	
20	3.23 MILLION FORECAST	
21		
22		
23		
24		
25		

1	UNDERTAKING - TO PROVIDE A YEAR-BY-YEAR	612
2	DESCRIPTION OF THE WORK TO BE COMPLETED WITH	
3	COMMENSURATE FORECAST ANNUAL COSTS OF WHAT YEC	
4	BELIEVES IT WILL BE SPENDING	
5		
6	UNDERTAKING - TO FILE THE EXISTING ACCOUNTING	632
7	POLICY	
8		
9	UNDERTAKING - TO ADVISE AS TO WHAT THE PROJECT ARE	640
10	THAT ARE REFERRED TO AT PAGE 5-61 AND THE	
11	REFERENCE TO A HYDRO STORAGE AND GENERATION	
12	PREFEASIBILITY	
13		
14	UNDERTAKING - TO ADVISE AS TO WHETHER THE	642
15	REFERENCE ON PAGE 5-61 OF THE APPLICATION IS A	
16	REFERENCE TO A HYDRO STORAGE AND GENERATION	
17	PREFEASIBILITY	
18		
19	UNDERTAKING - TO ADVISE AS TO WHETHER BCUC HAS	651
20	COME OUT WITH THEIR GENERIC RATE FOR 2011	
21		
22		
23		
24		
25		

1 - ERRATA -

2

3 Page 19, line 3: "4.38 percent in 2012 and a negative
4 .97 percent in 2012" should read "4.38 percent in 2012 and a
5 negative .97 percent in 2013."

6

7 Page 93, line 18: "\$10,0000" should be "\$10,000."

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

YUB 2012 GRA, Volume 3, November 14, 2012

\$	<p>2.4 [2] - 467:9, 20 2.5 [2] - 503:13, 24 2.6 [3] - 504:21; 518:23; 642:3 2.8 [3] - 467:5, 19 20-year [1] - 635:19 200,000 [1] - 458:17 200,600 [1] - 457:14 2000 [2] - 509:11; 633:10 2002 [1] - 643:15 2003 [1] - 624:11 2008-2009 [1] - 587:8 2008/2009 [5] - 469:7; 503:11, 21; 504:7, 14 2010-2011 [1] - 508:6 2010/2011 [1] - 647:15 2011 [20] - 465:21; 466:12, 15, 18; 467:20; 472:12; 473:6; 509:11; 520:9; 545:22; 571:23; 572:19; 646:10; 648:6, 8, 10; 651:3, 13 2011-474 [1] - 646:2 2012 [27] - 450:5; 456:8, 19; 459:18; 477:4, 7, 21-22; 480:11; 483:13; 494:10, 12; 532:1; 552:2, 24; 553:15; 607:24; 609:7; 611:12; 628:25; 644:3, 8; 646:10; 648:10; 652:3, 7 2012-2013 [1] - 651:24 2012/2013 [1] - 456:19 2013 [13] - 459:23; 480:21; 482:3; 483:20; 578:22; 601:1; 609:2, 8, 12; 629:1; 651:6; 652:7 2017 [2] - 612:6; 613:22 24-7 [1] - 633:13 24/7 [1] - 634:17 249 [2] - 498:23; 500:24 25,000 [1] - 529:7 25-year [1] - 643:21 26.6 [1] - 472:13 26.8 [1] - 472:13 28-year [1] - 575:19 28.68 [1] - 475:12</p>	<p>611:12, 22 3.4 [2] - 540:1; 541:15 3.511 [1] - 465:10 300 [2] - 462:16; 498:16 31.68 [1] - 475:21 313 [1] - 544:11 31ST [1] - 572:19 32.2 [1] - 472:13 32.74 [1] - 476:15 32.9 [1] - 472:13 33.3 [1] - 472:11 36.4 [1] - 472:12 36.6 [2] - 612:24; 613:21 365 [1] - 634:17 37.3 [1] - 472:11 398 [1] - 568:24 3:30 [1] - 626:15</p>	7	<p>465:16 accounting [15] - 536:8, 10; 539:16; 543:10; 572:12; 599:17; 601:12, 20; 607:18; 626:13; 627:5; 629:3; 631:4; 632:6, 8 ACCOUNTING [1] - 632:18 accounts [5] - 454:3; 540:14; 573:20; 579:8; 601:17 accumulated [1] - 644:3 accuracy [1] - 617:22 accurate [1] - 474:3 acknowledge [2] - 468:14, 16 acquire [1] - 643:20 acquiring [1] - 643:16 acronym [2] - 454:22; 530:25 Act [1] - 489:7 acting [1] - 565:1 activation [1] - 466:16 active [6] - 571:5; 599:5, 12; 650:20 actively [1] - 597:19 activities [4] - 457:11, 16; 565:19; 629:15 Activities [2] - 456:8; 614:11 activity [1] - 571:14 actual [11] - 462:3; 480:8; 481:3, 11; 541:6; 573:24; 574:12; 611:15; 614:5; 643:24 ACTUAL [1] - 611:20 adapt [1] - 462:20 add [8] - 465:23; 517:5; 547:18; 563:1; 583:22; 584:25; 601:8; 629:20 added [11] - 461:8; 475:17; 482:2; 546:9; 547:21; 565:7, 10; 591:20; 612:22; 645:14 adding [7] - 472:3; 481:25; 518:22; 554:22; 603:24 addition [9] - 457:8; 460:1; 503:2, 8; 546:23; 547:8; 563:3, 6; 631:13 additional [6] - 506:23; 558:12; 563:10; 590:11; 598:24; 645:14 additionally [1] - 610:9 additions [4] - 570:14; 571:3, 19; 643:18 additive [2] - 464:20; 465:13 address [4] - 533:5; 602:8; 618:15; 645:10 addressed [7] - 522:15; 586:18; 587:6; 592:19; 602:25; 636:6; 649:24 adds [1] - 617:14 adhere [1] - 532:24</p>
1	<p>1-14 [1] - 471:3 1-2 [2] - 469:6; 488:6 1-40 [3] - 614:15, 17; 621:12 1-43 [1] - 613:9 1.4 [1] - 467:9 10-megawatt [1] - 615:23 10-year [1] - 632:23 100 [6] - 462:3; 488:7; 490:14; 634:16, 25; 635:2 100.0 [1] - 462:1 103 [1] - 509:1 10:32 [1] - 501:12 11.8 [1] - 484:17 12:14 [1] - 550:21 14-hour [1] - 589:8 144 [1] - 648:15 149 [1] - 648:15 15-year [1] - 632:22 150 [1] - 620:5 17-year [2] - 643:15, 21 185,000 [1] - 640:20 1993 [1] - 633:9 1993-08 [2] - 592:18 1993-1994 [1] - 632:7 1995 [2] - 571:23; 572:18 1996-97 [1] - 569:10 1999-03 [2] - 569:21; 570:12 1:30 [2] - 551:2, 5</p>	<p>478:14, 16 400-foot [1] - 589:4 405 [3] - 478:14, 16, 22 4051 [1] - 450:1 408.4 [1] - 479:10 409,000 [1] - 640:19 415 [3] - 477:18; 478:12; 482:7 415.9 [1] - 477:22 415.909 [1] - 477:5 425 [2] - 482:25; 483:4 430 [4] - 482:25; 483:3 430.4 [1] - 482:11 435 [1] - 483:3</p>	8	<p>8.2 [1] - 614:1 8.7 [4] - 481:13; 482:18; 484:16 8.8 [1] - 644:7 800 [2] - 608:5; 609:8</p>
2	<p>2,000 [2] - 541:7; 545:3 2-13 [2] - 482:11; 504:21 2-18 [2] - 476:25; 479:20 2-19 [2] - 503:13, 23 2.2 [2] - 476:25; 479:14 2.3-B [1] - 629:11</p>	<p>478:12; 482:7 415.9 [1] - 477:22 415.909 [1] - 477:5 425 [2] - 482:25; 483:4 430 [4] - 482:25; 483:3 430.4 [1] - 482:11 435 [1] - 483:3</p>	9	<p>9.3 [1] - 481:2 9.5 [1] - 650:16 900 [1] - 608:5</p>
3	<p>3,511,000 [1] - 464:16 3-14 [1] - 545:15 3-16 [1] - 561:19 3-2 [1] - 482:11 3.1 [1] - 467:9 3.2 [2] - 458:24; 477:10 3.2-1 [5] - 459:4; 461:2; 477:9, 12; 479:17 3.2-2 [1] - 461:2 3.2-3 [2] - 458:25; 459:1 3.2-4 [1] - 461:20 3.2-7 [1] - 477:10 3.23 [3] - 609:7;</p>	<p>478:12; 482:7 415.9 [1] - 477:22 415.909 [1] - 477:5 425 [2] - 482:25; 483:4 430 [4] - 482:25; 483:3 430.4 [1] - 482:11 435 [1] - 483:3</p>	A	<p>able [28] - 453:23; 455:20; 518:9; 526:18, 24; 529:19, 21; 537:16; 542:13; 547:6; 549:10; 550:12; 553:20; 554:13; 558:15; 563:2; 571:21; 586:23; 591:10; 600:22; 611:14; 612:8; 614:20; 619:6; 620:1; 638:14, 22; 639:9 above-average [1] - 472:21 absence [1] - 638:15 absent [3] - 482:9; 523:10; 571:4 absolute [1] - 528:5 absolutely [3] - 531:10; 541:13; 631:8 absorb [1] - 526:3 accept [5] - 472:7; 486:15; 487:19, 21; 495:1 acceptable [2] - 553:25; 626:19 accepted [2] - 506:12 accepting [1] - 507:3 access [1] - 510:5 accessible [1] - 559:11 accommodate [4] - 502:24; 505:10; 527:10 accommodation [1] - 462:24 accomplish [2] - 629:18, 24 according [4] - 456:24; 571:11; 579:11; 622:19 accordingly [2] - 570:24; 639:5 account [16] - 453:25; 454:4; 463:11, 16, 19; 484:16; 521:16, 24; 524:14; 528:11; 568:24; 569:3; 574:18; 579:10, 20 accountant [2] - 543:18; 557:23 accountants [1] - 536:9 accounted [1] -</p>
4	<p>4,000 [1] - 640:19 4-12 [2] - 476:14, 19 4.77 [1] - 480:23 400 [4] - 459:19; 478:14, 16 400-foot [1] - 589:4 405 [3] - 478:14, 16, 22 4051 [1] - 450:1 408.4 [1] - 479:10 409,000 [1] - 640:19 415 [3] - 477:18; 478:12; 482:7 415.9 [1] - 477:22 415.909 [1] - 477:5 425 [2] - 482:25; 483:4 430 [4] - 482:25; 483:3 430.4 [1] - 482:11 435 [1] - 483:3</p>	<p>478:12; 482:7 415.9 [1] - 477:22 415.909 [1] - 477:5 425 [2] - 482:25; 483:4 430 [4] - 482:25; 483:3 430.4 [1] - 482:11 435 [1] - 483:3</p>	5	<p>5-10 [1] - 586:20 5-28 [1] - 518:19 5-34 [2] - 612:20; 613:5 5-5-1 [1] - 637:11 5-61 [4] - 640:3, 11; 641:2; 642:12 5-62 [1] - 642:22 5-9 [2] - 581:19; 582:25 5-year [1] - 632:22 5.1 [1] - 627:6 5.4 [2] - 595:13; 644:7 5.6 [1] - 478:17 5.7 [2] - 613:9; 640:11 50-year [1] - 509:1 50-year-old [1] - 588:12 500 [2] - 459:19; 461:4 58.9 [1] - 480:12</p>
5	<p>5-10 [1] - 586:20 5-28 [1] - 518:19 5-34 [2] - 612:20; 613:5 5-5-1 [1] - 637:11 5-61 [4] - 640:3, 11; 641:2; 642:12 5-62 [1] - 642:22 5-9 [2] - 581:19; 582:25 5-year [1] - 632:22 5.1 [1] - 627:6 5.4 [2] - 595:13; 644:7 5.6 [1] - 478:17 5.7 [2] - 613:9; 640:11 50-year [1] - 509:1 50-year-old [1] - 588:12 500 [2] - 459:19; 461:4 58.9 [1] - 480:12</p>	<p>5-10 [1] - 586:20 5-28 [1] - 518:19 5-34 [2] - 612:20; 613:5 5-5-1 [1] - 637:11 5-61 [4] - 640:3, 11; 641:2; 642:12 5-62 [1] - 642:22 5-9 [2] - 581:19; 582:25 5-year [1] - 632:22 5.1 [1] - 627:6 5.4 [2] - 595:13; 644:7 5.6 [1] - 478:17 5.7 [2] - 613:9; 640:11 50-year [1] - 509:1 50-year-old [1] - 588:12 500 [2] - 459:19; 461:4 58.9 [1] - 480:12</p>	6	<p>6.3 [1] - 613:9 6.56 [1] - 613:2 6.8 [1] - 518:22 65.6 [5] - 461:10; 479:16; 480:1, 5, 9 66.7 [1] - 461:7</p>

<p>adjusted [5] - 470:25; 645:1; 652:12, 14</p> <p>adjusting [1] - 646:15</p> <p>adjusts [1] - 462:11</p> <p>administer [1] - 558:9</p> <p>administered [4] - 571:1; 579:6, 11; 581:3</p> <p>administration [2] - 453:25; 578:23</p> <p>administrative [3] - 454:5; 538:3; 539:21</p> <p>administrator [13] - 541:15; 544:7, 23; 556:25; 557:3, 8, 13, 20; 558:14; 559:13; 560:1, 4</p> <p>adopt [1] - 530:17</p> <p>adopted [2] - 532:8; 631:1</p> <p>adroitly [1] - 623:22</p> <p>advance [6] - 470:9; 516:11; 517:2; 566:11; 597:5; 629:25</p> <p>advanced [2] - 524:21; 611:10</p> <p>advancing [1] - 527:14</p> <p>advantage [2] - 588:13; 589:22</p> <p>advantaged [1] - 491:7</p> <p>advantageous [1] - 544:19</p> <p>advantages [1] - 554:14</p> <p>advice [2] - 548:11; 637:23</p> <p>ADVISE [4] - 513:1; 640:25; 642:11; 651:11</p> <p>advised [7] - 483:13; 592:25; 595:12; 628:20; 632:10, 21; 651:5</p> <p>advisers [1] - 650:11</p> <p>advocating [2] - 522:25; 523:7</p> <p>aerial [1] - 531:12</p> <p>affairs [2] - 545:23; 546:11</p> <p>affect [3] - 480:6; 583:5; 585:14</p> <p>affected [4] - 484:2; 487:9; 649:6</p> <p>afflict [1] - 634:25</p> <p>afternoon [2] - 553:17; 554:21</p> <p>afterwards [2] - 570:20, 24</p> <p>age [2] - 587:13; 588:12</p> <p>aggressive [1] - 633:1</p> <p>agree [4] - 499:9; 505:6; 506:17; 645:12</p> <p>agreeing [1] - 573:15</p> <p>agreement [1] - 580:10</p> <p>agrees [1] - 495:17</p> <p>aid [2] - 468:12; 569:10</p> <p>AID [1] - 468:18</p> <p>aids [1] - 503:1</p> <p>aimed [2] - 456:21; 457:10</p> <p>Aishihik [52] -</p>	<p>455:17, 19; 471:23; 472:3; 473:4; 510:21, 24; 511:1, 6, 11, 24; 513:7, 9, 15, 17; 514:18, 25; 515:1, 5, 7, 10; 528:12; 554:6, 9; 558:6; 574:20; 576:25; 577:2, 7; 581:18; 582:3; 583:1, 6, 13, 19, 21; 584:3, 24; 585:7, 18; 586:5; 588:16; 589:24; 642:16; 643:5, 10, 14, 21; 644:5</p> <p>Aishihik's [1] - 509:10</p> <p>Alberta [3] - 646:2; 650:20, 22</p> <p>Alberta-based [1] - 650:20</p> <p>Alexco [3] - 477:15; 488:20; 588:6</p> <p>Alexcos [1] - 460:13</p> <p>alive [3] - 597:10, 15, 20</p> <p>allocate [1] - 562:5</p> <p>allocated [4] - 538:11; 540:25; 563:11; 625:20</p> <p>allocation [8] - 457:13; 540:2, 6-7; 579:13; 605:22</p> <p>allow [4] - 494:2; 503:9; 505:15; 591:13</p> <p>allowed [2] - 535:12; 631:14</p> <p>allowing [2] - 493:18; 592:16</p> <p>allows [1] - 463:22</p> <p>almost [5] - 535:23; 589:8; 622:14</p> <p>alone [1] - 511:7</p> <p>alternative [1] - 582:8</p> <p>America [1] - 549:15</p> <p>American [1] - 529:6</p> <p>amortization [6] - 591:17; 599:19; 601:4; 602:3; 632:20; 643:11</p> <p>amortize [3] - 592:13; 600:8; 602:18</p> <p>amortized [12] - 593:5, 13; 594:3, 24; 599:15; 600:9; 602:2, 7; 609:9; 630:5; 643:23; 644:7</p> <p>AMORTIZED [1] - 594:13</p> <p>amortizing [3] - 591:24; 592:12; 630:14</p> <p>amount [17] - 455:7, 14; 460:25; 463:16, 24; 467:11; 485:17; 571:20; 573:25; 579:13; 601:9; 608:22; 619:4, 24; 634:23; 637:7</p> <p>amounts [4] - 466:20; 573:3; 602:14; 607:7</p> <p>analyses [1] - 522:4</p> <p>analysis [11] - 460:7; 462:17; 463:14; 489:21; 522:11; 583:25; 584:4; 585:12; 586:8; 606:1; 625:9</p> <p>analysts [2] - 558:4</p>	<p>analytical [1] - 582:11</p> <p>analyze [1] - 567:6</p> <p>analyzed [1] - 556:8</p> <p>AND [5] - 505:3; 594:13; 641:2; 642:14</p> <p>and.. [1] - 636:12</p> <p>announced [1] - 577:10</p> <p>ANNUAL [1] - 612:16</p> <p>annual [11] - 456:25; 460:17; 519:18; 523:18; 612:9; 628:23, 25; 629:8, 17; 630:5</p> <p>annually [1] - 579:24</p> <p>ANSWER [2] - 552:18; 553:13</p> <p>answering [3] - 468:1; 511:22; 604:16</p> <p>answers [3] - 462:23; 474:15; 522:19</p> <p>anyway [4] - 541:16; 554:16; 560:14; 593:22</p> <p>apologies [1] - 514:19</p> <p>apologize [6] - 451:4; 470:9; 471:14; 554:3; 614:15; 616:8</p> <p>appear [2] - 457:24; 469:24</p> <p>appearing [1] - 518:5</p> <p>Appendix [3] - 458:24; 484:5; 519:14</p> <p>appendix [5] - 458:25; 459:1; 595:13; 626:13; 627:6</p> <p>apples [1] - 486:4</p> <p>applicable [2] - 476:23; 574:17</p> <p>application [44] - 452:25; 453:5, 8; 476:11, 14, 25; 477:9; 479:15; 486:11; 487:2, 6; 488:4; 490:6; 496:21; 503:12; 512:13; 518:19; 535:2; 539:25; 541:16; 544:11; 545:15; 559:19; 561:19; 572:25; 577:10, 13; 581:18; 582:25; 586:15, 20; 588:19; 595:20; 613:5; 617:6; 622:25; 637:10; 645:5, 7; 648:25; 652:1, 12, 14</p> <p>APPLICATION [3] - 503:22, 24; 642:13</p> <p>applied [9] - 487:9; 489:17; 574:20; 580:22, 25; 637:16; 645:8; 650:6</p> <p>applied-for [1] - 645:8</p> <p>applies [2] - 478:20; 575:22</p> <p>apply [7] - 478:11; 480:12; 486:15; 488:12; 528:9; 581:1; 645:13</p> <p>applying [1] - 465:8</p> <p>appreciate [1] - 495:24</p> <p>approach [4] - 529:13; 567:22; 650:23</p>	<p>approaches [1] - 530:21</p> <p>approaching [1] - 483:13</p> <p>appropriate [12] - 476:1; 495:22; 501:13, 15; 505:11; 507:6; 550:21; 580:6; 584:5; 635:12; 650:17</p> <p>approval [6] - 457:4; 570:19; 593:9; 622:4; 630:21, 24</p> <p>approve [4] - 571:3; 574:25; 592:24; 627:5</p> <p>approved [5] - 572:8; 591:25; 592:2; 630:4, 10</p> <p>approves [1] - 570:13</p> <p>approximate [1] - 575:2</p> <p>April [2] - 472:13; 504:2</p> <p>ARE [2] - 641:1</p> <p>area [16] - 489:1; 509:25; 515:22; 524:7, 18; 525:1, 12, 18; 528:5; 539:22; 541:16; 557:21; 599:2; 610:2; 618:23; 619:6</p> <p>areas [21] - 531:14, 16, 18; 534:7, 23-24; 535:7; 536:5; 537:16, 23-24; 543:15; 556:16; 609:19; 610:5, 11, 13; 611:3, 6; 614:3</p> <p>argue [2] - 545:5; 562:7</p> <p>argument [5] - 473:10; 503:1; 602:6; 625:18; 652:22</p> <p>arises [1] - 646:1</p> <p>arising [1] - 452:16</p> <p>arose [1] - 576:22</p> <p>arrangement [1] - 538:16</p> <p>arrangements [1] - 558:11</p> <p>arrive [7] - 470:17, 22; 471:19; 472:2, 23; 540:23; 632:23</p> <p>arriving [1] - 470:11</p> <p>article [20] - 451:1; 491:25; 492:24; 493:5, 9; 494:7, 10, 18; 495:12, 18; 503:4; 505:7, 10, 12-13; 506:11, 13, 18</p> <p>ARTICLE [1] - 494:12</p> <p>articles [5] - 492:14; 493:4, 18; 494:3; 496:19</p> <p>AS [4] - 581:7; 640:25; 642:11; 651:11</p> <p>aside [1] - 634:24</p> <p>ASKING [2] - 594:12, 15</p> <p>aspects [1] - 530:13</p> <p>assertion [1] - 486:7</p> <p>assess [2] - 605:22, 24</p> <p>assesses [1] - 607:11</p> <p>assessing [1] - 521:16</p> <p>assessment [10] -</p>	<p>481:25; 585:14; 586:8; 606:16; 610:15; 616:21; 617:1; 635:9, 14</p> <p>asset [7] - 510:10, 13; 582:2; 631:13; 634:25; 635:24</p> <p>assets [11] - 454:25; 462:11, 21; 496:9, 23; 510:2; 517:14; 527:17; 577:1; 597:13; 634:20</p> <p>assign [2] - 486:2; 562:20</p> <p>assigned [3] - 485:19; 497:22; 558:18</p> <p>assigning [1] - 485:17</p> <p>assignment [1] - 555:10</p> <p>assignments [2] - 541:21; 556:4</p> <p>assist [4] - 470:11; 546:5; 560:20; 648:17</p> <p>assisted [1] - 642:5</p> <p>assisting [1] - 547:17</p> <p>assists [1] - 497:8</p> <p>associated [2] - 490:3; 643:16</p> <p>assume [5] - 489:6; 515:14; 534:10; 585:18; 631:2</p> <p>assumed [5] - 461:13; 541:19; 583:1; 584:4; 585:24</p> <p>assumes [1] - 583:24</p> <p>assuming [12] - 467:4; 477:15; 479:14; 483:21; 499:7; 526:20; 585:16, 20; 612:22; 613:13, 20</p> <p>assumption [8] - 473:21; 481:15; 499:10; 584:9; 586:11; 631:3; 650:8</p> <p>ASSUMPTION [1] - 584:21</p> <p>assumptions [2] - 459:11; 487:6</p> <p>assurance [7] - 601:13, 24; 608:8; 609:1; 622:8; 632:3; 649:14</p> <p>assuring [1] - 481:7</p> <p>astronomical [1] - 467:11</p> <p>astute [1] - 471:5</p> <p>AT [1] - 641:1</p> <p>Atlin [7] - 518:21; 593:21; 595:16; 596:14; 603:5, 9; 641:10</p> <p>ATTACHED [2] - 503:23; 504:16</p> <p>attached [7] - 459:18; 503:12; 504:6, 20; 508:18; 569:23; 650:1</p> <p>attachment [16] - 456:2, 5; 459:1, 13; 460:5; 461:2; 464:7; 465:4, 23; 477:10; 482:1; 497:25; 515:23; 519:14</p> <p>attained [1] - 608:7</p> <p>attempt [1] - 573:7</p>
--	--	---	--	---

<p>attempting [1] - 566:11</p> <p>attention [6] - 531:15; 579:2, 21, 25; 630:18; 649:9</p> <p>attitude [2] - 566:18; 567:20</p> <p>attribute [2] - 485:6; 487:20</p> <p>attributed [4] - 485:20; 495:3; 500:2; 565:19</p> <p>attributes [1] - 598:8</p> <p>attribution [1] - 486:18</p> <p>AUC [2] - 645:11; 650:4</p> <p>audit [9] - 456:17, 22-23; 458:5, 13, 20; 540:15; 557:4, 6</p> <p>augment [1] - 574:3</p> <p>augmented [1] - 574:4</p> <p>August [1] - 577:13</p> <p>authorization [2] - 629:14, 19</p> <p>automatic [2] - 492:21; 639:24</p> <p>availability [2] - 467:25; 468:6</p> <p>available [11] - 452:23; 463:1; 485:13; 490:25; 514:3; 515:4; 516:11, 21-22; 521:10, 19</p> <p>Avenue [1] - 450:1</p> <p>average [36] - 459:7, 9; 468:24; 472:21; 473:12; 475:13, 15; 477:13; 478:4, 16; 479:19; 480:15; 483:2, 7, 24; 484:2, 25; 486:14, 23; 487:11; 544:18; 573:14, 18, 21, 25; 574:10, 13, 17; 575:8; 577:9, 17; 578:20; 580:6; 635:19</p> <p>averages [2] - 462:20; 484:13</p> <p>averaging [1] - 613:2</p> <p>avoiding [2] - 460:19; 481:21</p> <p>awhile [1] - 587:15</p>	<p>6; 477:12; 483:12; 484:25; 486:10; 509:20; 529:13; 530:14; 531:9, 22; 541:11; 564:4; 573:16, 20; 577:17; 586:13; 593:6; 602:19; 616:1; 629:25; 646:19; 647:13; 650:9, 20</p> <p>baseline [8] - 458:16; 605:14; 609:13, 24; 610:14; 616:11; 624:13; 644:13</p> <p>basic [2] - 559:8; 650:13</p> <p>basis [27] - 459:12; 481:19; 485:10; 510:8; 516:25; 523:23; 525:6; 526:8; 535:5; 536:18; 537:15; 540:24; 541:11; 542:9; 556:6; 559:16; 561:5, 11; 567:5; 571:5; 573:13; 587:23; 605:1; 630:25; 634:14; 635:17</p> <p>basket [1] - 606:18</p> <p>battle [1] - 644:19</p> <p>BCUC [7] - 645:15; 650:2, 4, 14, 18; 651:2, 12</p> <p>BE [3] - 594:13; 612:15, 17</p> <p>beak [1] - 451:23</p> <p>become [4] - 524:13; 549:7; 578:5; 604:6</p> <p>becomes [6] - 518:4; 527:17; 567:21; 604:14; 622:2</p> <p>becoming [2] - 542:19; 570:7</p> <p>BEEN [1] - 611:21</p> <p>began [3] - 555:11, 20; 577:6</p> <p>begin [1] - 501:22</p> <p>belabour [1] - 624:9</p> <p>BELIEVES [1] - 612:17</p> <p>below [2] - 499:14, 19</p> <p>benchmark [1] - 650:15</p> <p>beneficial [3] - 584:1; 611:4; 617:16</p> <p>benefit [12] - 457:1; 496:8; 526:24; 531:24; 547:1; 548:15; 568:4; 577:9; 583:13, 21; 636:25; 638:1</p> <p>benefits [12] - 496:11; 514:17; 524:25; 548:9; 565:16; 567:25; 568:4; 611:25; 616:4, 17; 637:4</p> <p>benefitted [1] - 647:10</p> <p>Bennett [1] - 641:11</p> <p>Bentivegna [23] - 450:9; 528:18; 529:1; 533:12, 15; 546:12; 550:20; 554:2, 19; 560:7, 15; 563:21; 586:21, 24; 588:7; 592:4; 602:25; 621:9; 624:8; 626:14;</p>	<p>640:10; 642:9; 645:16</p> <p>BENTIVEGNA [23] - 505:20, 22; 528:20, 22; 529:2; 550:22; 554:20; 569:13, 18, 20; 581:9; 584:24; 594:17; 611:24; 612:19; 626:20; 627:3; 632:19; 641:4; 642:15; 645:20, 23; 651:14</p> <p>BENTIVEGNA'S [1] - 594:12</p> <p>beyond [6] - 461:14; 509:19; 539:13; 570:18; 622:1; 647:19</p> <p>bid [1] - 619:13</p> <p>big [21] - 460:14; 463:18; 499:2; 517:10; 522:19; 524:4; 527:15; 575:8; 584:7; 600:1, 9, 11; 601:17, 24; 604:7; 605:7; 606:25; 611:11; 617:7; 618:19; 649:15</p> <p>bigger [6] - 490:17; 521:2; 574:10; 575:20; 576:1; 619:14</p> <p>biggest [1] - 590:18</p> <p>bill [3] - 539:16; 575:7; 576:12</p> <p>billed [2] - 573:1, 9</p> <p>billion [1] - 600:15</p> <p>bills [1] - 539:15</p> <p>biology [1] - 605:4</p> <p>biomass [3] - 597:10; 598:7; 603:24</p> <p>bits [1] - 516:20</p> <p>blank [1] - 499:2</p> <p>blended [1] - 613:2</p> <p>block [1] - 482:6</p> <p>blue [2] - 499:20, 22</p> <p>Board [42] - 450:7-11; 451:7; 452:23; 489:21; 490:2; 492:15; 504:3; 516:6; 534:25; 552:7; 555:8; 556:22; 566:16, 19; 569:11, 15; 570:13, 19, 23; 571:3, 21; 574:5, 24; 577:11; 592:1, 18; 593:7; 605:20; 611:13; 627:5; 644:12; 648:17; 650:11; 651:17</p> <p>board [18] - 452:9; 487:10; 490:4; 516:6; 541:3; 566:14; 567:6, 19; 592:14; 593:2; 624:5; 630:7, 17, 21, 23; 646:20</p> <p>BOARD [1] - 572:16</p> <p>Board's [4] - 555:5, 18; 571:4; 622:3</p> <p>boards [1] - 568:16</p> <p>boat [1] - 639:21</p> <p>body [2] - 529:19; 563:12</p> <p>bond [3] - 646:6; 647:14; 650:15</p> <p>bonus [1] - 635:7</p> <p>bookkeeping [1] - 540:13</p> <p>books [2] - 454:5; 592:21</p> <p>boom [1] - 516:18</p> <p>bottom [1] - 469:5</p> <p>bound [2] - 492:15</p>	<p>boundary [1] - 574:6</p> <p>box [2] - 456:13; 499:3</p> <p>bracket [1] - 613:13</p> <p>brackets [1] - 596:18</p> <p>brand [4] - 589:10, 14; 598:1</p> <p>brand-new [4] - 589:10, 14; 598:1</p> <p>break [12] - 451:24; 452:6; 484:19; 501:14, 16-17; 550:21, 25; 551:2; 626:16, 18, 23</p> <p>break-even [1] - 484:19</p> <p>breakdowns [1] - 587:24</p> <p>breaker [1] - 639:3</p> <p>Brewery [1] - 524:1</p> <p>briefings [1] - 547:9</p> <p>briefly [2] - 507:13; 554:24</p> <p>bright [1] - 604:7</p> <p>bringing [5] - 490:6; 496:11; 548:8, 15; 555:7</p> <p>brings [3] - 487:23; 536:22; 610:10</p> <p>broader [2] - 564:4; 568:17</p> <p>brought [7] - 450:25; 460:9; 491:11; 564:16; 567:3; 570:18; 618:14</p> <p>brushed [3] - 537:23; 538:2</p> <p>brushing [5] - 529:5; 530:23; 531:3; 532:9</p> <p>budget [13] - 456:25; 457:13; 458:17; 532:21; 533:5; 534:13; 540:24; 541:20; 562:9; 565:14, 21</p> <p>budgeting [1] - 625:18</p> <p>budgets [1] - 545:19</p> <p>build [7] - 496:14, 21; 518:6; 537:22; 599:24; 600:22; 636:12</p> <p>building [8] - 515:7; 517:12, 23; 518:10; 538:8, 13; 546:17; 607:21</p> <p>buildings [4] - 509:2; 598:9, 12</p> <p>buildups [1] - 600:9</p> <p>built [7] - 496:9; 524:11; 558:10; 573:12; 600:5; 601:9; 644:17</p> <p>burdened [1] - 496:22</p> <p>burn [2] - 468:4; 474:21</p> <p>burned [2] - 573:24</p> <p>burning [1] - 516:22</p> <p>burns [1] - 573:16</p> <p>business [8] - 497:14; 553:23; 583:5; 614:22; 615:1; 622:24; 625:21; 646:20</p> <p>businesses [1] - 647:9</p> <p>busy [2] - 478:9; 562:19</p> <p>buy [3] - 525:5;</p>	<p>582:10; 637:22</p> <p>buzzing [1] - 528:24</p> <p>BY [1] - 612:14</p>
C				
<p>B-16 [1] - 452:19</p> <p>B-17 [6] - 464:9, 18; 465:11, 22; 479:1</p> <p>B-20 [2] - 552:14, 18</p> <p>B-21 [3] - 553:2, 10, 13</p> <p>B.C [1] - 600:15</p> <p>backfill [3] - 557:22; 559:21; 560:1</p> <p>background [1] - 550:7</p> <p>backup [3] - 506:23; 561:2; 608:22</p> <p>bad [1] - 614:5</p> <p>balance [4] - 477:1; 479:19; 600:16; 631:24</p> <p>ballpark [2] - 616:2</p> <p>banker [1] - 576:12</p> <p>base [3] - 518:20; 620:9; 637:15</p> <p>based [32] - 453:2; 459:6, 14, 17; 462:3;</p>	<p>650:13</p> <p>basis [27] - 459:12; 481:19; 485:10; 510:8; 516:25; 523:23; 525:6; 526:8; 535:5; 536:18; 537:15; 540:24; 541:11; 542:9; 556:6; 559:16; 561:5, 11; 567:5; 571:5; 573:13; 587:23; 605:1; 630:25; 634:14; 635:17</p> <p>basket [1] - 606:18</p> <p>battle [1] - 644:19</p> <p>BCUC [7] - 645:15; 650:2, 4, 14, 18; 651:2, 12</p> <p>BE [3] - 594:13; 612:15, 17</p> <p>beak [1] - 451:23</p> <p>become [4] - 524:13; 549:7; 578:5; 604:6</p> <p>becomes [6] - 518:4; 527:17; 567:21; 604:14; 622:2</p> <p>becoming [2] - 542:19; 570:7</p> <p>BEEN [1] - 611:21</p> <p>began [3] - 555:11, 20; 577:6</p> <p>begin [1] - 501:22</p> <p>belabour [1] - 624:9</p> <p>BELIEVES [1] - 612:17</p> <p>below [2] - 499:14, 19</p> <p>benchmark [1] - 650:15</p> <p>beneficial [3] - 584:1; 611:4; 617:16</p> <p>benefit [12] - 457:1; 496:8; 526:24; 531:24; 547:1; 548:15; 568:4; 577:9; 583:13, 21; 636:25; 638:1</p> <p>benefits [12] - 496:11; 514:17; 524:25; 548:9; 565:16; 567:25; 568:4; 611:25; 616:4, 17; 637:4</p> <p>benefitted [1] - 647:10</p> <p>Bennett [1] - 641:11</p> <p>Bentivegna [23] - 450:9; 528:18; 529:1; 533:12, 15; 546:12; 550:20; 554:2, 19; 560:7, 15; 563:21; 586:21, 24; 588:7; 592:4; 602:25; 621:9; 624:8; 626:14;</p>	<p>640:10; 642:9; 645:16</p> <p>BENTIVEGNA [23] - 505:20, 22; 528:20, 22; 529:2; 550:22; 554:20; 569:13, 18, 20; 581:9; 584:24; 594:17; 611:24; 612:19; 626:20; 627:3; 632:19; 641:4; 642:15; 645:20, 23; 651:14</p> <p>BENTIVEGNA'S [1] - 594:12</p> <p>beyond [6] - 461:14; 509:19; 539:13; 570:18; 622:1; 647:19</p> <p>bid [1] - 619:13</p> <p>big [21] - 460:14; 463:18; 499:2; 517:10; 522:19; 524:4; 527:15; 575:8; 584:7; 600:1, 9, 11; 601:17, 24; 604:7; 605:7; 606:25; 611:11; 617:7; 618:19; 649:15</p> <p>bigger [6] - 490:17; 521:2; 574:10; 575:20; 576:1; 619:14</p> <p>biggest [1] - 590:18</p> <p>bill [3] - 539:16; 575:7; 576:12</p> <p>billed [2] - 573:1, 9</p> <p>billion [1] - 600:15</p> <p>bills [1] - 539:15</p> <p>biology [1] - 605:4</p> <p>biomass [3] - 597:10; 598:7; 603:24</p> <p>bits [1] - 516:20</p> <p>blank [1] - 499:2</p> <p>blended [1] - 613:2</p> <p>block [1] - 482:6</p> <p>blue [2] - 499:20, 22</p> <p>Board [42] - 450:7-11; 451:7; 452:23; 489:21; 490:2; 492:15; 504:3; 516:6; 534:25; 552:7; 555:8; 556:22; 566:16, 19; 569:11, 15; 570:13, 19, 23; 571:3, 21; 574:5, 24; 577:11; 592:1, 18; 593:7; 605:20; 611:13; 627:5; 644:12; 648:17; 650:11; 651:17</p> <p>board [18] - 452:9; 487:10; 490:4; 516:6; 541:3; 566:14; 567:6, 19; 592:14; 593:2; 624:5; 630:7, 17, 21, 23; 646:20</p> <p>BOARD [1] - 572:16</p> <p>Board's [4] - 555:5, 18; 571:4; 622:3</p> <p>boards [1] - 568:16</p> <p>boat [1] - 639:21</p> <p>body [2] - 529:19; 563:12</p> <p>bond [3] - 646:6; 647:14; 650:15</p> <p>bonus [1] - 635:7</p> <p>bookkeeping [1] - 540:13</p> <p>books [2] - 454:5; 592:21</p> <p>boom [1] - 516:18</p> <p>bottom [1] - 469:5</p> <p>bound [2] - 492:15</p>	<p>boundary [1] - 574:6</p> <p>box [2] - 456:13; 499:3</p> <p>bracket [1] - 613:13</p> <p>brackets [1] - 596:18</p> <p>brand [4] - 589:10, 14; 598:1</p> <p>brand-new [4] - 589:10, 14; 598:1</p> <p>break [12] - 451:24; 452:6; 484:19; 501:14, 16-17; 550:21, 25; 551:2; 626:16, 18, 23</p> <p>break-even [1] - 484:19</p> <p>breakdowns [1] - 587:24</p> <p>breaker [1] - 639:3</p> <p>Brewery [1] - 524:1</p> <p>briefings [1] - 547:9</p> <p>briefly [2] - 507:13; 554:24</p> <p>bright [1] - 604:7</p> <p>bringing [5] - 490:6; 496:11; 548:8, 15; 555:7</p> <p>brings [3] - 487:23; 536:22; 610:10</p> <p>broader [2] - 564:4; 568:17</p> <p>brought [7] - 450:25; 460:9; 491:11; 564:16; 567:3; 570:18; 618:14</p> <p>brushed [3] - 537:23; 538:2</p> <p>brushing [5] - 529:5; 530:23; 531:3; 532:9</p> <p>budget [13] - 456:25; 457:13; 458:17; 532:21; 533:5; 534:13; 540:24; 541:20; 562:9; 565:14, 21</p> <p>budgeting [1] - 625:18</p> <p>budgets [1] - 545:19</p> <p>build [7] - 496:14, 21; 518:6; 537:22; 599:24; 600:22; 636:12</p> <p>building [8] - 515:7; 517:12, 23; 518:10; 538:8, 13; 546:17; 607:21</p> <p>buildings [4] - 509:2; 598:9, 12</p> <p>buildups [1] - 600:9</p> <p>built [7] - 496:9; 524:11; 558:10; 573:12; 600:5; 601:9; 644:17</p> <p>burdened [1] - 496:22</p> <p>burn [2] - 468:4; 474:21</p> <p>burned [2] - 573:24</p> <p>burning [1] - 516:22</p> <p>burns [1] - 573:16</p> <p>business [8] - 497:14; 553:23; 583:5; 614:22; 615:1; 622:24; 625:21; 646:20</p> <p>businesses [1] - 647:9</p> <p>busy [2] - 478:9; 562:19</p> <p>buy [3] - 525:5;</p>	<p>582:10; 637:22</p> <p>buzzing [1] - 528:24</p> <p>BY [1] - 612:14</p>
<p>cap [2] - 574:6; 583:16</p> <p>capabilities [1] - 526:3</p> <p>capability [3] - 461:24; 468:24; 472:15</p> <p>capable [1] - 633:10</p> <p>capacity [8] - 490:16; 496:21; 516:9; 558:12; 584:25; 585:3; 586:3; 606:21</p> <p>capital [32] - 509:9, 12, 18; 510:7; 523:8; 545:21; 548:25; 549:3; 558:14, 24; 561:18, 24; 562:4, 8-9, 19-22, 24; 563:15, 23-25; 581:17; 583:1; 589:14; 591:23; 599:15; 603:25; 604:2; 613:2</p> <p>capitalization [1] - 599:19</p> <p>capitalized [2] - 591:19; 602:6</p> <p>care [1] - 488:16</p> <p>careful [2] - 463:2; 487:23</p> <p>Carmacks [4] - 523:21; 546:17;</p>	<p>C-24 [1] - 451:8</p> <p>C-3-24 [2] - 451:3; 502:5</p> <p>C-4-13 [5] - 468:13, 17-18, 23; 472:15</p> <p>C-4-14 [3] - 492:3; 494:7</p> <p>C-4-15 [3] - 492:3; 494:9, 11</p> <p>C-5 [1] - 504:9</p> <p>C-5-10 [2] - 503:19, 21</p> <p>C-5-11 [2] - 504:10, 14</p> <p>C-5-12 [2] - 504:25; 505:2</p> <p>C-5-7 [1] - 502:20</p> <p>C-5-8 [1] - 503:4</p> <p>C-5-9 [3] - 451:4; 503:19; 507:15</p> <p>C-59 [1] - 451:3</p> <p>cables [4] - 589:3, 6, 10, 14</p> <p>calculate [1] - 574:17</p> <p>calculated [1] - 478:15</p> <p>calculation [6] - 462:3; 471:8; 479:25; 485:16; 486:5; 634:18</p> <p>calculations [8] - 459:23; 472:9; 483:21; 484:18; 486:10; 487:18; 526:9; 578:2</p> <p>Campbell [1] - 580:11</p> <p>canal [1] - 619:11</p> <p>cannot [3] - 505:6; 506:17; 596:16</p> <p>Canyon [2] - 524:18, 20</p>			

558:6; 563:5
Carmacks-Stewart
 [3] - 546:17; 558:6;
 563:5
case [15] - 486:14,
 22; 488:8; 489:14;
 572:9; 578:24; 582:2;
 583:6; 614:22;
 622:24; 625:21;
 627:10; 632:5;
 634:21; 635:3
cases [3] - 462:16;
 524:7; 624:20
casino [1] - 490:11
casual [4] - 560:13,
 20; 561:15
catch [1] - 626:17
catchup [1] - 517:21
caught [1] - 472:5
caution [2] - 485:4,
 16
CBC [5] - 491:24;
 493:9; 494:7
ceased [1] - 574:25
ceiling [1] - 595:12
centre [6] - 498:17;
 499:2; 564:19, 21;
 637:25; 638:14
centres [1] - 599:3
cents [7] - 475:12,
 18, 21, 24; 476:9, 15;
 484:17
CEO [1] - 541:1
certain [18] - 463:16;
 474:13; 485:17;
 486:2; 521:15; 527:4;
 568:22; 570:24;
 573:3, 5; 587:16;
 592:20; 607:14;
 623:18, 24; 632:4
certification [1] -
 591:13
certified [1] - 591:5
certify [2] - 591:1
cetera [2] - 467:21;
 475:14
chair [6] - 452:9;
 470:8; 475:5; 486:16;
 488:1, 24
Chair [43] - 450:6;
 453:1; 458:2; 468:11,
 20; 487:18; 489:10;
 491:22; 492:7;
 494:16; 496:3, 6;
 497:7; 498:11, 20;
 499:13, 24; 501:20,
 24; 504:2; 505:20;
 507:5, 13, 20; 509:22;
 511:16; 512:11, 22;
 513:10; 516:3; 526:5;
 528:16; 529:14;
 531:11; 532:11;
 533:15; 537:10;
 552:8; 554:4, 20;
 569:13; 627:3; 637:19
CHAIR [64] - 450:20;
 451:16, 22; 452:1, 7;
 453:12; 456:6;
 468:14; 492:4, 10;
 494:4, 9, 13; 495:20;
 498:12, 21; 501:8, 11,
 17, 22; 502:15; 503:6,
 15, 18; 504:10, 17,
 23; 505:1, 17, 21, 24;
 506:11, 16, 21; 507:2,
 7, 10, 16, 19, 21, 25;
 512:14, 20, 24;
 528:17; 550:20, 24;
 552:5, 13, 17; 553:9,
 12, 16, 24; 554:18;

569:16, 19; 626:14,
 22; 627:1; 645:16, 22;
 651:16; 652:17
chair's [1] - 528:23
Chairman [3] -
 454:21; 469:21;
 528:20
challenge [1] -
 456:15
challenges [2] -
 536:14, 21
change [18] - 459:21;
 460:1, 4, 8, 16;
 462:21; 515:5;
 520:23; 542:1; 564:6;
 577:13; 603:10;
 613:25; 614:2;
 640:20; 645:3
changed [4] -
 508:20; 564:12;
 606:4; 628:14
changes [10] -
 462:14; 508:21;
 520:13; 557:20;
 571:18; 574:16, 25;
 576:5; 578:19; 611:25
changing [4] - 520:2;
 564:2; 645:4, 6
characteristics [3] -
 459:15; 582:22
characterize [2] -
 543:16; 546:14
charge [8] - 539:10,
 12, 18; 540:18;
 544:18; 574:7; 576:7;
 643:19
charged [2] - 487:11;
 576:14
charging [2] -
 539:18; 573:12
chart [2] - 619:15;
 620:6
chartered [1] -
 557:23
cheaper [1] - 637:8
CHECK [1] - 594:10
check-ins [1] -
 616:14
checking [4] -
 587:21; 629:17;
 650:19; 651:8
checks [1] - 563:9
chief [1] - 538:21
choices [1] - 527:24
chunks [3] - 605:21;
 607:1
circulated [1] -
 552:15
City [3] - 450:13;
 470:21; 603:19
city [1] - 597:1
claims [1] - 644:16
clarification [1] -
 622:19
clarified [1] - 597:18
clarify [9] - 450:24;
 466:21; 471:16;
 485:25; 486:4; 554:7;
 569:9; 636:13
clarifying [1] - 466:3
Clarke [1] - 450:10
class [1] - 487:21
classic [1] - 626:5
clean [2] - 502:13;
 507:6
clear [26] - 469:15;
 471:11; 485:24;
 489:20; 507:6;
 510:17; 534:22;
 539:4; 544:3; 546:19;

560:12, 23, 25;
 563:21; 569:24;
 573:4; 592:5; 593:16;
 596:14, 16; 603:6, 18;
 604:7; 612:21; 613:4;
 622:5
clearest [1] - 484:6
clearly [3] - 489:5;
 490:15; 604:14
cliff [1] - 483:15
climate [1] - 531:23
close [9] - 527:6;
 553:6, 22; 599:3;
 619:21; 623:12;
 652:7, 18; 653:2
closed [6] - 569:4;
 577:20, 24; 578:6;
 609:9; 630:5
closely [2] - 587:21;
 588:1
closer [1] - 618:4
closing [2] - 569:3;
 652:20
CMMS [1] - 537:17
coffee [1] - 626:23
coin [1] - 649:5
cold [2] - 474:5, 11
collection [1] -
 600:17
collectively [1] -
 616:7
Columbia [1] -
 549:17
column [5] - 465:10;
 477:18; 478:1, 17;
 616:14
columns [2] - 465:5;
 644:1
combination [3] -
 516:10; 547:15; 586:2
combinations [2] -
 515:20; 517:13
COME [1] - 651:12
coming [11] - 497:1;
 526:16; 531:13;
 535:3; 537:11;
 558:10, 20; 587:8;
 592:18; 596:23;
 629:16
commensurate [1] -
 612:9
COMMENSURATE
 [1] - 612:16
comment [10] -
 453:18; 472:17;
 485:20; 492:12;
 509:15; 511:6;
 522:16; 523:2; 526:4
comments [2] -
 492:9; 495:2
commercial [3] -
 460:12; 489:16;
 490:23
Commission [3] -
 646:3; 648:3
commissioning [1] -
 591:13
commit [1] - 526:7
commitment [3] -
 460:6; 613:23; 652:25
commodities [1] -
 647:6
commodity [1] -
 455:15
communicating [1] -
 638:16
communication [6] -
 557:11; 565:13, 20,
 22; 567:24
communications [2]

- 543:14; 560:9
community [2] -
 627:7, 24
companies [3] -
 570:20; 579:16, 18
Company [1] -
 450:14
company [9] - 480:7;
 564:17; 573:15;
 576:16; 588:23;
 592:21; 601:18;
 607:15; 630:15
comparable [2] -
 650:2
comparator [1] -
 582:17
comparators [1] -
 582:17
compare [1] - 461:1
compared [7] -
 460:23; 467:10;
 518:2; 528:4; 636:19;
 646:10; 648:10
comparing [1] -
 581:21
comparison [3] -
 460:4; 522:3; 624:4
compensation [1] -
 644:16
competitive [1] -
 549:12
compiling [1] - 516:4
Complement [1] -
 540:1
complement [1] -
 544:17
complete [2] - 617:2;
 637:23
completed [8] -
 455:9; 456:18;
 530:14; 534:4, 7;
 583:5; 612:9
COMPLETED [1] -
 612:15
complexities [1] -
 520:10
compliance [1] -
 540:9
complicated [2] -
 599:21; 609:16
component [3] -
 499:21; 540:11; 599:4
comprehensive [1] -
 592:20
compressed [1] -
 506:5
comprise [1] -
 500:16
comprised [1] -
 500:14
computerized [1] -
 536:17
concept [3] - 562:17;
 576:21
conceptual [1] -
 616:12
conclude [1] - 451:9
CONCLUDED [1] -
 653:5
concludes [1] -
 528:15
concluding [1] -
 497:9
conclusion [2] -
 577:16; 607:20
concrete [2] -
 454:20; 566:5
concurrently [1] -
 570:20
CONDITIONS [1] -

453:16
conditions [6] -
 452:22; 466:14;
 467:17; 468:21;
 511:9; 618:23
conduct [2] - 548:11;
 555:14
conductors [2] -
 533:2
confident [3] - 501:3;
 571:25; 650:11
configuration [1] -
 526:2
CONFIRM [2] -
 581:6; 584:21
confirms [1] - 585:23
confuse [1] - 564:10
confusing [1] - 480:2
conjunction [2] -
 536:2; 538:1
connect [2] - 490:21;
 527:15
connected [3] -
 480:21; 527:7, 19
connecting [1] -
 525:5
connection [6] -
 497:21, 24; 498:3;
 637:13, 15; 638:8
connects [1] -
 499:20
conscious [2] -
 520:13; 527:23
consensus [1] -
 648:1
consequently [1] -
 545:25
conservation [6] -
 555:7, 15; 556:10,
 24-25; 557:2
Conservation [1] -
 450:17
consider [3] -
 497:10; 575:24; 634:8
considerable [1] -
 619:4
consideration [3] -
 532:21; 533:9, 24
considered [2] -
 497:15; 524:10
consistency [1] -
 457:5
consists [2] - 540:4;
 639:21
consolidated [5] -
 470:19, 21; 471:4, 17;
 473:16
consolidation [1] -
 473:18
constant [1] - 526:15
constantly [1] -
 548:12
constraints [3] -
 468:5; 491:1, 18
construct [1] - 518:8
construction [3] -
 590:2; 618:13; 619:21
consult [1] - 617:13
consultant [3] -
 509:24; 544:18;
 545:10
consultants [4] -
 546:20; 636:23;
 641:21
consultation [6] -
 555:22; 556:20;
 610:2; 611:2, 9;
 617:11
consultations [1] -
 617:9

<p>consulting [3] - 545:7; 555:21; 644:21 Consumers' [1] - 450:15 contain [1] - 506:5 context [6] - 519:13; 580:8; 613:15; 623:14; 647:17, 19 contingency [8] - 569:8, 21; 570:8, 14; 571:16; 574:15; 618:15; 619:6 continue [9] - 548:20; 556:5; 567:17; 569:3; 596:4, 12; 604:21; 627:1; 650:6 continued [2] - 570:12; 628:14 continues [1] - 617:18 continuing [1] - 597:23 continuity [2] - 571:22; 572:22 CONTINUITY [1] - 572:17 contract [1] - 619:25 contractor [2] - 535:18; 618:13 contractors [4] - 546:20, 24; 547:10; 548:10 contribute [1] - 597:11 contributions [2] - 573:2; 616:17 contributor [1] - 598:23 control [12] - 518:14; 557:12; 560:9; 564:21; 565:8; 637:24; 638:14, 24; 639:12, 17, 20, 25 controller [8] - 558:18, 20; 559:15, 22; 560:1; 565:8; 638:21 convenient [1] - 519:10 conveniently [1] - 497:24 conversation [4] - 484:10; 554:23; 557:8 conversion [2] - 509:5; 559:9 converted [1] - 508:23 convinced [1] - 547:18 coordinates [1] - 545:17 Coordinator [1] - 563:25 coordinator [7] - 546:5, 9; 547:25; 557:22; 563:15, 24; 565:2 copacetic [1] - 571:1 Copper [10] - 459:21; 460:2, 9; 461:9; 480:21; 482:17; 485:9; 488:12; 490:11; 523:22 core [2] - 481:21; 590:16 corporate [5] - 538:9; 541:2; 543:11; 544:21; 647:14 corporation [2] -</p>	<p>516:2; 544:19 Corporation [4] - 450:12; 452:14; 504:19; 538:6 CORPORATION [1] - 505:3 corrected [1] - 651:24 correction [3] - 478:7; 479:2; 613:9 corrections [2] - 465:8; 486:25 correctly [13] - 454:1; 472:18; 479:9; 480:19, 23; 482:6, 8; 483:18; 508:19; 522:2; 535:9; 536:11; 590:13 cost [52] - 457:1; 458:19; 475:10, 15, 18, 21; 476:7; 480:6; 484:19, 23; 485:25; 487:20; 497:17, 23; 499:8, 16, 22; 529:17; 532:14; 535:18; 544:16; 545:20; 582:5, 16, 18; 585:17; 595:3; 596:24; 598:16; 601:7; 603:13, 25; 604:2; 612:1; 618:9; 623:14; 626:12; 627:4; 630:16, 18-19, 22; 631:3; 633:4; 637:8; 643:11, 20; 644:6, 15 costing [2] - 617:5; 619:16 costly [3] - 524:13; 567:22; 597:4 costs [72] - 453:20, 25; 454:11; 466:17; 467:18; 485:1, 6, 21; 486:8, 13, 19; 487:24; 496:11; 524:9; 529:7; 532:23; 534:4; 538:3, 11; 544:25; 547:1; 581:12; 583:1; 588:14; 589:18; 591:15, 17, 19, 23-24; 592:2, 20-21; 593:3; 594:3; 598:20; 600:5, 8, 21; 603:2, 14; 608:18; 612:7, 9; 613:2; 616:3; 618:6; 630:4, 8, 12; 631:14, 24; 635:12; 637:11, 16; 642:18, 21; 643:8, 16, 23-25; 644:2, 10, 14, 16, 20 COSTS [2] - 594:13; 612:16 Council [1] - 592:17 counting [1] - 543:19 country [1] - 647:3 Country [1] - 450:1 couple [23] - 450:21; 451:18; 452:16; 453:1; 455:1; 458:2; 489:16; 492:8; 530:13; 536:5; 545:3; 552:9; 557:21; 564:12; 587:2; 590:4; 600:1; 618:12; 627:22; 633:6; 645:11; 646:21; 647:7 course [8] - 513:6; 523:18; 558:10; 579:17; 593:17; 597:7; 613:23 Court [1] - 450:18</p>	<p>cover [2] - 450:21; 504:20 covers [1] - 459:19 create [1] - 525:19 created [1] - 544:13 credited [1] - 585:3 Creek [2] - 524:1; 525:6 crisis [4] - 648:16, 18; 649:10, 23 criteria [3] - 529:11; 585:2 criterion [1] - 529:10 critical [9] - 531:14; 533:2, 6; 534:7; 537:16; 568:7; 587:6 critically [1] - 568:9 CROSS [2] - 452:15; 468:19 cross [6] - 454:10; 468:12; 494:2; 510:18; 569:10; 650:19 cross-checking [1] - 650:19 cross-examination [1] - 468:12 CROSS-EXAMINATION [1] - 468:19 CROSS-EXAMINES [1] - 452:15 crossing [1] - 527:8 crown [1] - 602:20 CSR(A) [2] - 450:18 CSTP [1] - 581:12 cubicle [1] - 538:22 cubicles [1] - 556:16 current [10] - 462:11; 565:10; 601:3; 608:11, 23; 611:14; 631:10; 650:18; 651:9 curve [1] - 526:15 customer [22] - 481:18; 484:24; 485:14, 18; 486:2; 487:17; 488:9; 489:9, 14-16; 490:3, 8; 491:1; 494:20; 496:1, 4; 497:12; 573:2, 4 customers [29] - 460:1; 475:3; 485:5, 7; 486:18; 487:4, 6-7, 15; 488:4, 20; 489:2, 25; 490:4, 7, 21; 491:7; 496:10, 12, 14, 24; 497:3; 523:16; 575:3; 597:14; 608:15 cut [2] - 463:12; 487:3 CW-33 [1] - 632:11 CW-YEC-1-22 [2] - 501:7; 508:16 CW-YEC-1-26 [1] - 581:11 CW-YEC-1-28 [2] - 510:22, 25 cycle [4] - 532:10, 13, 15; 538:1 cycles [1] - 532:8</p>	<p>database [2] - 537:22; 610:23 dates [2] - 652:21, 23 Dawson [8] - 470:19, 25; 471:2, 6, 12, 17, 19 day-to-day [3] - 542:15, 22; 566:9 days [6] - 469:19; 561:22; 579:2; 617:8; 634:17 DCF [20] - 458:23; 466:16; 472:20; 476:4, 13; 482:2; 569:24; 572:24; 574:25; 578:23, 25; 580:3, 16; 581:7; 599:20, 23 dead [3] - 593:14; 601:23; 607:20 deal [25] - 462:19; 488:16; 493:7; 498:4; 502:17; 520:25; 525:8; 534:23; 535:5; 548:2; 568:17; 572:4; 576:11; 580:5; 584:7; 586:19; 594:23; 606:21; 610:1; 624:3, 22-24; 645:18, 20 dealing [11] - 473:17; 482:1; 493:12; 520:24; 531:18; 535:6; 542:11, 22; 558:7; 578:8; 592:2 deals [1] - 486:22 DECEMBER [1] - 572:19 December [6] - 467:4, 8; 472:11; 473:5; 571:24; 644:3 decide [2] - 529:11; 535:2 decided [3] - 584:3; 592:11; 601:18 decides [1] - 614:8 decision [16] - 501:14; 522:7; 523:6; 548:18; 558:1; 569:11; 584:2; 592:18; 593:11; 595:18; 605:16; 607:14; 631:15; 645:10; 646:3; 648:15 Decision [2] - 646:2, 5 decision-making [2] - 523:6; 584:2 decisions [8] - 516:8; 517:18, 22; 577:13; 593:1, 12, 16 decline [1] - 648:9 declined [1] - 648:8 dedicated [2] - 536:24; 562:18 deemed [1] - 544:22 defer [4] - 510:15; 542:10; 631:14, 23 deferred [6] - 591:15, 17; 595:3; 623:14; 630:21; 632:1 deferring [1] - 591:23 deficiencies [1] - 475:13 define [1] - 629:15 defined [2] - 622:21; 633:12 definition [14] - 571:11; 614:22;</p>	<p>615:25; 616:10; 621:25; 622:1, 12, 14, 20; 624:25; 625:2, 7; 626:1, 10 degree [2] - 520:8; 575:13 deletions [2] - 570:13; 571:3 deliverable [1] - 616:13 deliverables [1] - 629:16 delivery [1] - 545:21 demand [7] - 454:16; 555:3, 6, 14, 17; 597:6, 9 demobilization [2] - 532:23; 589:18 demonstrated [1] - 617:9 department [11] - 540:4; 541:20, 23; 542:4, 6, 18; 543:2; 547:4; 562:9; 564:15; 572:12 departments [1] - 546:2 depreciation [8] - 501:7; 508:16, 19; 509:1, 5, 16, 24; 636:4 depth [1] - 651:1 describe [4] - 498:8; 529:10; 575:11; 576:2 described [9] - 479:5; 495:4; 521:6; 558:13; 575:6; 593:1, 7; 599:11; 649:2 describes [1] - 546:3 describing [1] - 593:12 description [6] - 612:8; 616:21; 617:3; 623:1, 5 DESCRIPTION [1] - 612:15 deserves [1] - 625:19 designated [5] - 533:2; 534:12, 24 desk [1] - 543:24 desktop [2] - 526:8; 625:14 despite [1] - 626:11 detail [2] - 520:8; 648:23 detailed [2] - 536:19; 537:12 determine [7] - 530:21; 532:4; 581:20; 603:1; 614:24; 616:2; 635:12 determined [3] - 532:13; 540:21; 637:21 determining [1] - 581:22 develop [4] - 527:25; 555:16; 615:1, 12 developed [6] - 522:23; 609:15; 646:12, 17; 649:1, 13 developing [7] - 509:25; 530:20; 531:19; 546:18; 555:6; 559:5; 602:21 Development [1] - 538:6 development [6] - 505:8; 524:14;</p>
--	---	---	---	--

D

dam [4] - 590:12, 16-17; 640:14
damages [1] - 569:1
dams [1] - 508:25
data [7] - 458:13; 510:1; 543:7; 558:9; 559:9; 624:5; 641:14

527:24; 545:17;
556:12; 615:14
dewater [3] - 590:21;
591:3, 6
dewatering [2] -
568:23; 569:2
diagram [6] - 498:1,
6, 15, 24; 623:14
diesel [78] - 460:18;
461:7, 11, 25;
463:15-17, 23-24;
466:11, 20; 467:6, 13,
20, 25; 468:4; 470:22;
474:8, 22; 475:10, 21;
476:7, 10; 477:12;
478:1, 4, 17; 479:11,
15, 22; 480:8; 481:22;
482:5, 9; 483:8, 20;
484:8, 19, 23; 485:6;
486:1, 13; 487:11;
497:3, 11; 508:4, 7;
513:23; 516:23;
555:4; 560:21; 561:1;
569:7, 21; 570:8, 14;
571:11, 16; 573:16,
21, 24-25; 574:2, 9,
12, 15; 581:21; 582:7;
584:10; 608:12, 23;
637:13; 638:8; 639:6
DIESEL [1] - 584:23
diesels [5] - 484:2;
637:14, 21; 638:1, 5
difference [15] -
457:22; 486:3; 521:5;
522:12, 19; 525:17;
574:1, 12; 584:6;
586:7; 631:9, 20
differences [5] -
460:5; 476:11;
566:25; 631:6; 636:8
different [45] - 459:9;
460:7, 11, 15; 465:21;
468:7; 476:6, 22;
500:8; 504:13; 514:6;
515:5, 20; 517:13, 15;
519:15, 21; 521:5, 11;
525:13, 16; 526:2;
527:17; 532:3; 541:6;
581:25; 582:11, 14,
17; 588:10; 592:23;
594:20; 601:11;
606:17, 25; 609:19;
610:6; 614:3; 626:3,
6; 628:12, 17; 636:17
differently [2] -
462:23; 546:15
difficult [12] - 485:7;
492:18; 493:11, 17,
22; 516:13; 518:4;
561:10; 566:21;
567:22; 607:19;
628:11
difficulty [2] - 493:3;
495:9
dig [2] - 618:24
diligence [1] -
603:17
diligently [1] -
556:19
direct [5] - 463:16;
573:2; 578:2; 651:18,
20
directed [1] - 542:21
directing [1] - 645:9
direction [1] - 534:25
directions [1] -
525:17
directly [1] - 579:19
director [17] -
541:25; 542:5, 16;

545:14, 16, 22-23;
546:2, 10; 548:21, 23;
549:9, 23; 550:4, 6;
564:13, 23
directors [4] - 541:3;
624:6; 630:17; 646:21
disagree [1] - 469:20
disallowed [3] -
453:19, 24; 592:20
discipline [1] -
601:16
discontinue [1] -
595:19
discourse [1] -
627:18
discuss [3] - 492:1;
523:3, 13
discussed [5] -
480:15; 484:15;
521:13; 602:16; 646:3
discussing [4] -
458:23; 479:17;
520:23
discussion [17] -
453:19; 461:22;
508:3; 511:6; 523:10;
528:7; 566:14, 16;
573:14; 580:2;
591:22; 601:17;
602:9, 12; 613:16;
648:15
dismiss [1] - 652:19
dispatched [1] -
508:14
displace [2] -
463:22, 25
DISPLACEMENT [1]
- 584:23
displacement [3] -
463:15, 17; 584:10
displacing [1] -
523:13
dissolved [1] -
587:22
distinction [3] -
485:22; 573:6; 631:21
distribute [1] -
487:20
distributing [1] -
645:11
distribution [4] -
519:9, 19-20, 25
district [2] - 597:25;
598:5
ditch [3] - 618:24;
619:10
diversion [1] - 612:2
divide [1] - 564:17
divided [2] - 556:15
dizzy [1] - 475:6
dollars [18] - 540:6;
548:1; 575:8; 595:8;
600:10, 15; 604:12;
605:17, 22; 608:6;
609:11; 631:17;
632:25; 633:4; 652:4
dotted [2] - 499:14,
18
double [4] - 461:5;
493:2; 632:13; 651:6
double-check [2] -
632:13; 651:6
doubt [1] - 651:7
down [30] - 464:14;
465:10; 500:9; 514:9;
526:17; 546:25;
555:8; 556:7, 16;
574:8; 576:24; 577:3;
588:15; 589:4, 12,
23-24; 590:1; 596:24;

597:2; 599:1; 600:2;
603:23; 616:6;
617:20; 618:2; 619:7;
647:9
downstream [1] -
554:8
downtown [1] -
556:17
downturn [1] - 606:6
dozen [1] - 529:18
drafted [1] - 535:4
draw [2] - 491:9;
562:15
drawn [2] - 574:8;
604:8
driest [1] - 514:4
drilled [1] - 619:5
drilling [1] - 619:5
drive [1] - 485:11
driven [1] - 488:21
dropped [2] - 621:2
drought [2] - 484:4;
575:3
droughts [1] -
483:14
drove [2] - 467:25;
474:12
dryer [1] - 463:6
DSM [11] - 454:18;
455:23, 25; 456:8, 13;
457:9, 11, 15-16;
597:22, 24
due [5] - 546:3;
588:5; 603:17; 608:24
dug [1] - 603:17
duplicating [1] -
628:6
duties [7] - 538:10;
540:22; 542:7, 15, 19;
558:9, 13

E

eagle [1] - 480:20
Eagle [2] - 484:24;
486:12
earliest [1] - 613:22
early [4] - 530:3;
620:24; 631:11; 651:5
easier [3] - 595:23;
636:10; 638:3
easiest [1] - 594:18
easily [1] - 474:15
easy [4] - 484:9;
522:18; 568:12;
635:25
ECL [6] - 530:14;
531:8, 11; 532:9;
535:16; 537:12
ECL's [1] - 532:24
economic [10] -
489:25; 490:2; 491:6;
516:18; 604:5; 606:6,
15; 646:4
economics [9] -
522:13; 583:5; 585:7,
14; 603:16; 605:10,
15; 608:17; 648:1
economy [8] - 646:9,
19, 21, 25; 647:12;
649:5, 7, 21
Edge [1] - 450:16
educating [1] -
457:10
education [1] -
495:24
effect [6] - 452:20;
480:5, 14; 585:12;
590:13; 647:9
effective [2] -

544:16; 545:20
effectively [7] -
484:18; 527:21;
528:1; 558:23; 559:2;
592:25; 631:11
effectiveness [2] -
530:23; 532:6
effects [3] - 488:20;
616:25; 617:2
efficiencies [4] -
454:18, 24; 634:14
efficiency [6] -
455:20; 529:16;
530:23; 532:6;
537:19; 581:21
efficient [12] - 455:5,
13; 513:19; 514:21;
515:11, 21; 531:25;
542:24; 545:20;
554:15
effort [3] - 521:1;
617:15
efforts [2] - 531:16;
611:9
eight-year [1] -
532:10
elected [1] - 536:16
Electric [1] - 450:14
electric [1] - 519:22
electrical [3] -
460:21; 513:8; 549:15
electrician [2] -
562:22, 24
electricians [5] -
562:3, 12, 19; 564:19
electricity [2] -
485:13; 554:17
electronic [8] -
535:17, 22; 536:2, 9,
12-13; 537:3, 8
element [5] - 461:6,
8; 522:10; 571:13;
632:3
elements [1] - 464:1
elevate [1] - 542:14
elsewhere [2] -
476:6; 601:25
email [1] - 505:7
emerge [2] - 462:21;
575:25
emerges [1] - 516:12
emphasize [1] -
613:21
emphasized [1] -
521:14
employee [6] -
542:13; 544:16;
561:10; 562:8; 565:5
employees [6] -
457:11; 542:11;
555:11; 561:14;
562:5; 565:4
Employment [1] -
540:1
empty [1] - 577:7
enacted [1] - 571:17
end [19] - 462:16;
493:15; 522:12, 17;
525:5; 540:14;
558:10; 571:23;
574:2; 576:16;
582:15; 593:23;
600:11; 609:7; 622:6;
624:24; 637:1; 644:8
ended [1] - 611:11
energy [25] - 456:17;
463:1; 477:1; 517:5,
23; 521:10, 19;
554:23; 555:7, 14;
556:10, 24; 557:2, 8;

585:17; 595:22;
596:16, 22; 603:4;
612:1, 23; 613:20;
616:3; 620:25
ENERGY [2] -
503:22; 505:2
Energy [31] - 450:12;
452:13; 485:19;
486:6; 487:22;
489:16; 492:25;
494:20; 495:3, 16;
496:1; 502:21;
503:12; 504:3, 19;
509:8, 14; 511:25;
519:8; 522:6; 530:5,
22; 531:20, 25;
538:10; 556:10, 15;
566:15; 568:25;
600:19
Energy's [2] -
494:17; 497:8
engaged [2] - 545:2;
641:21
engagement [1] -
627:7
engaging [1] -
457:10
engine [1] - 639:1
engineer [9] - 498:5;
527:4; 546:4, 8;
547:22; 548:2;
549:16; 609:21; 618:5
engineer's [2] -
547:25; 586:10
engineered [2] -
591:10; 609:22
Engineering [1] -
614:11
engineering [13] -
549:5; 562:9, 20;
586:17, 25; 615:11;
616:12; 617:5, 23;
619:16; 637:25;
642:1; 644:22
engineers [2] -
562:13; 590:25
engines [5] - 608:12,
24; 638:14, 17
enhance [1] - 461:18
enhanced [1] -
559:10
enhancement [1] -
559:1
enhancements [6] -
454:22; 455:22;
559:4; 586:14; 588:5
Enhancements [1] -
454:23
enhances [2] -
525:8; 568:13
enlargement [1] -
498:16
enormous [1] -
547:21
ensure [5] - 451:7;
457:5; 545:20; 588:1;
627:9
ensuring [1] - 629:12
enter [1] - 573:19
entered [1] - 592:21
entire [3] - 490:17;
506:9; 559:11
entirely [1] - 480:13
entitled [1] - 502:21
environment [4] -
546:9; 547:3; 606:4;
623:6
environmental [29] -
546:21; 547:3, 5, 9,
13, 16, 19, 24; 548:2,

11; 609:13, 24;
610:14, 17; 616:11,
21, 23; 617:2, 6;
619:15; 624:3, 13, 18;
626:18, 23; 627:21;
642:1; 644:13, 21
environmentally [1]
- 546:5
equally [1] - 528:9
equipment [3] -
457:6; 563:4; 587:17
equipped [1] -
509:23
equity [2] - 602:21;
645:9
erosion [2] - 609:14;
610:8
ERP [1] - 543:8
erred [1] - 533:23
error [5] - 464:19;
472:9; 533:16;
539:25; 540:5
escapes [1] - 532:12
essence [2] - 494:19;
574:22
essential [2] - 521:3
essentially [1] -
462:18; 463:9; 473:2;
494:23; 522:21;
573:10, 20; 574:9;
579:3; 599:18; 630:13
established [1] -
537:18
estimate [7] -
540:25; 586:10;
608:6; 618:19; 624:6;
648:4
estimated [1] - 612:7
estimates [2] -
609:14; 618:9
et [2] - 467:20;
475:13
et cetera [2] - 526:25;
541:21
EUB [1] - 645:14
evaluation [2] -
532:20; 533:9
evening [1] - 472:8
event [2] - 599:25
events [1] - 571:12
eventually [2] -
539:23; 600:6
everywhere [1] -
513:15
Evidence [2] -
492:16
evidence [10] -
451:1, 3; 492:18;
505:12; 506:12, 14,
19, 24; 578:2; 593:10
evident [3] - 555:24;
556:2; 604:3
evolving [1] - 452:21
EVOLVING [1] -
453:15
exactly [15] - 454:19;
465:11; 478:9; 485:2;
494:23; 503:3;
520:25; 570:9;
574:14; 585:24;
592:16; 596:7;
613:14; 614:20;
615:14
examination [1] -
468:12
EXAMINATION [1] -
468:19
EXAMINES [2] -
452:15; 651:21
examining [2] -

517:13; 518:10
EXAMPLES [1] -
594:14
examples [6] -
454:20; 455:1; 476:3;
565:18; 566:17; 594:5
exceed [3] - 484:23;
485:1; 486:13
exceeding [1] -
461:25
exception [2] -
491:14; 596:13
excerpts [1] - 647:23
exchange [6] -
465:15, 19; 579:9, 20;
627:23; 628:3
exchanged [1] -
627:23
excise [1] - 451:9
excited [1] - 647:7
excitement [1] -
597:23
exclude [1] - 585:25
excluded [1] -
499:17
excuse [1] - 469:21
execution [1] -
457:20
exercise [2] -
493:17; 611:4
exhibits [4] - 491:23;
494:6; 504:12
exist [6] - 511:9;
527:6; 545:8; 549:12;
569:3; 575:6
existed [5] - 570:6;
580:20, 25
EXISTED [1] - 581:7
existing [8] - 477:4;
532:21; 555:9, 11;
570:9; 631:3; 632:6, 8
EXISTING [1] -
632:17
exists [4] - 569:8;
574:19; 578:25;
648:18
expand [2] - 526:24;
619:17
expanded [2] -
482:23; 608:14
expanding [3] -
458:11; 524:22; 620:9
expansion [1] -
545:24
expect [7] - 460:21;
511:4; 545:12;
571:10; 634:13, 16;
635:5
expectation [3] -
460:17; 545:13; 651:6
expected [6] -
477:12; 480:20;
481:1; 519:10;
596:24; 628:25
expecting [1] -
574:24
expenditure [1] -
629:14
expenditures [5] -
509:9, 13; 519:1;
609:3, 7
expense [2] -
552:23; 601:19
EXPENSE [1] -
553:14
expenses [2] -
591:20; 630:15
expensive [3] -
526:23; 596:20
experience [7] -

509:20; 520:14, 22;
541:12; 544:24;
546:16; 620:5
experiencing [1] -
550:14
expert [2] - 509:24;
513:12
expertise [3] -
509:25; 510:15; 548:3
experts [1] - 650:10
explain [22] - 454:19;
457:23; 462:2;
466:19; 470:16;
474:4, 25; 478:6;
479:21; 509:21;
512:12; 516:1;
529:22; 530:9; 557:5;
560:14; 586:18;
609:6; 631:6; 637:14;
638:17; 642:18
explained [2] -
490:15; 529:5
explains [1] - 479:20
explanation [2] -
609:6; 647:4
explanations [1] -
622:13
explicit [1] - 593:9
explicitly [1] -
592:24
exploration [1] -
647:8
explore [2] - 510:24;
511:10
extending [1] -
525:16
extension [1] - 509:5
extensions [4] -
509:16, 19; 525:13;
526:21
extensive [1] - 526:1
external [1] - 556:11
externally [1] -
548:18
extra [5] - 463:22;
478:12; 521:1;
556:14; 563:12
extreme [2] - 461:23;
601:22
extremes [1] - 463:6
eyes [1] - 473:3

F

face [1] - 484:3
facilities [8] - 510:8;
526:25; 528:11;
530:14; 547:11;
557:8; 633:7
facility [3] - 639:18;
641:12; 644:17
factor [5] - 477:2;
527:1; 558:3; 635:4;
637:3
factors [1] - 637:5
failure [1] - 589:6
fairly [19] - 508:20;
509:15; 511:3; 518:1;
537:12; 550:15;
555:24; 566:18, 22;
587:11; 598:11, 22;
603:5, 12; 604:6;
609:16; 628:4; 646:23
Fairy [10] - 527:5, 9,
21; 595:2; 636:8, 14,
20-21, 24
faith [1] - 567:16
fall [6] - 466:14, 25;
467:3; 473:5; 582:18;
633:10

falling [1] - 483:15
fallouts [1] - 613:19
familiar [3] - 500:11;
512:1; 645:10
fancier [1] - 531:4
far [20] - 464:14;
466:4; 469:25; 478:1;
494:3; 509:20;
511:15; 522:20;
530:3; 542:9; 549:7;
570:9, 15; 587:24;
588:6; 593:17;
608:19; 611:24;
635:19; 636:22
fare [2] - 647:1, 12
farm [2] - 517:6;
635:5
Faro [12] - 473:13,
22; 560:11; 561:1, 14;
568:23; 569:2;
571:10; 574:20;
577:20, 24; 578:6
faster [1] - 519:22
fault [1] - 542:3
fear [1] - 576:22
feasibility [1] -
617:23
February [3] -
472:12; 626:8
federal [1] - 558:7
fee [1] - 539:18
feedback [5] -
565:21; 566:6, 10;
567:10, 12
fees [1] - 545:7
felt [6] - 531:22;
548:14; 566:17;
590:6; 632:25; 633:3
figure [5] - 459:4;
535:12; 626:8; 635:10
FILE [1] - 632:17
file [10] - 453:4;
468:11; 553:21;
555:25; 617:7; 622:6,
25; 623:4; 632:8, 15
filed [6] - 468:24;
478:8; 515:23;
525:11; 570:14; 650:9
filing [6] - 453:9;
468:22; 540:9; 617:3,
6; 622:7
fill [4] - 458:8, 12, 18,
20
fill-in [1] - 458:12
filled [1] - 559:3
filling [1] - 456:21
final [4] - 505:6;
528:5; 598:1, 17
finalization [1] -
609:13
finance [4] - 518:8;
540:5, 8, 11
financial [12] -
536:23; 537:5;
538:21; 557:13, 20;
558:4, 14; 559:13, 25;
560:3; 648:16, 18
financials [1] - 543:9
financing [1] -
576:11
findings [4] - 509:23;
510:2; 646:14
fingers [1] - 543:19
finish [3] - 591:13;
620:9; 626:9
finished [3] - 593:3;
620:18; 622:6
fire [1] - 571:12
fired [1] - 608:24
firm [4] - 607:19;

608:17; 619:21; 625:4
fiscal [2] - 483:15;
541:17
Fish [15] - 578:18,
22; 579:5, 19, 23;
580:9, 16; 585:6,
9-10, 13, 16
fish [6] - 579:25;
580:9; 605:4, 6;
624:16; 644:15
FISH [1] - 581:7
fit [10] - 517:14;
519:4; 526:10;
549:21; 578:23;
589:19, 21; 606:24;
615:24
fits [1] - 526:2
five-minute [1] -
626:16
five-year [4] -
516:15; 597:13;
601:3; 633:1
fixated [1] - 602:23
flat [4] - 460:12, 15;
461:17; 523:23
fleet [1] - 563:6
flexibility [1] -
527:16
flights [1] - 626:17
flip [2] - 475:5;
526:23
flipping [1] - 470:8
floor [1] - 589:4
FLOW [1] - 513:2
flow [10] - 474:14;
511:9, 12, 18; 512:3,
9; 554:8, 11; 601:7
flows [5] - 489:6;
512:17; 554:7; 610:25
focal [1] - 646:13
focus [6] - 521:25;
545:24; 564:5;
598:25; 602:21;
625:25
focused [3] - 460:11,
16; 598:25
focusing [1] - 531:16
follow-up [1] -
458:22
footnote [3] -
479:20; 582:25;
583:23
footprint [1] - 539:13
FORECAST [5] -
453:15; 552:19;
553:15; 611:23;
612:16
Forecast [1] - 456:8
forecast [33] -
452:21; 453:1, 11;
454:11-13; 475:11,
20; 477:4, 22; 480:24;
482:11; 511:7;
516:14; 519:15;
523:20; 534:4; 541:6;
552:10, 24; 575:23;
585:6; 606:4; 608:4;
609:3, 10; 611:12;
644:24; 645:4; 648:1;
651:24
forecasting [1] -
609:6
forecasts [6] -
452:25; 521:6;
579:24; 585:22;
612:6, 9
foremost [1] -
524:23
forever [1] - 537:2
forgotten [1] - 464:8

<p>form [2] - 495:21; 605:2</p> <p>formal [1] - 628:2</p> <p>format [1] - 623:4</p> <p>forms [1] - 459:12</p> <p>formulate [1] - 512:20</p> <p>forth [4] - 470:8; 490:6; 562:3; 625:20</p> <p>Fortin [1] - 450:8</p> <p>fortunate [1] - 557:22</p> <p>forward [23] - 496:21; 516:9; 517:3, 15, 19; 518:12; 519:18; 526:11; 527:14, 16; 546:19; 572:10; 590:4; 601:18; 605:13; 606:5, 10; 608:22; 610:15; 642:6; 649:6, 16; 650:17</p> <p>frames [1] - 499:13</p> <p>framework [1] - 516:7</p> <p>frankly [2] - 542:8; 602:12</p> <p>free [3] - 648:4, 8</p> <p>French [1] - 508:1</p> <p>frequent [1] - 587:23</p> <p>Friday [2] - 553:23; 653:1</p> <p>friend [1] - 502:2</p> <p>FROM [3] - 503:24; 513:3; 572:18</p> <p>front [8] - 474:4; 489:21; 490:1; 496:17; 517:16; 560:16; 587:1; 644:12</p> <p>frontline [1] - 542:9</p> <p>fronts [1] - 605:12</p> <p>FTE [1] - 540:20</p> <p>fuel [9] - 466:16; 467:18; 475:11, 13, 16; 538:4; 598:5; 608:13, 22</p> <p>fuels [1] - 598:7</p> <p>full [18] - 466:8; 528:2; 538:9; 543:24; 549:23; 552:25; 577:2, 8-9; 586:3; 612:22; 613:13; 623:6; 633:11; 634:3, 8, 12, 19</p> <p>full-time [2] - 543:24; 549:23</p> <p>fully [6] - 492:13; 545:2; 554:13; 613:20; 634:13</p> <p>fulsome [1] - 625:9</p> <p>function [2] - 554:24; 580:7</p> <p>functionality [3] - 559:4, 8; 564:3</p> <p>functioning [3] - 578:21; 579:25; 580:7</p> <p>functions [2] - 564:9; 565:4</p> <p>fund [37] - 569:8, 21; 570:6, 8, 14; 571:4, 13, 15-16, 20, 22; 573:1, 9, 12, 23; 574:3-5, 7-8, 12, 15, 20; 576:21; 577:16, 24; 578:1, 10, 12-13, 18; 579:6; 580:13, 16; 599:24</p> <p>FUND [2] - 572:17; 581:7</p> <p>fundamental [2] -</p>	<p>487:2; 631:9</p> <p>funded [1] - 573:3</p> <p>funding [5] - 558:7, 11; 625:19; 629:13</p> <p>funds [4] - 533:5; 581:2; 598:20; 618:15</p> <p>funny [1] - 603:19</p> <p>future [15] - 479:4; 495:7; 496:15; 516:10, 12; 518:18; 522:15; 525:17; 530:22; 585:19; 593:23; 596:23; 606:10; 608:16; 615:16</p>	<p>618:22</p> <p>geothermal [9] - 595:22; 597:8; 598:17; 599:5; 620:22; 641:25; 642:4</p> <p>gigawatt [28] - 459:19; 461:4, 7; 462:1, 3; 463:25; 467:6, 20; 472:11; 477:5; 478:17, 21; 479:10, 22; 480:22; 481:2; 482:12, 15, 19, 25; 517:5; 584:9; 604:1; 613:1, 21</p> <p>GIGAWATT [1] - 584:22</p> <p>gigawatts.. [1] - 612:24</p> <p>given [14] - 457:2; 460:17; 462:13; 481:17; 490:25; 555:4; 574:17; 603:15; 633:3; 634:13, 23; 649:25; 650:15</p> <p>Gladstone [14] - 518:21; 595:21; 597:6, 9; 604:25; 607:13; 612:2, 5, 25; 620:19; 623:17; 625:8; 628:24</p> <p>Gladstone's [1] - 521:24</p> <p>glasses [1] - 616:8</p> <p>glean [1] - 567:25</p> <p>gold [6] - 520:13, 20, 24; 588:6, 10; 647:6</p> <p>Gold [1] - 490:11</p> <p>Golden [1] - 524:1</p> <p>government [2] - 555:21; 576:13</p> <p>GRA [23] - 452:11; 453:7; 458:4; 468:25; 469:7; 470:11; 473:21; 474:21; 475:9, 20; 476:23; 479:9; 483:6; 498:11; 504:7, 15; 550:12; 570:16, 19, 21; 575:23; 630:14; 632:7</p> <p>grab [1] - 626:23</p> <p>grant [1] - 598:23</p> <p>graph [6] - 459:6, 8, 18; 484:5; 506:6; 576:2</p> <p>gravitate [1] - 582:6</p> <p>gray [1] - 499:3</p> <p>great [21] - 488:16; 493:3; 498:4; 516:17, 19; 525:8; 531:24; 536:18; 537:8; 548:2; 549:11; 567:5; 606:20; 610:1; 619:25; 621:18; 624:3, 22-24; 628:22</p> <p>Great [2] - 536:1; 543:8</p> <p>greater [2] - 485:21; 583:21</p> <p>greatest [1] - 457:1</p> <p>greatly [2] - 497:8; 610:7</p> <p>grid [15] - 490:22; 513:8, 12-13; 514:11, 13; 525:16; 527:7, 15; 574:19; 582:23; 599:3; 637:1; 638:3</p> <p>grids [1] - 527:19</p> <p>grips [1] - 580:5</p> <p>ground [1] - 600:20</p>	<p>groundwater [3] - 609:25; 610:4, 10</p> <p>Group [1] - 450:15</p> <p>group [15] - 464:16; 465:9; 485:20; 487:15; 542:13; 559:11; 562:2, 20; 564:18, 20; 594:5; 605:20; 628:17</p> <p>grouping [1] - 525:12</p> <p>groups [2] - 596:10; 597:8</p> <p>grow [1] - 519:21</p> <p>growing [2] - 533:4; 615:15</p> <p>growth [10] - 478:12; 482:21; 486:15; 516:19; 519:10, 17; 537:24; 583:8; 606:22; 614:5</p> <p>guarantee [1] - 627:19</p> <p>guaranteed [2] - 516:22; 622:10</p> <p>guides [1] - 516:7</p> <p>guiding [1] - 518:15</p> <p>guys [1] - 562:11</p> <p>guys's [1] - 599:21</p>	<p>heat [6] - 519:22; 598:5, 8, 14; 599:4</p> <p>heating [4] - 503:5; 597:25; 598:5, 12</p> <p>heavily [2] - 484:2; 511:3</p> <p>heavy [2] - 558:7</p> <p>heckle [1] - 633:18</p> <p> Hector [1] - 580:11</p> <p>height [1] - 636:20</p> <p>held [1] - 592:7</p> <p>helpful [11] - 458:10; 566:24; 576:4; 586:23, 25; 596:9; 599:6; 633:25; 634:2; 641:23</p> <p>helping [3] - 546:20; 596:2; 602:22</p> <p>herbicide [1] - 535:2</p> <p>herbicides [6] - 531:21, 24; 532:3; 533:10; 535:8</p> <p>high [13] - 488:10; 543:16; 574:21, 23; 603:25; 604:2; 610:10; 614:21, 25; 631:7; 636:19; 644:9</p> <p>High [1] - 450:1</p> <p>higher [15] - 455:18; 466:23; 467:22; 472:14, 23; 473:8, 11; 477:23; 479:18; 481:11; 483:7; 484:15, 20; 519:20</p> <p>highlighting [1] - 466:13</p> <p>highlights [1] - 467:16</p> <p>Hill [17] - 459:20; 502:21; 527:5, 9, 21; 595:2; 633:7, 16-17; 635:5; 636:8, 15, 19, 21, 24</p> <p>hills [1] - 636:19</p> <p>hire [3] - 557:15; 559:14; 563:11</p> <p>hired [12] - 544:7, 23; 548:23; 549:9; 556:18; 557:11, 15, 17, 22; 561:19; 564:8</p> <p>hiring [1] - 556:9</p> <p>historical [1] - 646:8</p> <p>historically [2] - 514:4, 24</p> <p>History [1] - 540:1</p> <p>history [9] - 510:2, 10; 535:19; 536:25; 541:5; 577:19; 578:5, 11; 602:19</p> <p>hit [6] - 595:11; 600:1, 10-11; 604:13; 631:18</p> <p>home [3] - 457:12; 488:21; 649:4</p> <p>Hoole [3] - 517:8; 524:18, 20</p> <p>hope [7] - 483:16; 496:10; 528:25; 566:24; 603:16; 604:16; 607:4</p> <p>hopefully [5] - 507:5; 517:1; 550:12; 556:21; 583:20</p> <p>hoping [3] - 526:6, 18</p> <p>horizon [2] - 517:22; 518:1</p> <p>hospital [1] - 598:13</p> <p>hour [8] - 475:12, 15, 18, 22; 476:15;</p>
G				
<p>gap [1] - 458:12</p> <p>gaps [4] - 456:22; 458:9, 18, 21</p> <p>garbage [1] - 603:20</p> <p>gas [3] - 587:22; 607:23; 608:24</p> <p>gate [15] - 590:7, 12, 23; 591:1, 4-7, 10, 12, 14; 639:20</p> <p>gates [4] - 639:22, 24-25; 640:2</p> <p>gather [1] - 616:5</p> <p>gathering [1] - 617:21</p> <p>general [6] - 503:12; 516:1; 524:15, 23; 560:20; 587:1</p> <p>GENERAL [1] - 503:21</p> <p>generally [4] - 460:6; 571:9; 616:1; 646:18</p> <p>generate [2] - 513:7; 523:14</p> <p>generating [8] - 454:25; 496:21; 516:8; 517:14; 527:17; 540:7; 566:12; 589:4</p> <p>Generation [1] - 511:2</p> <p>GENERATION [2] - 641:3; 642:14</p> <p>generation [47] - 459:5, 7, 9; 460:22; 461:7, 18, 24-25; 463:12; 466:12; 470:20, 23; 471:18-20; 472:10, 21, 25; 473:7; 475:10; 477:6, 12-13; 478:17; 479:12; 481:4, 11; 485:18; 486:11; 497:11; 512:17; 518:22; 521:8; 523:9; 545:25; 581:22; 585:6, 10; 612:23; 634:20; 636:9; 637:2; 640:4, 15</p> <p>generators [1] - 455:17</p> <p>generic [1] - 651:3</p> <p>GENERIC [1] - 651:12</p> <p>genesis [1] - 567:23</p> <p>geographic [3] - 524:7; 527:5; 610:5</p> <p>geographically [1] - 636:18</p> <p>geography [1] - 610:6</p> <p>geotech [1] - 619:12</p> <p>geotechnical [2] -</p>				
H				
<p>Haeckel [7] - 502:21; 633:7, 16-17; 635:5; 636:8, 18</p> <p>half [15] - 461:9; 476:9; 479:11; 482:19; 515:15, 19; 529:18; 549:16; 560:6; 561:10; 618:24; 652:4, 8</p> <p>halfway [3] - 464:14; 465:10</p> <p>halt [1] - 606:8</p> <p>hand [4] - 465:10; 478:1; 623:21; 644:2</p> <p>handed [4] - 492:7; 553:10; 576:3; 579:4</p> <p>handful [1] - 539:17</p> <p>handing [1] - 569:14</p> <p>handle [1] - 576:19</p> <p>hands [1] - 635:15</p> <p>hang [2] - 563:19; 567:7</p> <p>hard [4] - 575:5; 576:5; 601:2; 635:24</p> <p>HAS [3] - 503:22; 611:21; 651:12</p> <p>hate [1] - 564:10</p> <p>hazard [3] - 533:5; 534:12; 537:15</p> <p>head [5] - 480:10; 522:24; 590:7; 614:1; 622:25</p> <p>headings [1] - 619:18</p> <p>heads [1] - 640:22</p> <p>hear [2] - 454:1; 553:25</p> <p>heard [6] - 453:18, 22, 24; 494:14; 506:21; 649:9</p> <p>hearing [9] - 451:10; 553:6; 555:6; 570:10; 592:19; 593:5, 10; 652:24; 653:2</p> <p>hearings [2] - 644:19; 652:23</p> <p>hearsay [2] - 492:22; 493:2</p>				

<p>484:18; 545:3, 5 hourly [1] - 541:11 hours [32] - 455:7, 13; 459:19; 461:4, 8; 462:1, 3; 463:25; 467:6, 20; 472:11; 477:5; 478:17, 21-22; 479:10; 480:22; 481:2; 482:12, 15, 19; 483:1; 517:5; 541:7; 545:4; 547:15; 584:9; 604:1; 613:1, 21 HOURS [1] - 584:22 house [6] - 544:21; 547:2; 548:8, 16; 549:4; 615:18 housed [1] - 547:4 housekeeping [1] - 450:21 HR [6] - 541:25; 542:4-6, 12, 21 huge [2] - 466:20; 601:4 Hughes [1] - 503:4 human [2] - 542:16; 554:22 hundred [2] - 545:4; 639:19 hydraulic [1] - 462:7 HYDRO [2] - 641:2; 642:13 Hydro [1] - 600:15 hydro [70] - 455:4; 459:5, 7, 9; 460:21, 25; 461:18, 24; 463:1; 466:22; 467:21; 468:7, 24; 470:19, 23; 471:18-20; 472:21, 25; 473:7; 474:10; 477:13; 479:10, 18; 485:12; 486:11; 490:17; 496:9; 497:22; 498:18; 499:5, 8, 19; 500:4, 17, 22; 508:7; 509:9; 511:12; 517:7; 518:2-4, 6; 521:13, 18; 523:13; 524:4; 525:5, 12; 547:7; 549:11, 15; 563:6; 578:18, 20, 23; 586:14; 590:1; 603:20; 623:10, 16; 631:16; 640:3, 15; 641:11 hydrology [5] - 610:24; 624:16; 641:5, 22; 642:3 hypothetically [1] - 482:22</p>	<p>imagine [2] - 559:6; 634:21 immediate [1] - 608:15 impact [5] - 481:25; 489:25; 494:25; 557:15; 575:2 impacted [3] - 609:18; 610:7, 9 impacting [1] - 491:2 impacts [4] - 488:12; 520:14; 609:25; 641:18 implement [3] - 458:14; 530:10; 589:1 implementation [7] - 545:18; 549:2; 558:19, 21-22; 559:25; 570:25 implemented [2] - 456:24; 592:25 implementing [2] - 458:15; 530:11 implications [1] - 525:16 implicit [1] - 650:9 important [5] - 518:17; 520:24; 571:8; 608:5; 624:10 imposing [1] - 490:6 impression [1] - 520:20 improved [4] - 572:25; 646:10, 21; 647:14 improvement [1] - 647:13 improvements [2] - 508:22; 509:2 improves [1] - 567:20 in-house [6] - 544:21; 547:2; 548:8, 16; 549:4; 615:18 in-service [1] - 612:6 inception [1] - 571:23 INCEPTION [1] - 572:18 include [6] - 456:20; 457:9; 458:19; 481:4; 642:21; 643:9 included [9] - 499:16; 500:21; 507:1; 595:3, 6; 630:25; 644:10 includes [4] - 482:13; 510:11; 580:16 INCLUDES [1] - 581:7 including [4] - 518:21; 568:15; 585:6, 9 inconsistency [1] - 603:23 incorrectly [1] - 481:18 increase [16] - 460:22, 25; 478:16; 487:5, 7; 488:19; 490:7; 494:21; 496:25; 497:4; 544:4, 16; 565:22; 577:6, 10; 633:2 increased [3] - 478:2; 565:19 increases [1] - 491:8 increasing [4] - 460:23; 483:4; 496:2</p>	<p>increment [7] - 478:3; 479:22; 483:2, 19; 487:16; 519:18 incremental [11] - 460:18; 475:9, 15, 20; 476:7; 480:5, 8; 484:23; 485:1; 487:10 incremented [1] - 481:23 incur [2] - 486:8, 19 incurred [1] - 643:12 indication [1] - 464:15 indirectly [1] - 463:20 individual [9] - 488:9; 542:11; 548:22; 549:1; 555:20, 25; 564:5, 15; 627:22 individuals [2] - 556:19; 564:22 indulgence [1] - 528:24 industrial [23] - 475:3; 480:20; 485:20; 486:7, 18; 487:3, 15-16, 21, 23; 488:4; 489:2, 9, 15; 490:22; 496:4, 9; 497:3, 12; 520:12; 523:16; 606:7 Industrial [2] - 484:24; 486:12 industry [1] - 549:12 inefficiencies [1] - 562:16 inflow [5] - 462:4; 463:4, 6; 472:23 inflows [2] - 462:13, 19 influence [1] - 463:4 INFORMATION [1] - 594:11 informed [3] - 456:18; 519:1, 3 infrastructure [1] - 528:1 inherent [2] - 462:24; 464:3 initial [4] - 506:5; 558:25; 614:22; 615:1 initiative [1] - 566:8 initiatives [2] - 533:19; 555:18 injuries [1] - 568:25 Inn [1] - 450:1 inquire [1] - 489:1 inside [2] - 498:18; 499:7 installation [1] - 589:24 installed [5] - 513:22; 536:1; 554:15; 633:9 institutional [1] - 598:14 insurance [3] - 552:23; 599:23 INSURANCE [1] - 553:14 integrated [2] - 531:1; 574:18 intended [1] - 497:2 intensive [1] - 570:22 intent [1] - 522:6 interacts [1] - 610:25 interconnected [1] - 582:9</p>	<p>interest [2] - 571:19; 602:10 interested [3] - 549:25; 614:17 interesting [1] - 474:24 interfere [1] - 528:25 interim [3] - 527:23; 537:17; 587:18 Internal [1] - 456:13 internal [11] - 454:3; 455:23; 456:17; 556:10; 557:3, 5, 7; 605:18; 625:14; 646:20 internally [3] - 547:16; 622:1; 628:16 interpret [2] - 491:15; 508:19 interpretation [1] - 467:24 interrogatories [2] - 457:22; 466:3 interrogatory [7] - 457:16, 24; 464:24; 466:1, 6; 510:22, 25 intervenor [1] - 506:19 intervenor [2] - 510:18; 630:7 interview [1] - 494:18 interviewed [1] - 493:23 introduced [1] - 580:10 introducing [1] - 601:6 intuitively [1] - 513:14 inventory [10] - 517:1, 11-12; 518:10; 604:24; 606:11; 615:17; 626:6 invest [1] - 509:17 investigating [3] - 604:11; 631:12 investigation [1] - 651:1 invoices [5] - 539:17; 540:12; 553:3, 6 involved [4] - 473:25; 530:3; 570:20, 25 IR [25] - 465:8; 469:12, 25; 470:10, 18; 471:3, 22; 472:17, 19; 487:12; 489:5; 497:17; 501:7; 504:7, 15; 508:18; 529:5; 532:12, 16; 533:1; 565:24; 566:2; 585:5 IRs [2] - 475:5; 581:11 IS [5] - 503:23; 513:1; 584:22; 642:13 isolated [2] - 582:22; 591:14 issue [21] - 458:3; 465:16; 473:18; 475:2; 502:16; 503:5; 504:13; 524:23; 542:23; 567:13; 574:16; 579:17; 580:6, 9; 588:20; 590:19; 602:13; 604:6; 618:18; 624:19; 631:1 issued [1] - 570:23</p>	<p>issues [23] - 466:3; 515:9; 520:15; 542:12; 548:12; 570:24; 583:15; 586:19; 587:17, 24; 588:11; 597:18; 603:18; 610:1, 17; 619:16; 624:3; 625:13; 629:25; 635:17; 636:23; 637:9 IT [14] - 503:23; 541:17-19, 23; 542:4, 12, 21, 25; 543:17; 544:4; 581:7; 612:17 itself [4] - 462:20; 542:18; 559:8; 608:15 IVM [4] - 530:17, 19, 25; 531:19</p> <p style="text-align: center;">J</p> <p>JANIGAN [1] - 594:15 Janigan [6] - 450:15; 502:2; 591:18; 593:1, 12; 594:6 January [5] - 467:9, 20; 472:11; 588:22 jeckle [1] - 633:18 job [16] - 491:9; 541:21; 542:24; 544:22; 545:2; 547:21; 549:7, 17-18, 23, 25; 550:5, 10; 556:3; 567:17; 602:22 jobs [3] - 562:8, 20; 606:8 John [2] - 452:3, 10 joining [1] - 499:22 jointly [2] - 579:17 Jones [1] - 450:18 judge [1] - 630:7 judgment [1] - 589:12 judicial [2] - 492:20 just.. [1] - 641:8</p> <p style="text-align: center;">K</p> <p>keen [1] - 511:22 keeping [2] - 547:15; 627:25 Keno [1] - 459:20 key [5] - 531:17; 543:7, 10; 632:3; 637:5 KGS [2] - 464:15; 465:9 kilometre [1] - 618:25 kilometres [2] - 527:12; 534:18 kilowatt [8] - 455:6, 13; 475:12, 15, 18, 21; 476:15; 484:17 kinds [6] - 455:21; 458:11; 518:8, 25; 519:23; 620:7 knowledgeable [1] - 650:22 known [2] - 578:20; 633:18 KPMG [1] - 510:16</p> <p style="text-align: center;">L</p> <p>label [1] - 494:6 labelled [5] - 451:2; 456:7; 498:17; 500:17; 511:1</p>
--	---	---	---	---

<p>labelling [1] - 581:9 labour [2] - 539:5; 540:6 lacking [1] - 641:14 lady [1] - 555:11 lake [14] - 517:4; 518:21; 554:9; 577:9; 597:6; 609:17-19; 610:2, 6, 24; 624:16; 641:19 LAKE [1] - 581:8 Lake [37] - 518:21; 521:24; 578:18, 22; 579:5, 19, 23, 25; 580:9-11, 17; 585:6, 9-10, 13, 16; 595:5, 16, 20; 597:6, 9; 604:25; 605:4; 609:5, 18; 612:1; 620:13; 627:22; 628:24; 632:20; 639:14; 643:4 lakes [8] - 609:17; 610:5, 12; 611:1; 641:10, 15, 17 Lakes [3] - 641:5, 9, 13 Laking [1] - 450:7 LANDRY [35] - 451:13, 17, 25; 452:5; 469:21; 470:4; 492:7, 12; 495:6; 501:24; 502:16; 503:7, 16, 25; 504:11, 18, 24; 505:5, 19; 506:13, 17; 507:4, 8, 20; 512:11, 22; 552:8, 15, 21; 553:11, 18; 554:3; 651:19, 21; 652:15 Landry [6] - 450:12; 451:6; 492:11; 494:4, 15; 651:18 language [3] - 575:13; 585:23; 623:9 large [22] - 484:4, 7; 489:14; 497:3; 508:20; 529:19; 548:25; 556:3; 566:12, 16; 598:9, 12; 599:3, 25; 610:5; 615:18; 619:17; 628:18; 633:3; 642:19 largely [2] - 646:6; 647:5 larger [4] - 490:14; 517:9; 518:4; 575:24 Larry [1] - 503:4 last [22] - 456:13; 457:19; 468:25; 515:22; 516:18, 23; 525:23; 535:19; 555:6; 558:5; 563:5, 18; 571:7; 610:13; 611:3; 645:18; 646:21, 23; 647:8; 650:15 late [5] - 472:8; 571:14; 575:18; 612:6; 613:22 latest [1] - 520:18 latter [2] - 462:6; 626:1 lays [1] - 489:5 LE-YEC-1-117 [1] - 475:19 LE-YEC-1-114 [3] - 466:6; 469:12; 472:19 LE-YEC-1-22 [1] - 497:18 LE-YEC-1-31 [2] - 509:8; 510:7</p>	<p>LE-YEC-1-32-B [1] - 532:17 LE-YEC-1-37 [1] - 489:3 Leading [1] - 450:16 leap [1] - 485:7 learned [1] - 645:2 learning [1] - 623:24 leave [4] - 501:14; 545:4; 564:13; 601:22 leaving [4] - 479:10; 592:10; 606:7; 634:24 led [3] - 459:25; 531:5; 546:2 leeway [1] - 636:1 left-hand [1] - 465:10 legacy [1] - 496:9 legal [1] - 489:22 leisure [1] - 452:8 Lemke [8] - 450:9; 451:14, 19; 502:17; 503:14; 507:8, 11; 552:11 length [1] - 633:1 lengthy [2] - 490:10; 644:12 letter [4] - 504:2, 4-5; 569:23 LETTER [1] - 504:14 level [21] - 455:18; 461:12; 482:3; 521:1; 522:2; 524:3, 10; 537:6; 543:16; 558:21; 574:21, 23; 575:3; 580:9; 602:3; 614:21, 25; 617:4; 631:7; 644:9; 647:21 levelized [2] - 585:17; 612:1 levels [2] - 459:9; 646:8 Lewes [1] - 639:14 liberal [1] - 467:3 license [12] - 511:11, 17, 21, 25; 512:1; 518:7; 554:8; 643:14, 20-22, 25 licenses [2] - 462:12, 22 licensing [7] - 642:16, 22; 643:6, 11, 20; 644:6, 22 life [9] - 518:12; 633:13; 635:5, 8, 14, 19, 23 lifetime [1] - 457:6 light [2] - 499:3; 545:6 lights [1] - 543:13 limit [1] - 650:25 line [31] - 457:19; 461:22; 466:9; 477:18; 478:10, 14-15, 22-23; 481:4; 491:9; 499:19; 501:18; 524:12; 534:18; 535:19; 560:19, 22; 561:13; 562:3; 564:18, 20; 604:7; 613:6; 639:1; 640:13, 15 lines [7] - 488:6; 498:18; 499:23; 531:13; 537:13; 547:8 liquid [1] - 607:23 list [4] - 596:9; 597:22; 621:5; 652:22 listed [8] - 464:16; 499:15; 508:19; 595:4, 14-15, 20;</p>	<p>615:4 listening [1] - 520:23 listing [2] - 518:20; 530:18 lives [1] - 509:17 LNG [12] - 476:10; 517:6; 545:25; 549:22; 597:8, 10; 598:7; 607:24; 608:11, 22, 25; 621:7 load [98] - 459:5, 9-10, 14-15, 21; 460:2, 10, 14, 17, 19, 23, 25; 461:4, 6, 8-9, 12, 18; 462:22; 463:18; 477:2; 478:2; 479:10, 22; 480:22; 481:3, 7, 19, 23; 482:6, 11, 21, 24; 483:19; 484:8, 17; 485:5, 11-12, 17; 486:15; 487:3, 5, 23; 488:10, 19-20; 489:24; 490:1, 13, 17; 497:5; 513:18; 514:8, 12, 22; 515:6; 517:15; 518:5, 11; 519:10, 15, 17-18; 520:1, 13; 521:5; 523:18, 23; 573:21; 575:23; 583:8; 585:13, 15, 22; 588:10; 603:20; 606:4, 7, 21, 25; 607:1; 614:5; 615:24; 644:24; 645:4 loads [28] - 460:7, 12-13, 21, 24; 461:15-17; 462:15; 477:15; 484:3; 486:7; 489:18; 516:8; 517:17, 21; 519:21; 575:25; 584:12; 585:18; 588:6; 613:19; 615:15, 17 local [2] - 646:19, 21 locally [1] - 548:16 locate [2] - 527:16; 640:7 located [1] - 500:12 locating [1] - 637:1 location [3] - 527:5; 535:19; 561:7 locations [3] - 533:2, 6 lock [1] - 639:21 logic [1] - 485:8 long-term [30] - 459:6, 8; 468:24; 477:13; 479:19; 480:15; 483:2, 7, 23; 484:2, 13, 25; 486:14, 23; 487:10; 517:7; 518:23; 541:21; 545:18; 573:13, 17, 20, 25; 574:10, 13, 17; 577:8, 17; 580:6 loss [2] - 454:4; 488:19 losses [6] - 454:15; 477:2; 481:5, 12; 482:18; 484:17 lost [2] - 547:12; 585:18 low [20] - 461:23; 466:13; 467:16, 25; 468:21; 472:20, 23, 25; 473:1; 474:1, 20; 570:6; 571:13; 575:3, 11; 577:16; 580:12; 599:25; 619:7; 650:5</p>	<p>low-risk [1] - 650:5 lower [7] - 466:22; 467:21; 484:3; 487:7; 529:20; 644:4; 645:2 lowest [2] - 577:22; 582:5 lump [1] - 602:14 lumps [1] - 601:4 lumpy [1] - 600:9 lunch [2] - 550:25; 551:2</p>	<p>march [1] - 623:25 margin [2] - 555:5; 571:12 marginal [1] - 486:13 mark [2] - 552:12; 569:14 marked [5] - 469:23; 502:9; 503:8; 504:8, 12 market [3] - 539:12; 540:17; 649:12 markets [1] - 649:11 Marriott [4] - 450:13; 552:24; 553:3, 8 MARRIOTT [2] - 507:13, 18 marsh [1] - 597:9 Marsh [19] - 517:4; 518:21; 521:24; 595:5, 20; 597:6; 604:25; 609:5, 17; 610:2; 612:1; 620:13; 624:18, 23; 642:9; 628:24; 632:20; 639:15; 641:10 match [1] - 518:11 material [4] - 460:8; 466:16; 467:18; 615:19 materialize [2] - 517:17; 607:1 math [2] - 472:7; 485:4 mathematical [1] - 472:9 matter [6] - 490:4; 578:2; 592:20; 593:14; 646:17 matters [11] - 450:23; 451:12; 452:2, 16; 501:23; 504:20; 552:7; 592:19; 593:11; 652:18 MATTERS [1] - 505:4 maxed [1] - 556:15 maximum [3] - 513:25; 633:12; 634:9 Mayo [69] - 455:4; 470:19, 25; 471:6, 12, 17-18, 23; 472:1; 497:16, 22; 498:18; 499:5, 14, 16, 19; 500:3-5, 7, 9-10, 17-20, 22; 509:10; 512:19; 515:7; 518:21; 522:11; 528:12; 546:17; 558:6; 561:13; 583:4, 10, 24-25; 584:3, 8, 14; 586:14; 588:14; 590:7, 20; 591:9; 597:6, 9; 604:25; 605:4; 615:19, 21; 618:11; 619:23; 625:22; 626:11; 638:8, 25; 642:15; 643:4, 17, 21 MAYO [1] - 584:22 McLennan [1] - 450:6 meaning [2] - 538:9; 616:21 meaningful [1] - 617:9 means [5] - 454:20; 478:6; 567:21; 613:18; 619:20 meant [6] - 480:17; 494:20; 496:2;</p>
--	---	--	--	---

515:18; 612:21; 613:4
measure [3] - 483:9;
 527:23; 610:3
measures [3] -
 456:25; 487:9; 632:4
mechanic [6] -
 561:18, 24; 562:2,
 21-22, 24
mechanical [2] -
 564:18; 583:14
mechanics [5] -
 562:2, 12, 15, 18;
 564:21
mechanism [2] -
 600:3; 630:6
mechanisms [1] -
 569:12
meet [6] - 555:17;
 601:14; 615:16;
 624:17; 627:22
meeting [1] - 628:8
meetings [6] - 541:8;
 567:11; 627:17;
 628:2, 19; 644:19
meets [4] - 489:24;
 608:25
megawatt [9] -
 512:9; 517:6, 8;
 526:1; 554:12;
 615:22; 633:12; 634:9
MEGAWATT [1] -
 513:3
megawatts [9] -
 490:14; 512:4;
 515:17, 19; 526:10;
 527:21; 528:3; 633:8,
 10
memories [1] -
 544:12
mention [2] - 493:1;
 652:21
mentioning [1] -
 620:22
mentions [2] - 570:5;
 628:22
merely [2] - 506:4;
 618:7
met [3] - 491:3;
 497:10; 534:9
method [3] - 544:16;
 602:22; 646:14
methods [1] - 580:8
metrics [1] - 537:19
mic [1] - 452:7
microphone [1] -
 506:1
middle [3] - 589:7;
 591:9
Middler [6] - 450:17;
 502:8, 22; 505:22, 24;
 506:22
MIDDLEL [2] -
 506:3, 25
mile [1] - 618:24
milestones [5] -
 628:23, 25; 629:8, 19,
 23
MILLION [1] - 611:22
million [28] - 465:10;
 497:23; 518:22-24;
 568:24; 575:7, 21;
 576:7; 595:8; 601:1;
 608:4; 609:3, 7-8;
 611:12; 612:7; 633:4;
 642:3; 644:7; 652:3
millions [3] - 581:10,
 14; 631:17
millisecons [1] -
 576:7
mind [14] - 453:5, 9;

524:24; 533:13;
 555:5; 580:24;
 599:20, 22; 617:15;
 626:4; 636:7; 649:20,
 24; 651:8
minds [7] - 525:21;
 555:2; 597:4; 599:21;
 649:18, 20
Minerals [2] -
 484:24; 486:12
minerals [1] - 480:20
minimal [1] - 461:10
minimum [8] - 511:8,
 12, 18; 512:3, 9;
 554:7, 11
MINIMUM [1] - 513:2
mining [3] - 461:15;
 517:17; 585:18
minor [1] - 516:20
Minto [11] - 477:15;
 488:19; 585:19;
 637:13; 639:6, 8, 11;
 644:24; 645:4; 651:23
Mintos [1] - 460:13
minus [5] - 585:2;
 617:24; 618:3; 620:4
minutes [5] - 474:17;
 495:4; 501:19; 551:3;
 627:16
missing [1] - 610:23
mistake [1] - 511:22
mistaken [2] -
 506:12; 572:8
misunderstand [1] -
 625:5
misunderstood [2] -
 471:11; 502:23
mitigate [4] - 480:14;
 513:24; 605:11;
 610:21
mitigation [4] -
 482:9; 483:9; 487:9;
 609:15
mix [2] - 518:11;
 563:20
mixed [2] - 563:19;
 590:14
mobilization [2] -
 532:22; 589:18
model [8] - 462:24;
 463:10; 464:3;
 522:18, 20; 548:9;
 586:8; 641:22
modelled [2] - 462:7;
 613:19
modelling [18] -
 464:2; 481:22;
 488:14; 520:7;
 521:10, 13, 23;
 522:11, 17; 523:3;
 528:6, 9-10; 546:21;
 548:6; 585:25
models [4] - 462:7;
 523:13; 548:10;
 586:13
moderate [3] - 463:1,
 4, 6
MOLLARD [91] -
 452:13; 453:21;
 454:2, 9; 458:19;
 465:14, 20, 25;
 470:24; 498:22, 25;
 499:4, 6; 500:19, 24;
 501:1, 5; 509:6, 22;
 510:9, 13, 17; 529:9,
 14, 25; 530:12; 531:1,
 10; 532:11; 534:6, 22;
 535:11; 537:10, 21;
 539:4, 10, 20, 22;
 540:13, 19, 24;

541:13; 542:20;
 543:6, 20, 23; 544:1,
 5, 12; 545:1, 12;
 557:2, 7, 19; 559:18,
 21, 24; 560:8; 563:1;
 569:4; 571:25;
 581:16; 587:10;
 594:8; 595:7; 600:12;
 614:12, 18; 629:5, 10;
 631:5, 8; 632:24;
 633:20; 636:3;
 637:17; 638:9, 12, 20,
 24; 639:8, 11, 17;
 640:7; 643:13; 644:5;
 646:18; 647:2, 5, 16;
 648:12
Mollard [15] - 453:18;
 530:24; 533:17;
 541:14; 548:6; 557:5;
 573:19; 574:11;
 576:11; 578:25;
 587:7; 597:21;
 599:16; 608:3; 629:22
Mollard's [4] -
 552:23; 565:23;
 572:9; 607:25
Monday [1] - 458:23
money [19] - 487:4;
 573:23; 574:1; 575:1;
 579:13; 590:3; 597:3,
 16; 598:18; 600:23;
 601:9; 604:10;
 605:21; 608:22;
 622:20; 623:10;
 631:25; 649:10
monies [2] - 579:9;
 607:24
monitored [1] -
 561:4
monitoring [4] -
 456:20; 547:7; 624:4;
 644:15
monthly [4] - 470:20,
 22; 471:19; 519:19
Moon [3] - 524:16,
 18; 525:7
morning [7] -
 450:20; 453:24;
 483:16; 528:21;
 552:9; 554:7; 576:3
MORRISON [188] -
 452:13, 24; 453:13;
 454:21, 24; 455:24;
 456:3, 9, 12, 14;
 458:2; 459:2; 464:10,
 12, 21, 25; 465:3, 6;
 466:7; 469:20;
 470:14; 471:2, 9, 15;
 485:2, 24; 489:10;
 491:16; 496:3, 6;
 497:13, 19; 498:4;
 499:9, 24; 500:6;
 511:13, 15, 19; 512:6;
 513:10; 514:19;
 516:3; 519:2, 6, 11;
 523:24; 524:2, 15, 20;
 525:3; 526:5; 527:2;
 531:3, 5; 533:12, 15,
 22; 534:15; 535:23,
 25; 538:7, 14, 19, 21;
 539:1, 7, 14, 21;
 541:25; 542:2; 543:1,
 4, 18, 22; 544:9;
 546:12, 14; 555:1;
 557:17; 560:6, 15, 24;
 561:16, 21; 563:17,
 25; 564:10, 12, 25;
 565:6, 9, 12, 15, 23;
 566:4, 7; 568:2;
 576:8; 581:24; 583:3,

7; 584:11; 586:21, 24;
 588:7, 18; 589:2;
 590:8, 10, 14; 591:16;
 592:4, 9; 596:1, 6, 8;
 599:8, 10, 13, 16;
 602:24; 603:7;
 604:16, 20, 23; 607:9,
 12, 25; 608:3, 9;
 609:4, 12; 611:17;
 612:12; 613:7; 615:6,
 8; 620:12, 14, 17, 20,
 23; 621:2, 6, 8, 12,
 14, 19, 21; 622:22;
 624:8; 625:6; 627:15;
 628:15; 629:2, 20;
 632:13; 633:17, 19,
 25; 634:2, 6, 10;
 635:2, 6, 22; 636:11,
 13, 17; 640:10, 13,
 17, 21; 641:6, 9;
 642:2, 7, 17, 20, 23,
 25; 644:11, 25; 645:6;
 652:2, 6, 13
Morrison [18] -
 452:20; 485:19;
 493:1, 6, 21, 23;
 494:22; 495:6, 11, 17,
 25; 521:6; 576:6;
 600:13; 601:5; 627:8;
 629:12; 645:1
Morrison's [1] -
 541:1
most [13] - 484:6;
 514:21; 516:13;
 523:17, 20; 528:1;
 544:16; 599:11;
 611:14; 624:22;
 636:3; 641:20; 651:9
mostly [1] - 644:21
Mount [4] - 636:14,
 18, 22, 24
mountainous [1] -
 636:19
move [7] - 537:6;
 546:10; 563:13;
 616:18; 623:22
moved [9] - 542:4;
 545:23; 548:21;
 549:17, 23; 561:13;
 563:16; 564:15; 570:7
moving [7] - 532:9;
 536:12; 538:3;
 545:14; 586:14;
 626:12; 642:5
multiple [2] - 456:20;
 575:14

N

name [2] - 452:10;
 499:14
Nation [1] - 607:17
national [3] - 646:25;
 647:19, 21
nationally [1] -
 647:16
Nations [1] - 597:18
natural [2] - 605:13;
 607:23
nature [4] - 460:8;
 496:4; 518:1; 564:6
NCPC [2] - 577:1;
 578:8
near [5] - 498:16;
 516:25; 518:22;
 519:10; 593:23
near-term [1] -
 518:22
nearly [1] - 525:24
necessary [1] -

649:15
necessity [1] -
 610:14
need [36] - 458:12;
 465:13; 470:14;
 475:5; 484:8; 487:22;
 502:6; 507:2; 509:7;
 512:23; 515:18;
 521:25; 523:1; 526:6;
 532:4; 535:1; 555:3,
 16; 560:13; 567:19;
 569:14, 16; 587:4;
 598:19; 601:1;
 608:17-19; 609:21;
 618:15; 619:11;
 627:6; 631:23; 634:6;
 638:15
needed [14] - 471:7;
 514:12; 515:16;
 523:9; 547:18;
 549:21; 559:3;
 563:11; 576:12;
 586:20; 606:17;
 627:11
needs [6] - 536:25;
 537:25; 605:16;
 625:20; 626:22;
 635:10
negative [4] -
 566:18; 567:22;
 568:8; 630:1
negotiated [3] -
 569:25; 570:7, 18
negotiations [1] -
 637:20
net [2] - 583:1;
 585:13
network [2] - 541:15
never [5] - 497:2;
 505:13; 525:8; 606:19
new [43] - 455:5;
 490:7; 494:20; 496:1,
 4, 12, 14, 21, 23;
 497:3; 511:21, 24-25;
 516:8; 519:18; 523:8;
 525:18; 535:25;
 537:4; 558:17, 20;
 563:3, 7; 564:7;
 566:11; 572:25;
 589:10, 14; 590:12;
 596:20; 598:1;
 600:18; 601:12;
 602:5; 631:4, 13;
 643:20; 649:11
news [4] - 491:24;
 493:9; 496:19
NEWS [1] - 494:8
newspaper [6] -
 451:1; 491:25;
 492:14; 493:9, 18;
 495:18
night [1] - 503:2
nobody [7] - 498:5;
 505:12; 523:15;
 562:7; 579:1; 602:12,
 16
nobody's [2] -
 517:18; 579:21
nodes [1] - 614:3
non [1] - 538:4
non-fuel [1] - 538:4
nonetheless [1] -
 561:3
nongovernment [1] -
 575:2
nonlabour [2] -
 539:5
nonsense [1] -
 577:18
normal [2] - 492:16

<p>normally [3] - 461:5; 500:12; 643:18 north [1] - 527:8 North [2] - 529:6; 549:14 Northwest [2] - 557:23; 650:20 notable [1] - 488:21 notation [1] - 621:14 note [4] - 472:14; 501:11; 613:11; 617:23 noted [5] - 459:11; 487:1; 524:6; 544:15; 638:11 notes [3] - 627:23, 25; 628:3 noticed [3] - 583:24; 595:2; 650:20 notoriously [1] - 492:17 NOVEMBER [1] - 552:20 November [11] - 450:5; 452:20; 467:4, 20; 472:10; 481:20; 520:19; 552:2, 11; 611:13; 626:9 NUMBER [2] - 504:15; 611:21 numbered [1] - 537:14 numbering [1] - 503:18 numbers [56] - 464:13, 20; 465:16, 21-23; 466:22; 467:19, 22; 468:7; 469:12, 24; 470:3, 12, 16-17, 21, 23; 471:1, 4, 12, 18-20; 472:3, 20, 22, 24; 473:1, 6, 20, 27; 474:14, 24; 476:6; 477:23; 480:13; 482:12, 18; 483:18; 488:11; 506:4, 9; 507:1, 14; 545:3; 548:14; 607:7; 608:17, 19; 611:14</p>	<p>594:15; 612:15, 17; 642:12 offended [1] - 508:2 offered [1] - 510:18 office [17] - 538:6, 8, 16, 23; 539:3, 11-12; 540:17, 21; 547:4; 554:24; 556:14, 17; 560:11 officer [1] - 538:21 offices [1] - 538:13 Official [1] - 450:18 officially [1] - 479:1 offs [1] - 454:13 oil [1] - 587:22 old [2] - 587:14; 591:5 older [1] - 635:8 ON [2] - 611:21; 642:12 once [9] - 452:21; 492:4, 7-8; 493:17; 536:16; 605:14; 608:14; 623:21 one's [1] - 473:3 ongoing [6] - 535:5; 544:22; 546:6; 571:5; 594:2; 630:24 onside [1] - 623:18 onsite [1] - 497:11 open [2] - 526:12; 639:3 opening [5] - 452:17; 478:8; 480:15; 652:21 operate [4] - 485:10; 511:7; 638:23; 640:2 operated [2] - 565:8; 641:15 operates [1] - 462:12 operating [3] - 497:11; 585:16; 637:24 operation [8] - 476:4, 11-12; 513:13; 560:21; 562:10; 634:14 operational [3] - 535:15; 537:11; 571:17 operationally [1] - 638:3 operations [12] - 466:17; 562:4, 25; 563:14, 22; 564:4, 13, 16, 19; 566:9; 637:24; 641:24 operative [1] - 476:12 operator [10] - 560:20; 561:5, 7-8; 565:8, 10; 638:16; 639:9; 640:1 operators [3] - 543:13; 561:9; 639:25 opinion [1] - 650:10 opposed [5] - 459:15; 465:23; 466:3; 500:4; 599:15 opposite [2] - 567:9; 574:8 opposition [3] - 553:25; 568:20 optimistic [1] - 572:23 optimizing [1] - 520:15 option [7] - 521:17; 526:1; 549:22; 555:4; 606:20; 609:22; 625:24</p>	<p>options [15] - 516:11; 518:11; 521:6, 8; 522:4; 524:5; 526:11; 527:18; 582:18; 601:19; 602:16; 606:18; 609:14, 20; 625:23 or... [1] - 642:6 orally [1] - 495:4 orange [1] - 498:18 oranges [1] - 486:4 order [33] - 479:3; 482:8; 490:1, 7; 496:23; 504:1; 544:20; 547:19; 555:6; 564:8; 569:21, 23; 570:23; 572:4, 7; 574:5; 577:17; 588:4; 592:1, 3, 14, 17-18, 24; 593:18; 605:25; 606:10; 618:18; 620:8; 623:15; 650:5, 15 order-in-Council [1] - 592:17 orders [1] - 570:11 organization [3] - 549:20; 550:2; 628:18 organizational [1] - 457:5 orientation [2] - 547:13, 17 original [2] - 456:22; 464:19 originally [3] - 548:22; 557:24; 576:21 Osler [9] - 453:8; 508:5; 548:7; 554:4; 578:17; 580:15; 583:22; 593:16; 621:8 OSLER [154] - 452:13; 459:8, 11, 17; 460:3; 461:1, 19; 462:6; 463:7, 9; 464:5; 466:24; 467:2, 5, 8, 23; 469:1, 3, 10, 14, 18; 471:21, 25; 472:5; 473:2, 15, 17, 20; 474:11; 475:11, 25; 476:2, 8, 17, 20, 24; 477:3, 8, 11, 14, 17, 20, 22, 25; 478:5, 7, 20, 25; 479:8, 13, 24; 480:4, 11, 17, 25; 481:6, 10, 13, 15, 24; 482:10, 14, 17; 483:9, 12, 21; 484:1; 486:20; 487:14; 488:2, 15; 489:4; 508:10, 13; 519:13, 24; 520:4, 6; 521:12, 20, 22; 522:5, 10; 523:7; 525:10; 527:20; 528:13; 534:2; 554:6; 557:1; 570:1, 3, 5, 17; 571:8; 572:4, 15, 20; 573:5, 10; 575:4; 576:9; 578:24; 580:19, 23; 581:1; 583:2, 23; 584:13, 16, 19; 585:1, 8, 11, 20; 586:4; 592:17; 593:19; 594:1, 4, 21; 595:10, 17; 601:8; 602:11; 607:13; 612:3; 613:6, 8, 11, 15, 18; 621:23; 622:17; 623:8; 625:22; 630:13;</p>	<p>632:2, 10, 15; 633:15; 634:19; 643:3, 7, 10; 644:1; 646:11; 647:18; 648:21; 650:8; 651:4, 10; 652:5, 9 OSLER'S [1] - 594:14 ounce [1] - 647:6 ourselves [5] - 529:17, 21; 575:13; 597:1; 602:25 OUT [1] - 651:12 outage [3] - 588:22, 25; 589:8 outages [1] - 638:2 outcomes [1] - 630:1 outflows [1] - 583:12 outlined [4] - 499:3; 555:19, 21; 643:8 output [5] - 512:10; 583:10; 633:12; 634:9; 637:7 OUTPUT [1] - 513:3 outside [4] - 454:8; 545:10; 574:6 outsource [2] - 544:20; 548:1 outsourced [1] - 548:8 outsourcing [3] - 544:17, 25; 548:12 outstanding [1] - 553:19 overall [8] - 522:13; 541:19, 23; 542:17; 555:23; 568:11; 583:10; 634:1 oversee [1] - 549:1 oversight [1] - 587:20 overview [3] - 525:11; 613:25; 615:10</p>	<p>485:11; 491:6; 492:14; 497:21; 499:7, 11, 15, 18; 500:3, 16-17, 19; 506:8; 511:6; 513:20; 523:6; 524:12; 526:10, 14; 527:13, 15; 538:11; 539:18; 555:23; 556:6; 560:13; 561:5; 578:5; 584:4; 585:8; 588:3; 590:17; 596:19; 602:8, 11; 609:15; 614:16; 615:10; 617:2; 619:9; 626:1; 629:22; 632:7; 633:20; 639:15; 642:4; 645:20 part-time [3] - 556:6; 561:5 participants [1] - 529:18 participate [2] - 529:12, 25 participated [2] - 529:6, 22 participation [2] - 529:7, 23 particular [19] - 461:6; 470:12; 482:24; 483:14; 484:8; 488:3; 489:3; 504:1; 508:17; 521:23; 522:22; 525:18; 545:8; 611:16; 639:3; 645:25; 646:16; 649:1 particularly [5] - 513:6; 515:6; 548:6; 583:10; 645:13 parties [1] - 610:6 partly [3] - 550:5, 8 partners [3] - 556:12, 21; 558:8 partnerships [1] - 597:18 party [2] - 633:21 party [2] - 544:18, 25 pass [1] - 497:6 passage [1] - 648:20 passages [2] - 645:11, 25 passes [1] - 497:5 past [14] - 468:23; 475:17; 495:16; 515:1; 517:20; 536:11; 541:4, 12; 562:2; 566:23; 568:22; 592:15; 601:10; 622:24 pathogen [2] - 623:17; 624:15 pause [1] - 605:7 paves [1] - 568:11 pay [8] - 528:1; 539:14; 573:17, 22; 576:12; 579:25; 600:7 payable [1] - 540:14 paying [6] - 573:16; 574:1, 11-12; 579:2; 630:18 payments [1] - 539:16 peak [3] - 460:20; 477:2 peaking [3] - 513:23 Penstock [1] - 619:5 PER [1] - 584:22 per [12] - 462:1; 475:12, 18, 21;</p>
O				
<p>O&M [3] - 475:18; 538:4; 565:14 objectionable [1] - 451:19 obligation [9] - 489:2, 6, 8, 20; 490:20; 491:13, 19; 497:10 obtain [2] - 508:8; 572:1 obviously [14] - 455:23; 463:18; 469:24; 490:5, 19; 491:1, 17; 493:18; 495:1; 517:24; 534:14; 575:24; 592:5; 622:9 occupied [1] - 649:8 occupies [1] - 545:2 occupying [1] - 559:15 occur [1] - 461:3 occurs [2] - 460:4; 576:20 odd [1] - 600:15 OF [9] - 494:12; 503:22; 513:3; 553:14; 572:17;</p>			<p style="text-align: center;">P</p> <p>P.M [2] - 551:5; 552:3 package [4] - 486:1; 580:11; 618:13 PAGE [3] - 503:23; 641:2; 642:12 pages [2] - 453:1; 465:4 paid [3] - 574:2; 644:17 PANEL [3] - 452:15; 528:22; 651:21 panel [14] - 493:11; 498:6; 505:16; 508:5; 510:18; 516:1; 528:21; 552:9; 554:21; 569:22; 645:24; 651:14, 22; 652:19 panel's [1] - 509:23 paper [2] - 536:13; 537:7 paragraph's [1] - 648:21 paragraphs [3] - 647:23; 648:15, 20 parallel [2] - 534:24; 535:6 parameters [1] - 614:25 pardon [1] - 566:10 part [60] - 453:4, 7-8; 454:7; 455:10, 21;</p>	

476:15; 481:2;
484:17; 544:19;
584:9; 613:1, 3
perceived [1] -
647:13
percent [51] -
478:2-4, 10-11, 15,
20; 479:7, 16, 23-24;
480:1, 5-6, 9, 12;
481:13; 482:6, 9,
18-19; 483:1, 4-5, 7,
17-18; 484:7, 14, 16,
20; 488:8; 496:25;
497:4; 498:16; 511:7;
613:3; 617:24; 618:5;
620:4; 634:16; 635:1;
650:16
percentage [2] -
481:22; 482:4
perception [1] -
567:13
perfect [1] - 606:15
perfectly [1] - 473:23
perform [1] - 546:20
performance [1] -
541:20
performs [1] - 513:9
perhaps [7] - 452:5;
464:9; 498:8; 512:20;
526:9; 567:5; 637:1
period [27] - 467:13;
468:4, 6; 474:22;
476:16, 22; 481:21;
509:11; 516:15;
518:7; 562:19, 23;
576:15; 577:23;
578:8; 587:18;
592:13; 597:13;
605:23; 606:2;
616:25; 632:20, 23;
643:15; 648:24
periods [2] - 511:8;
572:5
permanent [3] -
558:2; 559:15; 560:2
person [13] - 493:23;
540:12; 544:17;
545:1; 548:23;
557:25; 558:1, 11, 15,
21; 559:12; 563:15;
615:9
personnel [8] -
535:15; 537:11;
538:8, 17; 539:2;
544:4; 554:22
persons [1] - 554:25
perspective [13] -
489:6, 22-23; 492:18;
529:15; 532:5;
536:23; 556:11;
611:5; 624:10;
636:25; 646:13
Pham [1] - 450:10
Phase [16] - 614:21;
615:14; 617:19, 23;
620:15, 17-18, 24;
621:17, 24; 622:6;
624:24
phase [7] - 615:14;
616:10, 13; 620:18,
21; 621:25; 626:1
phases [2] - 623:23;
624:11
Phases [2] - 614:11,
19
phone [1] - 638:16
photocopier [1] -
539:8
phrase [1] - 621:24
phrased [1] - 481:18

physically [1] - 640:1
pick [1] - 553:22
picked [1] - 479:6
picture [1] - 521:2
piece [18] - 453:3;
455:12; 485:11;
490:21; 506:17;
517:7; 540:8; 543:13;
591:9; 598:7, 17;
605:9; 609:16;
610:23; 617:7, 11;
619:17; 635:11
pieces [5] - 547:17;
566:25; 587:16
piezometers [1] -
610:3
piper [1] - 600:7
place [13] - 517:7;
534:3; 535:22;
536:18; 537:3;
550:17; 556:20;
561:20; 567:18;
571:18; 584:4; 627:13
places [2] - 549:14;
610:4
Plains [1] - 536:1
plan [40] - 453:8;
454:17; 458:7;
463:14; 476:9; 484:5;
515:23; 516:2, 4-5;
518:16; 519:1, 7;
521:9, 18; 522:1;
524:5; 528:7, 10;
532:1; 537:16;
546:18; 552:10;
555:3, 18, 22; 556:10,
21; 558:24; 566:25;
567:2, 4; 600:16;
613:25; 629:22; 630:2
PLAN [1] - 552:19
Planes [1] - 543:8
planned [1] - 463:18
planning [33] -
462:8; 516:7; 520:7;
526:17; 541:21;
545:22, 24; 546:1, 4,
8, 10; 547:4, 22, 25;
548:2, 12, 22; 549:2,
24; 550:4; 575:16;
585:4; 590:21;
600:19; 614:4;
615:11; 619:9;
626:12; 627:4; 631:3
plans [4] - 480:21;
545:19; 556:13;
646:20
plant [27] - 497:11,
22; 498:18; 499:5, 8,
16; 500:10; 511:12;
514:25; 517:6; 536:5;
554:10, 17; 561:1, 4;
583:11; 586:11;
587:12; 589:5;
590:21; 591:6;
598:11; 608:12, 23
plants [3] - 509:9;
583:12; 596:22
plate [2] - 587:9;
592:23
plateaued [1] -
646:22
play [1] - 517:21
pleased [1] - 452:10
plug [1] - 614:5
plus [10] - 462:5;
471:17; 475:23;
482:18; 544:18;
545:7; 563:6; 617:24;
618:3; 620:3
point [41] - 466:2;

468:12; 473:4, 6;
478:2; 484:19; 487:2,
25; 488:8, 21; 492:22;
493:6; 501:25;
523:15; 540:2;
543:22; 549:13;
558:1; 569:5; 571:5;
572:22; 577:25;
578:9; 582:14;
593:22; 598:19;
604:7; 606:12;
607:15; 616:4, 22;
622:10; 623:15;
624:9; 625:7; 631:18;
646:12; 649:3
point's [1] - 585:12
pointed [2] - 536:11;
621:19
pointing [1] - 565:24
points [4] - 515:5,
11; 621:8; 650:21
policy [26] - 535:1, 4;
592:25; 593:6, 10;
601:3; 626:13, 21;
627:5; 628:22; 629:3,
6, 11; 630:4, 10;
631:1, 4-5, 10-11, 20;
632:6, 9
POLICY [1] - 632:18
pool [7] - 561:8, 11,
17; 562:2, 14-15;
563:11
pools [1] - 563:3
population [1] -
599:3
portfolio [1] - 526:10
portion [6] - 461:12;
486:1; 500:22;
539:11; 541:1
pose [1] - 474:24
position [25] -
494:17; 495:3, 11;
497:8; 544:7, 13, 20;
545:23; 547:25;
548:4, 23; 549:24;
557:3, 23; 559:3, 15,
17; 561:8, 15; 563:16,
22; 564:4, 7
positions [13] -
538:12; 540:3, 25;
548:15; 556:9;
557:10, 14, 16;
560:12, 14, 17; 563:3
positive [3] - 567:23;
568:6; 630:1
positively [1] -
491:10
possibilities [3] -
462:16; 517:16;
524:22
possibility [2] -
472:8; 553:3
potential [11] -
457:6; 522:16;
550:15; 575:7;
593:20; 606:21;
615:23; 625:10, 13;
636:22
potentially [4] -
493:2; 531:21; 622:3;
626:17
pots [1] - 600:9
power [11] - 505:8;
548:9; 554:10, 16;
560:19, 22; 561:13;
562:3; 564:18, 20;
619:11
Power [1] - 549:17
practice [9] - 476:4;
515:1; 579:1; 591:6,

23, 25; 592:15;
617:16; 628:4
practices [1] -
529:12
prasad [1] - 450:7
pre [5] - 617:25;
618:3; 619:19;
621:17, 25
Pre [2] - 614:10, 19
pre-phase [2] -
621:17, 25
Pre-tendering [2] -
614:10, 19
pre-tendering [3] -
617:25; 618:3; 619:19
preamble [2] -
533:16, 22
precedence [1] -
601:25
precise [1] - 620:16
Predator [1] - 524:1
predecessors [1] -
648:3
predictability [1] -
601:6
predicted [1] - 461:7
prefeasibility [2] -
640:4, 16
PREFEASIBILITY [2]
- 641:3; 642:14
preliminary [8] -
450:22; 451:11;
452:2; 501:23; 552:7;
616:12; 625:21; 642:1
premise [1] - 483:12
premium [3] - 650:1,
6
preparation [2] -
541:20; 559:19
prepares [1] - 517:1
preparing [6] -
474:21; 516:10;
518:16, 18; 616:20;
646:20
president [2] - 550:8;
618:5
president's [3] -
539:3; 540:4, 21
presumably [1] -
572:21
presume [1] - 579:4
pretty [8] - 461:10;
545:2; 550:18;
584:12; 601:2; 603:9,
18
previous [6] -
511:17; 515:16;
546:2; 558:18;
559:15; 615:21
price [7] - 475:11,
13; 529:20; 608:18;
618:19; 619:20
prices [1] - 649:12
pricing [2] - 573:13;
619:14
primarily [1] - 516:22
primary [1] - 533:19
principle [3] -
487:21; 573:11;
574:15
principles [1] -
518:16
priority [9] - 457:2;
531:14, 18; 533:3;
534:8; 537:15;
588:23, 25
probative [1] -
532:14
problem [18] -
465:17; 469:18;

527:25; 534:24;
535:6; 575:6, 9, 14;
576:19; 577:14;
578:13; 588:2;
602:23; 605:6, 8;
623:7; 639:2; 650:13
problems [6] -
473:25; 586:16;
619:1; 634:25; 649:15
proceed [9] - 452:8;
494:14; 501:12;
523:22; 529:3;
596:16; 617:8; 625:2;
627:4
proceeding [6] -
470:10; 476:21;
523:22; 570:16, 18
Proceedings [1] -
450:1
proceedings [3] -
452:17; 533:25; 534:1
process [33] -
453:11; 474:6;
479:25; 480:18;
523:6; 525:20;
531:19; 536:5;
539:16; 550:12;
555:20; 556:2, 18;
562:14; 566:14;
567:6; 569:25; 570:7;
579:24; 580:2;
605:13; 614:4;
615:10; 616:6, 13;
617:12, 15, 18; 619:9;
625:19; 644:12, 18;
650:14
processes [2] -
568:12; 615:11
produce [4] - 597:13;
604:1; 637:6
produced [2] -
604:1; 605:2
producing [1] -
633:10
production [2] -
535:18; 583:18
program [16] - 457:9;
530:21, 23; 531:19,
25; 534:3, 5; 537:20;
555:7, 16; 556:20;
557:9; 565:17;
567:24; 598:23;
599:23
programs [7] -
458:14; 548:25;
555:15; 556:12;
589:14; 601:21
progress [6] - 592:7;
594:24; 599:14;
600:6; 601:15; 602:9
Project [3] - 456:8;
614:11, 19
PROJECT [1] - 641:1
project [138] - 457:9;
460:2; 500:20;
517:24; 521:23;
522:7, 22, 25; 523:8;
524:11; 525:25;
526:2, 20, 22-24;
527:11; 543:10;
548:24; 549:1;
558:19; 581:21;
582:3; 583:4; 588:14,
17; 589:19; 590:2, 16;
592:11; 593:20, 22;
595:3; 596:15-17, 25;
597:3, 25; 598:1, 4,
11; 599:5; 600:18;
601:1; 603:3, 8, 11,
13-14, 25; 604:11;

605:14, 16; 606:3, 9, 16; 607:17, 24; 608:7, 9, 14, 25; 610:15; 611:7, 10, 25; 612:5, 7; 614:5, 22, 24; 615:14, 25; 616:1, 16, 21, 23; 617:3, 8; 618:11; 619:22; 620:8; 621:25; 622:1, 12, 14, 20; 623:1, 5-6, 14, 16; 624:7, 11, 19, 25; 625:1-3, 7-8, 10, 17, 19; 626:1, 3, 10; 627:11; 628:19; 629:7, 13, 18, 23; 631:10, 16, 19, 23; 633:11; 636:18; 637:23; 638:7, 13, 15, 18; 639:12, 15, 23, 25; 642:3, 5
project's [1] - 607:20
projected [6] - 459:15; 477:6; 481:20; 484:17; 522:3; 523:18
projecting [3] - 461:14, 16
projections [2] - 585:17; 595:2
projects [96] - 456:19, 21; 457:3, 19, 24; 517:1, 4, 10, 13, 23; 518:20, 22-23; 519:3; 521:11, 18; 524:4, 7; 527:14; 545:14, 16, 21, 23; 546:18; 547:7, 17; 548:23; 549:3, 9; 550:6; 558:6, 10, 14; 559:7, 24; 560:2; 562:5; 563:15, 24; 564:1, 5; 566:11; 567:1; 581:17; 592:7, 10; 594:20; 595:4, 18; 596:3, 6, 11; 597:10, 19; 599:19; 600:18, 24; 601:14; 604:4, 17, 21, 24; 605:20; 606:9, 21, 24; 607:2; 611:15; 614:6, 8-9; 615:3, 17; 621:16; 623:10, 24; 628:13, 18; 629:13, 21; 630:3; 632:4; 633:3; 640:5; 642:16, 18; 643:6; 649:6, 11, 13, 15
Projects [1] - 450:16
PROJECTS [1] - 611:22
projects' [1] - 582:12
proliferation [1] - 596:22
promoted [1] - 541:17
promotion [2] - 541:24; 544:3
propeller [1] - 455:12
proper [2] - 493:5; 495:17
properly [1] - 602:21
property [1] - 490:11
proposal [2] - 556:9; 607:19
propose [1] - 626:15
proposed [13] - 475:9; 477:4; 480:19; 484:21; 532:9; 565:7; 567:1; 572:24; 580:16; 594:24;

630:6; 632:20; 646:1
proposes [2] - 479:9; 483:6
proposing [6] - 486:11; 565:22; 568:24; 591:19; 592:12; 630:11
proposition [3] - 495:10, 16, 21
protection [2] - 557:12; 560:9
prove [1] - 582:12
proved [1] - 597:4
proven [1] - 567:15
proves [1] - 491:7
PROVIDE [4] - 453:14; 572:16; 611:20; 612:14
provides [2] - 497:25; 548:2, 3
providing [4] - 453:5; 516:4; 553:5; 609:13
provision [2] - 571:2; 631:10
provisions [1] - 571:20
proviso [1] - 494:5
provisos [1] - 494:1
prudence [1] - 631:1
prudence [1] - 593:12
prudent [3] - 593:2; 633:4
public [12] - 494:17; 555:22; 565:18; 566:19; 567:5, 13, 20; 568:15; 598:12; 627:17; 628:8; 644:19
Public [1] - 489:7
pull [4] - 502:3; 508:16; 606:11; 615:23
purchase [2] - 582:10; 637:21
purchased [1] - 591:10
purely [1] - 632:24
purpose [7] - 452:24; 512:16; 516:4; 580:3, 17; 593:5; 594:22
purposes [19] - 453:2, 10; 454:2, 12-13; 462:8; 476:5; 494:2; 516:1; 520:7, 10; 540:6; 553:21; 569:15; 571:16; 600:23; 645:7; 648:25; 650:19
pursuant [1] - 571:20
pursuing [1] - 532:14
pushed [1] - 590:6
putting [3] - 492:18; 523:8; 528:24

Q

qualification [1] - 491:14
qualified [3] - 510:3; 549:15; 647:11
qualify [1] - 543:7
quarter [2] - 561:11; 648:19
quasi [1] - 492:20
quasi-judicial [1] - 492:20
QUESTION [1] -

594:12
questioning [4] - 501:18; 515:22; 528:6, 15
QUESTIONS [1] - 528:22
questions [35] - 452:11; 470:6; 474:14, 24; 488:25; 498:6, 12; 501:13; 511:23; 512:19; 519:7; 523:14; 529:1, 4; 530:4; 550:23; 554:6; 565:16; 569:7; 594:19, 22-23; 602:17; 607:22; 627:18; 628:10; 633:6; 645:9; 649:19; 651:14, 17, 23; 652:15
quick [4] - 586:22; 588:8; 608:1; 651:19
quicker [2] - 518:9; 587:6
quickly [3] - 552:8; 554:5; 624:9
quickness [1] - 518:5
quiet [1] - 515:2
quite [15] - 458:16; 460:11; 465:7; 475:4; 494:1; 502:24; 503:9; 505:14; 542:8; 557:24; 558:7; 587:21; 596:24; 604:3
quote [2] - 493:20
quoted [1] - 492:25

R

radio [2] - 494:18; 638:16
rained [1] - 577:12
raise [2] - 487:4; 590:16
raised [2] - 590:22
ran [5] - 474:7, 10; 557:3, 9; 584:3
range [8] - 459:19; 460:7; 462:25; 517:9, 24; 625:23; 652:4
Rapids [2] - 472:4; 524:19
rate [26] - 452:25; 454:12; 483:9; 487:7; 490:7; 491:8; 496:25; 497:4; 503:12; 518:20; 539:12; 545:6; 569:11; 575:2; 576:23; 577:6, 10; 633:2, 5; 636:4; 637:15; 645:15; 646:1; 648:8, 10; 651:3
RATE [2] - 503:21; 651:13
rate.. [1] - 648:4
ratepayer [3] - 490:3; 576:10, 18
ratepayers [13] - 496:15, 22; 565:17; 567:25; 568:2; 576:15; 578:15; 582:6; 600:1, 11; 601:3; 633:2
rates [20] - 454:14; 494:21; 495:1; 496:2; 501:7; 508:16, 19, 23; 509:5, 16; 510:1; 573:3; 576:23;

577:17; 601:7; 630:16, 21, 25; 648:5
rather [11] - 474:1, 17; 520:15; 522:16; 544:20; 564:14; 567:23; 574:19; 577:9; 582:24; 595:24
ratio [1] - 457:1
re [10] - 642:16, 22; 643:6, 11, 20, 25; 644:6, 22; 651:18, 20
RE [2] - 594:12; 651:21
re-direct [2] - 651:18, 20
RE-EXAMINES [1] - 651:21
re-license [1] - 643:25
re-licensing [7] - 642:16, 22; 643:6, 11, 20; 644:6, 22
reacting [2] - 576:20; 602:5
read [20] - 456:10, 16; 461:22; 466:9; 467:15; 475:19; 478:10, 22; 480:23; 482:24; 495:13; 522:1; 532:18; 545:15; 587:15; 612:20; 616:9; 646:5; 647:25
readily [1] - 582:21
reading [5] - 456:15; 482:8; 483:1; 509:4; 582:24
ready [5] - 517:12; 528:18; 617:13; 623:16; 627:2
real [7] - 492:19; 546:25; 547:1; 548:15; 606:13; 608:15; 616:3
realities [1] - 602:5
reality [1] - 606:17
realization [1] - 576:22
realize [1] - 577:6
realized [2] - 465:15; 601:10
reallocate [2] - 558:15; 563:2
reason [15] - 469:4; 473:25; 474:9; 513:20; 525:5; 563:2; 579:20; 588:3, 5; 590:18; 595:6; 596:19; 606:23; 607:18; 645:24
reasonable [13] - 496:24; 509:19; 576:15; 597:2; 601:13, 24; 602:3; 608:8; 609:1; 622:7; 632:2; 635:23; 650:23
reasonableness [9] - 489:13; 490:19; 491:5; 494:24; 495:5; 496:7; 497:5; 630:7
reasonably [2] - 571:25; 577:2
reasoning [1] - 594:25
reasons [7] - 513:23; 518:3; 536:23; 587:3; 599:2; 609:6; 649:19
reassess [1] - 605:7
receive [1] - 492:4
received [1] - 491:10

receiving [1] - 633:12
recent [4] - 455:9; 523:20; 596:22; 636:3
recently [4] - 473:14; 523:17; 591:11; 645:2
reception [1] - 567:5
recess [1] - 605:23
reclassified [1] - 559:14
recognize [1] - 602:11
recognized [4] - 527:1; 558:22; 559:2; 576:18
recognizing [1] - 600:20
recollection [4] - 571:15; 579:6; 587:16; 635:23
recommendation [3] - 532:3, 24; 534:20
recommendations [13] - 456:23; 530:9-11, 16; 531:8, 11, 18, 22; 532:19, 25; 533:8; 534:9
recommended [1] - 578:13
record [36] - 450:25; 451:20; 462:9; 465:20; 469:14; 479:2; 486:21, 24; 488:3, 22; 491:23; 492:13; 499:13; 502:3, 13; 503:10; 505:15; 506:19; 507:6; 520:19; 536:25; 553:7, 21; 575:19; 577:23; 586:15; 627:16-18; 628:3; 652:10
recorded [1] - 627:10
recordkeeping [2] - 535:17; 537:7
records [5] - 492:2; 537:3, 7; 579:3; 647:8
recovered [3] - 454:6; 576:16; 602:15
recovery [1] - 646:4
recruit [2] - 549:10; 550:3
recruited [1] - 548:16
recruitment [3] - 550:13; 556:2, 18
rectify [1] - 588:20
red [1] - 604:7
reduce [2] - 573:4; 619:6
reduced [1] - 461:23
reduction [2] - 540:10; 651:25
redundancy [2] - 588:16, 21
refer [7] - 454:4; 497:17; 570:11; 627:6; 640:5; 645:24; 647:22
reference [23] - 452:19; 458:7, 24; 467:14; 471:21; 472:18; 476:17, 20; 489:3, 11; 495:7; 524:8; 560:17; 586:20; 614:13; 621:10; 629:7, 11; 634:6; 640:3, 11; 642:3; 650:21

<p>REFERENCE [4] - 594:14; 641:2; 642:12 referenced [3] - 461:21; 487:12; 629:6 references [1] - 524:6 REFERRED [2] - 594:11; 641:1 referred [9] - 451:15, 20-21; 476:16; 533:1; 541:14; 617:10; 627:8, 12 referring [14] - 469:7; 470:25; 495:5; 498:23; 510:23; 532:17; 594:4; 629:2; 633:14, 21, 24; 648:20, 23 refers [4] - 476:22; 501:7; 541:15; 566:2 refined [2] - 617:25; 618:7 refining [2] - 617:21; 618:6 REFLECT [1] - 453:15 reflect [4] - 452:21; 462:21; 473:22; 495:3 reflecting [4] - 461:12; 563:3; 564:6; 587:11 reflection [1] - 601:23 reflects [3] - 479:14; 482:2; 492:13 regard [1] - 530:6 regarding [11] - 505:8; 540:20; 552:23; 565:16; 569:11; 578:18; 591:18; 592:15; 641:25; 642:15; 648:16 REGARDING [1] - 594:11 regardless [2] - 462:10; 489:8 regards [41] - 452:11, 18; 453:18; 454:16; 455:25; 458:22; 464:6; 466:5; 497:16; 501:6; 508:4, 6-7, 15; 510:21; 515:18; 518:18; 523:20; 525:23, 25; 526:20; 528:6; 537:19; 544:6; 554:23; 560:11; 565:1, 13; 568:23; 569:6; 587:12; 590:7; 591:21; 595:1; 607:23; 609:5; 627:7; 628:22; 632:19; 645:8 regime [1] - 637:6 regular [1] - 605:1 regulated [3] - 604:6; 650:1, 4 regulations [1] - 547:7 regulator [6] - 578:15; 600:25; 616:23; 624:18; 625:4 regulators [2] - 547:21; 568:15 regulatory [20] - 453:20; 454:3, 11-12; 489:22; 532:5; 545:22; 546:10; 568:11; 597:17; 603:10; 604:4, 14;</p>	<p>605:9; 617:18; 623:3; 644:12, 18; 646:14 reinvestment [2] - 510:7, 12 reiterate [1] - 600:12 relate [1] - 529:5 related [14] - 498:6; 500:20; 504:20; 571:19; 581:12; 611:1; 615:19; 641:7; 643:14; 644:14-16, 22; 649:21 Related [1] - 456:8 RELATED [1] - 505:4 relates [3] - 458:18; 466:1; 475:4 relating [3] - 474:1, 20; 588:21 relation [8] - 533:7; 544:2; 595:14; 643:5; 646:25; 648:19 relative [2] - 460:22; 651:25 relatively [3] - 513:11; 623:22; 636:19 release [1] - 554:16 relevance [4] - 476:12; 492:19; 493:16; 512:12 reliability [2] - 491:2; 588:20 reliable [1] - 649:12 relief [1] - 542:18 relocation [1] - 560:22 rely [1] - 537:1 relying [1] - 650:14 remain [2] - 594:23; 645:4 remarks [2] - 652:20 remember [7] - 454:10; 479:4; 496:10; 502:5; 577:5, 12; 620:25 remind [3] - 585:15; 652:20, 24 reminder [1] - 451:5 reminding [1] - 580:11 reminds [3] - 453:9; 587:8; 597:21 remotely [2] - 488:12; 638:24 removal [2] - 533:10; 534:12 removed [8] - 502:6, 8 removing [3] - 533:1, 4 renewable [1] - 522:22 renewal [1] - 643:16 renewed [1] - 643:15 rent [1] - 539:12 rental [1] - 540:17 rented [1] - 556:17 repairs [1] - 590:7 repatriating [1] - 548:6 replace [7] - 465:22, 25; 513:23; 564:14, 23; 587:4; 608:11 replaced [6] - 455:11; 587:19; 589:7; 591:7; 635:11 replacing [1] - 608:23 replenish [1] - 574:7 reply [1] - 652:22</p>	<p>report [11] - 474:23; 506:3, 9; 531:22; 586:17; 587:1, 3, 11, 15, 19; 598:2 reportable [2] - 605:2, 24 reported [1] - 572:20 Reporters [1] - 450:18 reporting [5] - 547:20; 558:8; 559:10, 14; 560:3 reports [2] - 532:2; 559:5 representative [2] - 492:25; 493:24 require [5] - 461:25; 478:4; 481:1; 511:11; 513:18 required [14] - 481:23; 482:5; 504:19; 510:19; 512:17; 513:7, 16; 523:8; 531:14; 546:1, 5; 563:8; 590:20; 629:14 REQUIRED [1] - 505:3 requirement [13] - 454:7; 477:6; 481:4; 540:7, 10; 554:8; 572:21; 573:21; 574:10, 13; 593:6; 629:7 requirements [9] - 524:6; 544:22; 547:6, 16, 20; 555:19, 23; 558:8 reran [1] - 465:16 research [2] - 555:12; 646:19 reserve [4] - 470:4; 568:25; 577:16; 580:13 reservoir [6] - 462:5; 464:3; 513:18, 25; 514:1 reservoirs [2] - 508:25; 528:8 resident [1] - 561:14 residential [4] - 460:12; 489:15; 490:22; 575:2 residents [4] - 610:2, 11; 611:3; 627:22 resource [53] - 453:8; 454:17; 463:10, 14; 476:9; 484:5; 515:23; 516:2, 4; 518:16; 519:1, 7; 520:7; 521:9; 522:1, 4, 22; 524:5; 528:6, 10; 542:16; 545:22, 25; 546:1, 4, 8, 10, 17; 547:4, 22, 25; 548:12, 22; 549:24; 550:4; 552:10; 555:3, 18; 563:10; 566:11, 25; 567:2, 4; 575:16; 598:16, 20; 613:25; 614:4; 615:11 RESOURCE [1] - 552:19 resources [7] - 534:16; 538:16; 539:2; 554:22; 555:13; 562:15; 641:21 respect [7] - 485:19, 22; 486:17; 487:12;</p>	<p>518:19; 530:20; 540:1 respond [2] - 509:23; 639:4 responded [1] - 454:10 response [18] - 465:9; 466:10; 469:25; 470:18; 472:17, 19; 475:19; 488:5; 498:9, 13; 501:25; 508:8, 17; 509:8; 510:6; 511:5; 552:21; 585:5 responses [2] - 512:19; 530:6 responsibilities [4] - 541:19, 23; 542:17; 565:3 responsibility [2] - 542:5, 22 responsible [1] - 541:22 rest [3] - 593:13; 602:1; 647:3 restrictions [2] - 583:11, 14 restructured [1] - 564:15 result [6] - 464:1; 546:9; 565:17; 566:9; 588:21; 605:4 resulted [6] - 466:15; 467:18; 565:19-21; 566:5 resumé [1] - 557:24 retained [1] - 625:23 retaining [1] - 573:3 rethink [1] - 610:18 retirement [2] - 510:10; 608:24 retirements [1] - 550:15 return [9] - 501:19; 507:23; 550:25; 551:1; 602:7, 21; 645:8, 15; 646:1 returned [1] - 646:7 returning [1] - 553:17 revenue [12] - 454:7; 484:17, 20, 23; 486:8; 487:23; 540:7, 10; 572:21; 593:6; 651:24 revenues [6] - 475:3; 484:25; 485:21; 486:13, 18; 504:19 REVENUES [1] - 505:3 reverse [1] - 469:4 review [11] - 529:12; 546:25; 557:7; 570:23; 571:4; 604:23; 617:19; 623:6; 629:17; 630:24; 650:12 reviewed [3] - 516:6; 530:15; 632:7 REVISED [1] - 504:15 revised [8] - 464:7; 465:9, 11; 469:6; 480:24; 501:7; 504:7; 508:18 revising [1] - 465:13 revision [2] - 464:18; 469:11 rewind [1] - 455:17 rewound [2] - 455:16 right-hand [1] - 644:2</p>	<p>rime [1] - 636:23 risk [23] - 529:13; 531:9; 576:10, 18; 578:16; 589:16; 590:4; 600:3, 13, 21; 601:6; 602:2; 605:8; 619:7; 648:4, 8-9; 650:1, 5 risk-based [2] - 529:13; 531:9 risk-free [3] - 648:4, 8 risks [6] - 610:21; 618:14-16; 620:3 risky [2] - 598:22; 631:25 Riverdale [1] - 598:12 road [3] - 597:2; 636:21 roadblock [1] - 611:11 robust [1] - 649:5 rock [1] - 619:2 ROE [2] - 602:7; 630:19 role [3] - 513:9; 541:1; 563:14 roles [1] - 516:1 roll [1] - 536:15 rolled [1] - 480:1 rolling [1] - 536:4 rollout [1] - 558:25 room [1] - 577:21 roost [1] - 649:4 rotate [1] - 561:8 rotation [1] - 561:11 rough [2] - 545:3; 608:6 roughly [4] - 534:24; 541:5; 587:13; 615:22 round [4] - 477:23; 482:12, 18; 634:14 rounded [1] - 480:13 rousing [1] - 568:21 route [1] - 619:5 rule [1] - 603:8 Rules [2] - 492:16 rules [3] - 579:11; 601:12, 20 run [15] - 463:9; 513:15, 17; 514:12, 24; 515:5, 17, 19; 561:4; 562:9; 584:8; 585:22; 589:4; 598:5; 638:6 runners [3] - 455:5, 11, 19 running [16] - 484:2; 514:7, 11; 515:7; 543:3-5, 8; 562:14; 578:22; 586:1-3, 5 runs [2] - 543:9 rush [1] - 626:17</p>
S				
<p>safe [1] - 591:5 safety [8] - 547:12; 565:1; 590:12, 17, 19; 640:14 sake [3] - 519:24; 573:14; 642:7 sales [4] - 481:8; 522:2, 9 Saskatchewan [1] - 557:24 sat [3] - 546:25; 555:8; 556:7 satisfied [1] - 566:19</p>				

<p>save [2] - 590:3; 608:21</p> <p>saved [1] - 548:1</p> <p>saw [5] - 528:4; 546:25; 547:1; 603:14; 622:13</p> <p>SCADA [7] - 543:12; 637:12, 15; 638:8; 639:15, 23</p> <p>scale [1] - 546:3</p> <p>scaling [1] - 526:17</p> <p>SCC [3] - 565:10; 638:17</p> <p>scenarios [5] - 517:15; 519:16, 21; 520:11; 606:25</p> <p>schedule [2] - 534:20; 652:23</p> <p>scheduled [1] - 578:21</p> <p>schedules [1] - 540:15</p> <p>scheduling [1] - 542:11</p> <p>schools [1] - 598:12</p> <p>scope [2] - 530:3; 615:25</p> <p>Sears [1] - 450:14</p> <p>season [1] - 533:4</p> <p>seasonal [8] - 460:2, 15, 19; 461:8, 16; 481:17, 19; 485:10</p> <p>seated [1] - 552:5</p> <p>sec [1] - 482:10</p> <p>secondary [3] - 522:2, 8; 523:2</p> <p>secondly [4] - 488:9; 576:14, 17; 601:11</p> <p>seconds [1] - 533:13</p> <p>secretarial [1] - 469:19</p> <p>secretary [1] - 538:9</p> <p>secretary's [1] - 541:2</p> <p>section [2] - 506:10; 542:25</p> <p>secure [1] - 649:12</p> <p>SEE [1] - 594:16</p> <p>seeing [5] - 467:12; 611:13; 621:24; 629:6; 642:25</p> <p>seem [3] - 472:20; 484:19; 586:16</p> <p>segment [1] - 485:15</p> <p>segmenting [1] - 486:1</p> <p>sell [1] - 582:10</p> <p>send [1] - 640:1</p> <p>senior [4] - 457:4; 548:11; 560:19; 578:9</p> <p>sense [16] - 462:7; 513:11; 524:16; 568:7; 574:14; 578:3; 580:1, 17; 583:14; 586:4; 604:15; 619:10; 624:2; 630:17; 632:2</p> <p>sent [1] - 503:1</p> <p>sentence [1] - 491:15</p> <p>separate [3] - 459:22; 579:7</p> <p>separated [1] - 540:22</p> <p>separately [2] - 471:6, 25</p> <p>separating [1] - 487:17</p> <p>September [1] - 494:10</p>	<p>SEPTEMBER [1] - 494:12</p> <p>sequence [2] - 462:14</p> <p>sequential [1] - 584:2</p> <p>series [6] - 458:15; 530:16; 532:3; 569:7; 617:4; 641:9</p> <p>serious [2] - 588:20; 649:8</p> <p>seriously [2] - 490:9; 497:1</p> <p>serve [25] - 461:18; 479:9, 23; 481:23; 482:5; 484:24; 489:2, 6, 8, 20; 490:1, 7, 20-21, 25; 491:13, 19-20; 496:1, 9, 23; 497:3, 10</p> <p>served [3] - 460:25; 479:11; 483:20</p> <p>serves [2] - 516:2; 544:13</p> <p>service [4] - 487:21; 490:16; 537:9; 612:6</p> <p>servicing [5] - 461:18; 489:14, 17; 490:3; 580:7</p> <p>Session [1] - 552:3</p> <p>set [15] - 459:23; 490:3; 526:10; 529:4; 530:4; 548:18; 577:17; 579:4, 11; 583:16; 603:7; 607:16; 629:19; 647:7; 649:1</p> <p>sets [1] - 474:13</p> <p>setting [2] - 530:3; 573:12</p> <p>settled [1] - 598:19</p> <p>settlement [6] - 569:25; 570:7, 18; 571:2; 580:10, 14</p> <p>setup [1] - 589:11</p> <p>seven-year [1] - 532:9</p> <p>several [8] - 473:6; 490:10; 516:18, 23; 547:14; 558:5; 582:11; 628:8</p> <p>shaft [2] - 589:4, 6</p> <p>shall [1] - 572:25</p> <p>shape [7] - 459:22; 460:15; 461:7; 520:1; 521:15; 576:4</p> <p>share [4] - 538:6, 12, 17; 628:16</p> <p>shared [2] - 539:3; 628:12</p> <p>SharePoint [3] - 544:7; 628:15, 21</p> <p>sheet [2] - 600:16; 631:24</p> <p>shelf [1] - 517:12</p> <p>shelf-ready [1] - 517:12</p> <p>shelve [1] - 601:2</p> <p>shift [1] - 567:18</p> <p>shock [2] - 490:3; 633:5</p> <p>shook [1] - 648:23</p> <p>shoreline [3] - 609:14, 16, 19</p> <p>short [7] - 516:15; 518:1; 520:6; 541:20; 545:18; 587:4; 626:18</p> <p>shorten [1] - 550:25</p> <p>shortened [1] - 551:2</p>	<p>show [5] - 484:4; 566:17; 572:14; 616:18; 630:15</p> <p>showing [1] - 459:8</p> <p>shown [5] - 468:6; 472:10, 15; 479:13; 643:24</p> <p>shows [6] - 459:4; 466:11; 471:22; 477:18; 484:6; 488:3</p> <p>shrink [1] - 576:1</p> <p>shut [1] - 577:2</p> <p>side [18] - 454:16, 18, 22; 455:22; 464:14; 526:24; 547:3; 555:3, 6, 14, 17; 597:6, 9; 599:17; 644:2; 649:5</p> <p>Siemens [1] - 635:9</p> <p>significant [16] - 490:6; 491:8; 494:25; 516:18; 517:17; 550:15; 566:16; 597:13; 598:21; 607:7; 608:21; 618:21; 619:24; 644:15; 652:2</p> <p>significantly [2] - 529:17; 611:10</p> <p>similar [7] - 512:19; 523:22; 526:21; 627:11; 628:10; 637:8; 643:17</p> <p>simple [6] - 499:22; 576:25; 599:22; 603:9; 646:14; 650:24</p> <p>simpler [2] - 573:15; 599:20</p> <p>simplicity [1] - 508:24</p> <p>simplify [1] - 631:12</p> <p>simply [3] - 602:17, 22; 613:22</p> <p>single [4] - 589:19; 591:4; 606:15; 624:14</p> <p>site [5] - 500:10; 527:9; 591:11; 628:15; 638:16</p> <p>sitting [6] - 550:4; 579:14; 600:5; 602:13; 631:25; 649:22</p> <p>situation [7] - 563:16; 574:9; 575:7, 17-18; 578:7; 600:15</p> <p>situations [2] - 487:25; 650:22</p> <p>size [6] - 460:22; 489:9, 24; 515:15; 526:17; 528:2</p> <p>Skagway [1] - 525:5</p> <p>skill [2] - 545:8; 548:18</p> <p>skills [3] - 544:21; 547:2; 548:24</p> <p>Slate [1] - 524:18</p> <p>slightly [1] - 482:14</p> <p>small [14] - 456:20; 460:4; 465:7; 517:4; 520:23; 537:1; 539:10, 18; 598:9, 11; 605:20; 607:1</p> <p>smaller [7] - 526:23; 527:24; 554:12, 14; 607:2; 608:10; 633:8</p> <p>smooth [2] - 550:18; 603:24</p> <p>sneak [1] - 451:14</p> <p>Society [1] - 450:17</p> <p>solid [1] - 496:16</p>	<p>solution [1] - 609:22</p> <p>solutions [1] - 609:20</p> <p>solved [2] - 577:14; 649:14</p> <p>solvent [1] - 576:17</p> <p>someone [4] - 457:23; 522:21; 523:7; 614:23</p> <p>somewhat [8] - 460:22; 473:8; 518:4; 541:6; 561:9; 610:9; 631:12; 646:22</p> <p>soon [3] - 474:16; 555:24; 579:18</p> <p>sort [32] - 454:7; 460:13; 462:14; 473:12; 475:7; 493:2; 499:3; 512:4; 519:18; 524:14; 529:23; 535:5; 537:14; 540:15; 542:22; 545:4; 552:25; 558:20; 559:9; 570:24; 572:8; 576:20; 580:9; 581:4; 587:22; 592:22; 601:16; 602:5; 607:10; 622:5; 630:20</p> <p>sorted [1] - 597:19</p> <p>sorting [1] - 507:21</p> <p>sound [1] - 628:5</p> <p>sounded [1] - 549:18</p> <p>sounds [4] - 518:17; 622:14; 635:23; 636:2</p> <p>source [1] - 598:5</p> <p>south [1] - 527:12</p> <p>Southern [3] - 641:5, 9, 13</p> <p>space [10] - 499:2; 503:5; 538:6; 539:11; 540:17; 556:14, 17; 596:20</p> <p>span [1] - 635:24</p> <p>speaking [3] - 460:6; 523:16; 571:9</p> <p>special [4] - 550:6; 574:7; 632:5; 634:24</p> <p>specialist [1] - 565:3</p> <p>specialists [1] - 641:22</p> <p>species [1] - 531:23</p> <p>specific [17] - 457:19; 481:24; 485:6, 18; 493:20; 517:18; 519:7; 530:1, 14; 540:23; 564:3; 574:24; 587:12; 607:22; 633:20</p> <p>specifically [5] - 505:16, 18; 545:24; 587:17; 594:5</p> <p>specified [1] - 509:25</p> <p>spend [5] - 541:5, 9; 597:16; 598:18; 600:23</p> <p>SPENDING [1] - 612:18</p> <p>spending [8] - 558:4; 589:14; 597:3; 604:10, 21; 607:16; 612:10; 623:10</p> <p>spent [7] - 607:8, 24; 608:4; 610:1; 611:15; 619:4; 622:21</p> <p>SPENT [1] - 611:21</p> <p>spike [1] - 600:1</p> <p>spoken [2] - 502:2; 505:18</p>	<p>spot [1] - 559:17</p> <p>spread [4] - 600:7; 619:14; 633:4; 645:14</p> <p>spreading [1] - 600:3</p> <p>spreads [3] - 598:16; 646:6; 647:14</p> <p>SPREADSHEET [1] - 553:14</p> <p>spreadsheet [2] - 552:25; 553:1</p> <p>spreadsheets [1] - 537:13</p> <p>spring [1] - 466:15</p> <p>SQL [1] - 544:6</p> <p>square [3] - 498:17; 499:7, 14</p> <p>SSE [1] - 454:17</p> <p>stability [5] - 513:8; 514:7, 11, 13; 576:23</p> <p>stabilization [1] - 569:11</p> <p>staff [17] - 529:23; 530:2, 5; 536:24; 543:24; 544:20; 549:7; 555:9; 558:16; 570:23; 586:25; 590:22; 591:14; 628:13, 16; 637:24</p> <p>Staff [4] - 450:9</p> <p>staffed [3] - 544:14; 560:1, 10</p> <p>staffing [3] - 542:12; 547:19; 549:13</p> <p>Stage [1] - 563:5</p> <p>stage [13] - 452:1; 581:12; 590:2; 598:21; 602:1; 605:16; 618:3; 619:19; 620:2, 4, 13; 621:25; 622:1</p> <p>staged [3] - 536:4; 558:25; 629:13</p> <p>stages [3] - 530:3; 620:24; 630:5</p> <p>stakeholders [2] - 556:12; 617:10</p> <p>standards [3] - 491:3; 590:13, 17</p> <p>standby [1] - 561:2</p> <p>stands [3] - 454:22; 465:20; 530:25</p> <p>star [3] - 492:24; 494:10, 18</p> <p>STAR [1] - 494:11</p> <p>start [21] - 475:8; 478:16; 493:18; 508:3; 515:25; 521:13; 524:21; 531:19; 566:8; 573:11; 575:5; 582:6; 595:16; 617:12; 619:16; 620:8; 621:15; 623:23; 630:13; 638:25; 643:10</p> <p>started [17] - 451:14; 479:14; 488:13; 515:4; 549:20; 555:10; 566:13; 567:18; 577:3; 598:7; 606:7; 608:9; 616:11; 617:14; 637:20</p> <p>starting [10] - 462:14; 466:9; 537:22; 555:22; 581:17; 600:20; 616:4; 621:15; 622:2; 623:25</p> <p>starts [3] - 478:14; 622:7; 647:24</p>
--	--	---	--	--

<p>state [1] - 521:22 states [2] - 545:15; 588:19 stating [1] - 499:12 station [2] - 587:20; 588:16 status [1] - 608:8 stay [2] - 453:3; 602:1 stays [1] - 561:12 stead [1] - 514:14 step [8] - 475:8; 531:20; 605:13; 617:5; 622:5, 20; 625:14 steps [10] - 480:14; 519:9; 536:4, 16; 615:3, 7; 619:18; 620:7; 625:4; 627:9 Stewart [4] - 527:7; 546:17; 558:6; 563:5 stick [1] - 620:1 still [30] - 479:23; 532:20; 535:9; 537:18; 542:16; 546:22; 550:6; 551:1; 553:19; 554:22; 561:3; 563:7; 565:14; 574:11; 575:1; 577:23; 584:10, 14; 594:2; 596:21; 605:24; 612:25; 614:4; 616:16; 622:21; 625:25; 631:18, 23; 643:23; 648:18 STILL [1] - 584:23 stole [1] - 557:22 stone's [1] - 527:9 stop [5] - 597:7; 603:2; 625:14; 631:10, 19 stopped [3] - 593:21; 597:3; 621:1 stoppers [1] - 616:18 storage [10] - 462:19, 25; 472:24; 514:1; 528:11; 595:16, 20; 612:1; 640:4, 15 STORAGE [2] - 641:3; 642:14 store [5] - 463:5, 12-13, 21 stored [2] - 462:5; 515:2 straight [1] - 484:25 straightforward [2] - 572:9; 603:13 strain [1] - 473:3 strategies [1] - 545:19 streams [1] - 601:7 strictly [2] - 487:20 string [2] - 571:12; 575:18 strong [1] - 536:24 strongly [3] - 489:19; 568:3; 578:11 structure [7] - 537:15; 542:4; 550:17; 630:18; 639:14, 21 structure-by- structure [1] - 537:15 structures [2] - 508:22; 537:14 struggles [1] - 536:14 struggling [1] -</p>	<p>652:3 studies [14] - 458:18; 510:15; 518:7, 18; 527:20; 530:13, 20; 531:7; 593:4; 623:18; 624:15; 642:1 study [17] - 455:10; 509:24; 529:6, 13, 19; 530:1, 4-5, 14; 531:9, 12, 15; 537:12; 603:3; 625:24; 636:4; 641:5 study's [1] - 530:8 studying [1] - 517:23 stuff [6] - 468:7; 525:13; 528:25; 559:11; 585:23; 623:25 subdivision [1] - 482:23 subject [20] - 457:3; 472:7, 9; 483:22; 484:14, 18; 486:25; 507:11; 509:4, 6; 534:6; 544:1; 570:22; 571:9; 572:7; 585:1; 592:22; 593:8; 622:3; 630:24 subjects [1] - 649:3 submission [7] - 622:3, 8; 623:12, 16, 21; 626:7, 10 submit [2] - 616:23; 626:4 submitted [2] - 451:8; 516:6 subsequent [2] - 550:3; 643:18 subsequently [1] - 593:5 substantial [1] - 509:12 substantive [3] - 616:17; 617:9; 619:7 substation [27] - 497:17, 22; 499:15, 19-20; 500:4, 7, 9-10, 17-19, 23; 526:25; 527:8, 11, 22; 586:15; 587:13, 25; 588:4, 11-12; 589:5 substations [2] - 527:6; 563:5 subtracted [2] - 470:20; 471:18 sudden [2] - 603:9; 617:12 suddenly [1] - 577:5 suffer [1] - 549:12 sufficient [2] - 553:7; 624:14 suggested [2] - 527:25; 635:21 suggesting [2] - 572:10; 609:8 suggestion [2] - 553:22; 578:11 suggestions [2] - 458:13; 568:10 suggestive [1] - 525:13 suggests [1] - 648:7 suitability [1] - 607:3 suite [1] - 456:18 sum [1] - 602:14 Sumanik [4] - 636:14, 18, 22, 24 summarize [2] - 495:12 summary [1] - 477:1 summer [20] -</p>	<p>460:11, 16, 24; 463:13, 21; 488:10; 511:8; 512:17; 513:7, 17; 514:6, 18, 25; 515:2, 6, 11; 516:21; 519:22; 603:22; 626:1 summertime [2] - 461:13; 554:9 super [2] - 474:5; 577:8 supplied [1] - 464:19 supply [6] - 454:17, 22; 455:22; 490:18; 603:21; 641:11 supplying [1] - 497:11 support [3] - 532:22; 558:5, 14 supporting [4] - 506:4, 6, 25; 611:6 supports [1] - 541:3 suppose [1] - 463:3 supposed [4] - 465:13; 535:14; 586:4, 12 supposition [1] - 578:3 surfaces [1] - 525:18 surplus [5] - 516:20; 522:23; 523:15; 525:6; 583:9 survey [3] - 530:18; 531:12; 567:14 suspect [1] - 522:25 swallow [1] - 601:3 switching [1] - 608:13 sympathize [1] - 456:11 synergies [1] - 524:11 synergistic [1] - 526:22 synopsis [1] - 609:10 system [110] - 459:20; 460:9; 462:10, 12-13, 19, 22; 470:19, 22; 471:6, 18, 20; 472:10; 473:12, 16, 18; 481:11, 19, 25; 482:2, 21; 485:12; 491:2; 496:14, 16, 23; 498:1, 14, 24; 513:16; 514:1, 8, 13; 515:2; 516:19; 523:8; 525:7; 526:3; 527:14; 530:15; 535:18; 536:1, 3, 7-8, 10-13, 17-18; 537:2, 5, 8; 543:10-12; 558:17, 25; 559:2, 4-5, 7, 11; 564:21; 565:8; 574:20; 582:5, 9, 22; 583:9; 584:25; 586:13; 588:20, 22; 589:23; 590:1, 20; 591:3; 597:11, 14; 598:5; 605:18; 610:25; 616:17; 627:13; 628:21; 631:14; 637:24; 638:4, 7, 13, 21, 23; 639:10, 20; 641:8, 17, 20 system-wide [1] - 641:8 systemically [1] - 475:8 systems [3] - 543:3,</p>	<p>7; 564:18 T tab [16] - 451:2, 7, 15; 476:14, 18-19; 502:7, 10; 507:16; 637:11 TABLE [2] - 503:24; 572:17 table [44] - 456:2, 4-5, 13; 458:8; 459:18, 22; 464:19; 467:13; 469:5; 477:1, 9, 12; 478:13; 479:16, 20; 482:1, 7, 25; 502:20; 504:21; 505:13; 506:22; 511:1; 540:2; 541:14; 571:22; 579:5; 614:1, 7, 10, 14, 17-18; 615:3; 616:6; 619:3; 620:11; 622:19; 624:1; 640:11; 641:4 Table [17] - 456:6; 461:1; 466:10; 470:13; 471:13; 476:25; 479:14; 482:11; 503:13; 504:21; 508:18; 511:1; 525:10; 540:1; 581:12 tables [5] - 459:13; 460:5; 508:18; 579:4; 595:13 tabs [1] - 502:5 tag [1] - 550:8 tag-teaming [1] - 550:8 Tagish [2] - 609:18; 641:10 Tailings [8] - 459:21; 460:2, 10; 461:9; 480:21; 482:18; 485:10; 488:12 talks [4] - 463:14; 582:25; 616:20; 621:16 tangible [1] - 568:4 task [1] - 492:19 team [1] - 605:19 teaming [1] - 550:8 technical [10] - 457:8; 490:25; 491:3; 498:11; 513:11; 526:14; 542:23; 546:21; 635:11; 637:3 technician [3] - 560:19, 22; 561:13 technicians [1] - 562:3 technologist [2] - 557:12; 560:9 technology [4] - 529:12; 596:20, 23; 635:13 Tel [1] - 557:23 temper [1] - 491:19 temperamental [1] - 514:3 ten-year [5] - 518:7; 532:10, 15; 538:1; 632:21 tend [7] - 459:21; 460:24; 520:7, 9, 15; 582:6; 622:23 tender [5] - 618:12; 620:2 tendering [5] - 614:10, 19; 617:25;</p>	<p>618:3; 619:19 tends [3] - 475:14; 575:14; 607:17 tens [1] - 631:17 Terasen [1] - 650:16 term [42] - 454:17, 19; 459:6, 8; 468:24; 477:13; 479:19; 480:15; 483:2, 7, 23; 484:2, 13, 25; 486:14, 23; 487:10; 516:25; 517:7; 518:22; 519:10; 524:5; 525:21; 527:8; 541:21; 545:18; 565:3, 8; 573:13, 17, 20, 25; 574:10, 13, 17; 577:8, 17; 580:6; 629:8 terminology [2] - 612:19; 623:3 terms [40] - 451:17; 455:19; 458:6, 10; 462:17; 468:1; 480:6; 496:7; 512:9; 514:8; 515:13; 516:1, 8, 14; 525:16; 530:22; 531:25; 537:6; 546:18; 548:9; 559:3; 561:7; 564:2; 583:23; 589:13; 593:4; 596:24; 604:12; 605:9; 606:4; 607:16; 610:4; 617:10; 621:17; 622:23; 625:3; 641:23; 649:10 TERMS [1] - 513:3 terrain [1] - 530:15 Territories [1] - 650:21 territory [2] - 490:18; 496:8 test [29] - 454:14; 461:14; 475:10; 489:13, 24; 490:2, 19; 491:5-7, 11; 494:24; 495:5; 496:7; 497:5; 534:11; 540:10; 555:17; 601:13, 25; 604:4; 605:12; 606:15; 609:1; 624:17; 632:3 tested [6] - 535:11; 570:10, 15, 21; 630:9, 12 testing [1] - 535:10 tests [1] - 489:17 Tetcho [1] - 527:5 TEXT [1] - 594:16 text [2] - 459:12; 607:14 THAT [8] - 503:24; 513:2; 584:22; 594:13, 15; 611:21; 641:1 theatrical [1] - 586:7 THEIR [1] - 651:12 THERE [1] - 513:1 thereafter [2] - 571:17 thereby [1] - 455:5 therefore [3] - 455:13; 459:22; 630:16 they've [3] - 537:14; 600:10; 601:10 thinking [8] - 525:9; 527:13; 530:24; 568:16; 608:5, 12; 630:11; 634:23</p>
---	---	--	---	--

<p>THIRD [1] - 513:3 thirdly [1] - 613:24 thoughts [1] - 524:22 thousand [2] - 581:11; 608:5 thousands [1] - 581:14 three-month [1] - 481:21 throttle [1] - 583:17 throughout [2] - 523:23; 605:1 throw [2] - 527:9; 651:22 timeframe [1] - 553:20 timeline [1] - 563:18 timely [1] - 568:13 timing [2] - 458:3, 6 tiny [1] - 629:20 title [1] - 503:11 tomorrow [2] - 483:15; 587:5 tools [3] - 582:11, 21 top [12] - 476:19; 498:16; 499:1; 502:21; 531:16; 542:6; 578:1; 588:22, 25; 614:1; 621:15; 640:21 totaling [1] - 612:7 towards [5] - 480:14; 566:19; 567:20; 577:8; 622:8 track [6] - 507:14; 514:11, 16; 534:21; 537:19, 24 tracking [2] - 535:22; 540:22 tracks [1] - 535:18 traditional [1] - 566:23 traditionally [4] - 514:2, 23-24; 648:2 trained [1] - 542:21 training [1] - 545:4 TRANSCRIPT [1] - 494:8 transcript [7] - 453:23; 474:18, 23; 491:25; 493:10; 494:22; 519:24 transcription [1] - 493:10 transferred [2] - 453:25; 568:25 transformer [1] - 588:11 transformers [1] - 587:18 transition [4] - 480:17; 550:19; 632:4 translate [2] - 475:12; 512:4 translates [1] - 512:9 TRANSLATES [1] - 513:2 transmission [10] - 454:25; 524:6, 9, 12, 24-25; 525:13; 526:21; 531:13; 547:8 transparent [1] - 630:12 transportation [1] - 608:18 travel [1] - 545:7 treatable [1] - 602:18 treated [2] - 579:7; 595:10</p>	<p>tree [2] - 531:23; 533:10 trees [5] - 532:7; 533:1, 3-4; 534:12 tribunal [2] - 492:20; 493:16 tributaries [1] - 641:16 trickle [1] - 647:9 trickle-down [1] - 647:9 tried [3] - 555:8; 562:14; 589:21 triple [1] - 493:2 troops [1] - 508:13 trouble [1] - 578:4 try [27] - 451:25; 502:17, 24; 521:20, 23; 534:17; 539:11; 541:4; 546:15; 560:24; 561:22; 575:21; 580:4; 589:19; 590:3; 596:9; 597:17; 606:14; 623:11; 627:18; 628:5, 19; 633:25; 634:2, 10 tunnel [3] - 619:1, 6, 11 Turbine [3] - 510:22, 25; 511:2 TURBINE [1] - 513:4 turbine [24] - 511:3, 7; 512:5, 10, 16; 514:18; 515:10; 581:18; 582:3; 583:1, 6, 21; 584:24; 585:7, 18; 586:1, 6; 635:8, 18, 20 turbines [6] - 455:4, 12; 509:1; 589:25; 633:8, 16 turn [12] - 452:2, 7; 455:25; 457:18; 458:25; 498:1; 509:7; 522:24; 554:1, 18; 568:6; 576:6 turned [1] - 482:23 turning [1] - 461:20 Tutshi [3] - 524:16, 18; 525:7 twist [1] - 508:1 two-page [1] - 504:8 typical [1] - 460:12 typically [1] - 511:8</p>	<p>592:3; 632:8; 640:22; 642:8 undertaken [3] - 529:16; 533:20; 588:20 undertakings [8] - 452:4; 501:25; 552:9; 553:5, 16, 19; 652:24 undertook [2] - 508:10; 554:7 underway [5] - 450:22; 457:17, 25; 534:16; 635:14 unduly [1] - 496:22 uneconomic [2] - 603:25; 604:14 unfair [1] - 495:14 unfold [1] - 518:12 unfolding [1] - 558:18 unfortunately [7] - 484:12; 530:7; 550:7; 553:19; 598:1; 622:22; 647:20 unique [1] - 504:17 unit [14] - 513:19; 514:5, 21; 515:10, 12; 554:12, 14; 560:21; 633:13; 634:9, 13; 639:3 United [1] - 459:20 units [14] - 455:4; 513:14, 20; 514:7, 9; 515:2, 8, 15; 563:6; 583:19; 586:1; 639:13 unless [8] - 452:2; 553:25; 574:5; 579:6, 20; 592:23; 608:16; 610:20 unlimited [1] - 491:17 unreasonable [2] - 498:10; 512:18 unusually [1] - 474:11 update [4] - 519:15; 534:1; 552:22; 611:15 UPDATED [2] - 453:14; 552:19 updated [4] - 452:21, 25; 453:1; 552:10 updates [1] - 628:19 UPDATES [1] - 611:22 updating [1] - 516:5 upgrade [2] - 509:18; 640:14 upgrades [1] - 457:8 upping [1] - 587:25 upstream [1] - 639:18 useful [2] - 473:22; 580:7 uses [1] - 538:22 utilities [12] - 462:8; 530:19; 555:13; 566:15; 580:2; 601:11; 649:25; 650:1-3, 5 Utilities [5] - 450:15; 489:7; 504:3; 552:6; 646:2 utility [8] - 549:10; 566:23; 567:21; 578:14; 602:20; 622:23; 650:20 utilization [9] - 608:11; 612:22; 613:13; 633:12; 634:3, 8, 12, 19;</p>	<p>635:4 utilize [2] - 536:19; 554:13 utilized [2] - 583:20; 613:20 utilizing [2] - 536:6; 555:17</p> <p style="text-align: center;">V</p> <p>vacant [1] - 550:4 valid [2] - 584:10, 12 VALID [1] - 584:23 valuable [3] - 455:15; 610:22; 641:21 value [4] - 536:18; 540:17; 606:13; 608:15 values [1] - 510:13 variable [1] - 475:18 variation [1] - 523:18 varied [1] - 606:24 variety [1] - 647:9 various [5] - 520:11; 524:5; 546:17; 562:5; 611:1 vary [1] - 634:19 vegetation [6] - 529:13; 530:16; 531:1; 532:10; 535:1; 537:20 verify [1] - 507:10 version [5] - 465:9; 516:5, 12; 520:18; 608:11 versus [8] - 459:5; 484:20; 508:7; 527:21; 592:9; 596:6; 641:19 Vestals [1] - 635:18 vice [1] - 550:8 vice-president [1] - 550:8 Victoria [8] - 461:16; 485:9; 520:13, 20, 24; 523:17; 588:6, 9 view [11] - 491:14; 492:13; 549:13; 578:9; 582:14; 608:7; 646:12, 16; 647:11; 648:10; 649:3 viewing [1] - 602:21 views [3] - 489:8; 648:17; 649:1 visibility [3] - 638:1, 12; 639:12 Volume [2] - 450:4; 552:1 volume [2] - 460:17; 502:4</p>	<p>20; 620:25 watch [1] - 588:1 watching [1] - 587:21 WATER [1] - 513:2 water [66] - 455:6, 14; 461:23; 462:4, 13; 463:4, 12, 21-22; 466:14; 467:17, 25; 468:5, 21; 472:20, 23-25; 473:1; 474:1, 20; 486:14; 508:4; 511:11, 17, 21, 24-25; 512:9, 17; 513:18, 25; 514:2; 515:2, 13, 18; 516:21; 521:25; 548:9; 568:16; 570:6; 571:13; 575:3, 12; 576:24; 577:4, 16, 22; 580:13; 586:12; 599:25; 610:10, 25; 619:1; 639:17; 641:11; 642:16; 643:5 Water [1] - 644:12 waters [1] - 483:13 watershed [3] - 514:2 waterways [1] - 508:25 waterwheels [1] - 509:1 ways [4] - 566:23; 582:1; 599:18; 626:3 weather [1] - 474:12 week [3] - 547:14; 583:17; 653:1 weekly [1] - 519:20 weeks [1] - 520:1 weight [1] - 493:15 welcome [1] - 501:12 Wensoft [1] - 543:9 West [1] - 525:6 Western [1] - 490:11 wetter [1] - 463:5 WHAT [2] - 612:17; 640:25 whereas [1] - 461:16 WHETHER [3] - 581:6; 642:11; 651:11 WHICH [3] - 503:22; 594:15 WHITEHORSE [1] - 494:11 Whitehorse [30] - 450:2, 13; 455:12; 459:21; 460:2, 9; 461:9; 471:23; 472:3; 473:5; 480:21; 482:17; 485:9; 488:12; 492:24; 494:9; 509:10; 515:8; 536:6; 561:17; 574:19; 583:15; 599:1; 608:23; 638:18; 639:18; 640:1; 641:11 Whitehorse's [1] - 603:20 whole [15] - 479:25; 485:11; 495:8; 504:12; 514:9; 515:20; 536:9; 586:3; 587:12; 588:10; 599:2; 618:14; 638:23; 648:14 wholesale [1] - 579:24 wide [3] - 583:9; 599:1; 641:8 WILL [1] - 612:17</p>
U				
<p>UCG [3] - 451:2, 7; 507:17 UCG-YEC-1-21 [2] - 504:7, 15 UCG-YEC-2-6 [1] - 457:18 ultimately [2] - 528:1; 576:18 under [15] - 477:4; 480:22; 502:10; 511:1, 6; 532:20; 533:1, 3, 23; 542:4; 601:3; 606:24; 619:18; 630:15; 640:17 underneath [1] - 582:18 understood [4] - 482:6; 488:23; 554:14; 631:8 undertake [6] - 456:15; 584:18;</p>	<p>UCG [3] - 451:2, 7; 507:17 UCG-YEC-1-21 [2] - 504:7, 15 UCG-YEC-2-6 [1] - 457:18 ultimately [2] - 528:1; 576:18 under [15] - 477:4; 480:22; 502:10; 511:1, 6; 532:20; 533:1, 3, 23; 542:4; 601:3; 606:24; 619:18; 630:15; 640:17 underneath [1] - 582:18 understood [4] - 482:6; 488:23; 554:14; 631:8 undertake [6] - 456:15; 584:18;</p>	<p>UCG [3] - 451:2, 7; 507:17 UCG-YEC-1-21 [2] - 504:7, 15 UCG-YEC-2-6 [1] - 457:18 ultimately [2] - 528:1; 576:18 under [15] - 477:4; 480:22; 502:10; 511:1, 6; 532:20; 533:1, 3, 23; 542:4; 601:3; 606:24; 619:18; 630:15; 640:17 underneath [1] - 582:18 understood [4] - 482:6; 488:23; 554:14; 631:8 undertake [6] - 456:15; 584:18;</p>	<p>UCG [3] - 451:2, 7; 507:17 UCG-YEC-1-21 [2] - 504:7, 15 UCG-YEC-2-6 [1] - 457:18 ultimately [2] - 528:1; 576:18 under [15] - 477:4; 480:22; 502:10; 511:1, 6; 532:20; 533:1, 3, 23; 542:4; 601:3; 606:24; 619:18; 630:15; 640:17 underneath [1] - 582:18 understood [4] - 482:6; 488:23; 554:14; 631:8 undertake [6] - 456:15; 584:18;</p>	<p>UCG [3] - 451:2, 7; 507:17 UCG-YEC-1-21 [2] - 504:7, 15 UCG-YEC-2-6 [1] - 457:18 ultimately [2] - 528:1; 576:18 under [15] - 477:4; 480:22; 502:10; 511:1, 6; 532:20; 533:1, 3, 23; 542:4; 601:3; 606:24; 619:18; 630:15; 640:17 underneath [1] - 582:18 understood [4] - 482:6; 488:23; 554:14; 631:8 undertake [6] - 456:15; 584:18;</p>
W				

YUB 2012 GRA, Volume 3, November 14, 2012

<p>willing [6] - 494:1; 502:24; 503:9; 505:9, 11, 15</p> <p>wind [28] - 463:10, 15, 20, 25; 502:21; 505:8; 517:6, 25; 518:9; 521:15; 525:25; 526:14, 22; 613:16; 624:2, 4; 633:6, 15; 634:21, 23; 635:5, 20; 636:9, 17, 22; 637:1, 6</p> <p>winter [22] - 460:20, 24; 463:13, 17; 481:21; 508:6; 511:3; 513:24; 514:18; 515:4, 17; 516:23; 519:21; 526:8, 18; 583:10; 589:9; 603:21, 23</p> <p>WIP [3] - 601:22; 602:1, 18</p> <p>wish [1] - 549:18</p> <p>WITH [4] - 504:14; 572:16; 612:16; 651:12</p> <p>witness [1] - 495:14</p> <p>witnesses [1] - 506:15</p> <p>wonder [4] - 457:23; 511:19; 515:25; 526:3</p> <p>wondered [11] - 452:22; 454:19; 465:12; 472:16; 476:16; 489:7; 495:2; 498:1; 511:11, 16; 513:5</p> <p>word [8] - 463:3; 467:2, 23; 494:25; 514:24; 547:12; 568:8</p> <p>wording [1] - 463:2</p> <p>words [4] - 488:17; 585:21; 591:4; 610:24</p> <p>wordy [1] - 607:4</p> <p>WORK [1] - 612:15</p> <p>workload [4] - 542:9; 546:6; 558:7</p> <p>works [5] - 535:3, 6; 550:24; 623:4, 9</p> <p>world [7] - 586:5; 601:11; 606:6; 648:23; 649:7, 14, 21</p> <p>worried [1] - 572:5</p> <p>worrying [2] - 602:13; 613:12</p> <p>worst [3] - 575:19; 576:19</p> <p>worth [3] - 582:12; 598:15; 623:8</p> <p>wrapped [1] - 558:11</p> <p>write [1] - 454:13</p> <p>write-offs [1] - 454:13</p> <p>writing [1] - 465:7</p> <p>written [4] - 506:18; 567:12; 652:22</p> <p>wrote [2] - 467:24; 567:2</p> <p>WW [1] - 635:21</p>	<p>541:1</p> <p>YEAR [3] - 584:23; 612:14</p> <p>year-by-year [2] - 510:8; 612:8</p> <p>YEAR-BY-YEAR [1] - 612:14</p> <p>year-end [1] - 540:14</p> <p>year-round [1] - 634:14</p> <p>YEARS [1] - 572:18</p> <p>years [81] - 454:14; 455:3, 9, 16; 461:15, 23; 462:9, 11, 14; 463:5; 467:11, 17; 468:24; 473:7, 9; 475:10; 484:3, 7; 490:10; 496:16; 508:22; 509:2, 11; 510:12; 515:4; 516:18, 23; 533:5; 534:11; 550:15; 558:5; 563:5; 566:23; 571:22; 575:12, 14, 18; 587:14; 589:1, 13; 590:5; 593:13; 596:23; 597:2, 12, 17; 600:2, 24; 601:12; 602:3; 609:9; 610:13; 611:3; 615:21; 617:17; 623:11, 19; 624:12, 20-21; 626:11; 630:5; 632:5, 21; 636:2; 639:20; 641:14; 643:18; 646:22; 647:3, 8</p> <p>YEC [65] - 466:17; 469:6; 488:6; 489:5; 493:24; 497:9; 529:5, 11; 530:9; 532:8, 17, 23; 533:9; 535:17, 21; 537:18; 538:5, 8, 13, 17; 540:21; 541:18; 544:15; 546:3; 568:24; 573:3; 577:1; 578:8, 20; 579:5, 10, 19, 23; 580:13, 22; 588:19; 592:2; 593:6; 594:2, 12, 24; 604:9; 607:10; 612:6, 17; 613:1; 614:8; 627:5, 9, 13; 628:13; 630:11; 645:13; 646:9, 11, 17; 647:12; 648:9, 18, 25; 649:20</p> <p>YEC's [5] - 489:8; 529:23; 579:8; 585:17; 646:13</p> <p>YECL [8] - 469:6; 471:22; 473:4; 555:21; 579:7, 10, 14</p> <p>YECL-YEC [1] - 469:6</p> <p>YECL-YEC-1-11 [1] - 470:12</p> <p>YECL-YEC-1-18 [1] - 515:24</p> <p>YECL-YEC-1-26-A [1] - 480:24</p> <p>YECL-YEC-1-32 [3] - 510:23; 511:5; 585:5</p> <p>YESAB [5] - 568:16; 622:3, 8, 25; 623:4</p> <p>yesterday [24] - 451:1, 13; 453:19; 454:10; 493:19; 502:9; 505:9; 517:25; 521:14; 525:4; 548:5; 552:22; 555:2; 590:9; 591:18; 592:6;</p>	<p>600:14; 602:17; 603:9; 613:16; 635:7; 636:7, 14; 644:23</p> <p>yields [1] - 647:19</p> <p>you.. [1] - 569:12</p> <p>young [1] - 555:11</p> <p>YUB [6] - 457:24; 487:12; 488:6; 613:9; 621:12; 633:20</p> <p>YUB-1-2 [1] - 487:13</p> <p>YUB-1-59 [1] - 498:24</p> <p>YUB-YEC [1] - 488:6</p> <p>YUB-YEC-1-17 [1] - 529:5</p> <p>YUB-YEC-1-2 [1] - 486:21</p> <p>YUB-YEC-1-20 [1] - 566:2</p> <p>YUB-YEC-1-21 [1] - 541:18</p> <p>YUB-YEC-1-22 [1] - 544:15</p> <p>YUB-YEC-1-39 [1] - 614:9</p> <p>YUB-YEC-1-46 [1] - 456:1</p> <p>YUB-YEC-1-59 [1] - 497:25</p> <p>YUB-YEC-1-7 [1] - 633:14</p> <p>YUB-YEC-1-8 [1] - 464:24</p> <p>YUB-YEC-1-8-A [1] - 464:7</p> <p>YUB-YECL-1-24 [1] - 629:9</p> <p>YUKON [2] - 503:22; 505:2</p> <p>Yukon [50] - 450:2, 12, 14, 17; 452:13; 485:19; 486:6; 487:22; 489:16; 492:25; 494:17, 19; 495:3, 16, 25; 497:8; 503:12; 504:2, 17, 19; 509:8, 14, 20; 511:25; 516:17; 519:8; 522:6; 530:5, 22; 531:20, 25; 538:5, 10; 545:8, 11; 552:6; 556:10, 14; 566:15; 568:25; 578:5; 599:1; 600:19; 647:10, 12, 17, 19; 649:4</p>
		Z
		zero [1] - 600:20
Y		
<p>YCS [4] - 451:1; 493:19; 502:20; 503:17</p> <p>YCS's [1] - 502:10</p> <p>YCS-YEC-1-10 [1] - 635:21</p> <p>YDC [7] - 538:7, 10-11, 17, 22; 540:3;</p>		