

BRITISH COLUMBIA UTILITIES COMMISSION
IN THE MATTER OF THE UTILITIES COMMISSION ACT
R.S.B.C. 1996, CHAPTER 473

And
British Columbia Hydro and Power Authority
Public Electric Vehicle Fast Charging Service Rates
Application

VANCOUVER, B.C.
July 27, 2021

STREAMLINED REVIEW PROCESS

BEFORE:

D.M. Morton,	Chair/ Panel Chair
A.K. Fung, Q.C.,	Commissioner
E.B. Lockhart,	Commissioner

VOLUME 1

APPEARANCES

James COADY, Q.C.	Commission Counsel
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William ANDREWS	Counsel for B.C. Sustainable Energy Association and Vancouver Electric Vehicle Association (BCSEA/VEVA)
Christopher WEAFFER Patrick WEAFFER	Counsel for Commercial Energy Consumers Association of British Columbia CEC
Michael MANHAS	Counsel for ChargePoint (CHARGEPOINT)
Terri-Lee OLENIUK	Counsel for Suncor Energy Services Inc. (SUNCOR)
Leigha WORTH Kristin BARHAM	Counsel for British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, Tenants Resource and Advisory Centre and Together Against Poverty (BCOAPO)
Gary GUTHRIE	Self
Don FLINTOFF	Self
Fredrik AMBROSSON	Residential Consumer Intervener Association (RCIA)

PARTICIPANTS:

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INDEX

PAGE

VOLUME 1, July 27th, 2021

SUBMISSIONS ON SCOPE

SUBMISSIONS BY MS. OLENIUK 15
SUBMISSIONS BY MR. MANIAS 16
SUBMISSIONS BY MR. ANDREWS 19
SUBMISSIONS BY MR. C. WAFER 26
SUBMISSIONS BY MS. WORTH 32
SUBMISSIONS BY MR. GUTHRIE 35
REPLY BY MR. ANDREWS 38
REPLY BY MR. MANIAS 39
REPLY BY MR. CHRISTIAN 40

RULING ON SCOPE 53

OPENING STATEMENT BY MR. CHRISTIAN 57

BC HYDRO PANEL:

MARK SONG, Affirmed:

ALTHEA JOB, Affirmed:

GREG SIMMONS, Affirmed:

DEMETRIOUS JIM PAPADOULIS, Affirmed:

Presentation 66
Cross-Examination by Mr. Flintoff 163
Cross-Examination by Ms. Olenuik 169
Cross-Examination by Mr. Manias 177
Cross-Examination by Mr. Andrews 194
Cross-Examination by Mr. C. Wafer 213

INFORMATION REQUESTS

VOLUME 1, July 27th, 2021

For Mr. Manhas:

Pages: 185

For Mr. C. Weafer:

Pages: 222

VANCOUVER, B.C.

July 27th, 2021

(PROCEEDINGS COMMENCED AT 8:33 A.M.)

1
2
3
4 THE CHAIRPERSON: Good morning, and a very warm welcome
5 to you. It is very good to see you all after almost a
6 year and a half, I must say. Thank you for coming.
7 And with apologies for the slight technical
8 difficulties, but I think we're ready to go now, are
9 we? All good? Great.

10 My name is Dave Morton and I'm the Chair
11 and CEO of the BCUC. I'm also the Chair of this
12 panel. With me on the panel are Commissioners Anna
13 Fung on my left, and Blair Lockhart on my right.
14 Welcome to today's session, which is part of the
15 review of BC Hydro's public electric vehicle fast
16 charging rate application.

17 With us is our staff team, mostly sitting
18 in the front here. Yolanda Domingo actually sitting
19 in the back, our Executive Director of Rates, along
20 with Leon Cheung, Tanya Lai, and Julie Tran. Jim
21 Coady of Boughton Law is our counsel, and Keith
22 Bemister is our Hearing Officer.

23 The purpose of today's session is to
24 provide parties with the opportunity to respond to
25 questions from the panel, staff, BCUC Staff and other
26 parties on evidence that has been provided in this

1 proceeding. Some questions have been pre-submitted.
2 In addition, parties will have an opportunity to ask
3 follow-up questions.

4 BCUC letter A-12 states in part that the
5 SRP will proceed in the following order. Participants
6 will register their appearances. After the
7 introductions of the participants, BC Hydro will be
8 asked to address the BCUC and intervener questions in
9 advance of the SRP on BC Hydro's evidence and any
10 rebuttal evidence. Participants may ask questions of
11 Hydro during this time. Before asking questions,
12 participants should first identify themselves for the
13 transcription record.

14 Interveners who filed intervener evidence
15 will then be asked to address any follow-up questions
16 to the responses to IR number 1 on their intervener
17 evidence as filed in advance of the SRP. Participants
18 may ask questions of the intervener who filed evidence
19 during this time. And the fourth point made in the
20 letter was lastly if needed in camera confidential
21 sessions will take place to address confidential
22 questions provided in advance of the SRP, and then any
23 confidential follow-up questions. Although I think
24 I'm hearing that we probably don't have any
25 confidential material that we are going to cover here
26 today, but if we do, we'll hold an in camera session

1 at the end of the proceeding, or following this
2 proceeding.

3 And then subsequent to letter A-12, BC
4 Hydro provided a submission which was filed in Exhibit
5 B-11. In this letter, Hydro (1) confirmed its
6 agreement with the BCUC's approach to the EV
7 regulatory account that is laid out in the recent RRA
8 decision. Secondly it requested the opportunity to
9 provide an opening statement.

10 **Proceeding Time 8:35 a.m. T2**

11 Then it provided a submission regarding the issue of
12 demand charges and other issues and whether those
13 issues should be considered out of scope of this
14 proceeding. And fourthly, provided a submission on
15 the weight that the panel should place on competitive
16 market issues when setting EV charging rates.

17 On July the 23rd in BCUC letter A-20, in
18 light of Hydro's written submission in B-11, on the
19 issues related to the depreciation rates, connection
20 fees and demand charges that were raised in Exhibit B-
21 11, the Panel indicated that we would seek submissions
22 from registered interveners here today. Therefore, we
23 will hear those oral submissions immediately after
24 participants register their appearances. Intervenors
25 who are unable to attend the SRP in person or
26 virtually were requested to file written submissions

1 by yesterday at three o'clock.

2 And I understand that Strata Plan VR2673 is
3 the only submission that we've received, is that
4 correct as far as you know, Mr. Coady? It's still
5 correct? Yes? Yeah, thank you.

6 So I trust that everyone has had an
7 opportunity to view that submission, so today when
8 you're making your responses you can take that into
9 consideration. So we'll go down the order of
10 appearances and back up it for party submissions on
11 that, so that will naturally give Hydro the last right
12 of reply for those submissions.

13 With regards to Hydro's submission on
14 competitive market issues, the Panel reminds Hydro's
15 counsel, Mr. Christian, that we're current in the
16 evidentiary phase of the proceeding and submissions as
17 to how evidence concerning competitive market issues
18 should be considered by the Panel should be made in
19 final argument unless there is some other compelling
20 reason that we should consider it here, in which case
21 I invite you to make that case when you -- or point
22 that out when you make your appearance.

23 And further, we're happy to provide BC
24 Hydro the opportunity to make its opening remarks and
25 presentation. And I understand that you filed that,
26 and thank you, we appreciate that. So we'll follow --

1 the determination on scope will be followed by Hydro's
2 presentation, and then we'll move to the questions
3 after that.

4 In a few moments I'll turn things over to
5 Mr. Coady and he will call for appearances. At that
6 time please indicate if there's any other items on
7 today's agenda or if you have any comments on our
8 agenda today. And then following appearances we'll
9 begin hearing submissions on scope. When we reach the
10 end of that order we'll proceed backwards up the list
11 then.

12 This session is being transcribed and the
13 audio portion is being broadcast on the internet, so
14 when introducing yourself, please state and spell your
15 first and last name for the transcribers. And also
16 when speaking please proceed your comments with your
17 name as you speak throughout the morning, throughout
18 the day here so the transcription will accurately
19 attribute your comments.

20 And finally, with regard to breaks I'll try
21 to take a break at a natural point. We'll try and
22 have a couple of breaks during the morning. We'll try
23 to break for lunch as close to noon as possible
24 depending on where we are in the agenda.

25 And so I'll now turn things over to Mr.
26 Coady. Please, go ahead. Thank you.

1 MR. COADY: Thank you, Mr. Chair. When I call you for
2 your order of appearance, please introduce yourself
3 and any other person that's in attendance with you.

4 First in order of appearances, Mr. Chair,
5 is BC Hydro.

6 MR. CHRISTIAN: Good morning. Thank you Mr. Chair,
7 Panel. My name is Jeff Christian, Christian is
8 spelled C-H-R-I-S-T-I-A-N, and I'm representing
9 British Columbia Hydro and Power Authority in this
10 proceeding. At counsel table running a few minutes
11 late will be Ms. Song Hill, H-I-L-L. She was
12 unavoidably detained on her way to the hearing this
13 morning, but will be here shortly. She's with BC
14 Hydro's internal legal division. And on my right is
15 Mr. Chris Sandve, BC Hydro's chief regulatory officer,
16 and recently appointed I might add chief regulatory
17 officer, and I think this might be his first
18 appearance at the Commission, certainly in person in
19 that role, so, and definitely not the last though.

20 I have a few opening comments that I'd like
21 to make before the witness panel starts and I wasn't
22 sure where that was going to fit into the proceeding,
23 presuming immediately after the reply submissions on
24 the scope issues, is that correct?

25 **Proceeding Time 8:40 a.m. T3**

26 THE CHAIRPERSON: I think so, at the time just

1 preceding the presentation, that would be great, thank
2 you Mr. Christian.

3 MR. CHRISTIAN: Thank you.

4 THE CHAIRPERSON: Unless you have comments on any of my
5 remarks concerning the agenda?

6 MR. CHRISTIAN: No, that's all great. I'm going to
7 talk a little bit about the legal argument piece in B-
8 11 when I make my opening comments.

9 THE CHAIRPERSON: Thank you, Mr. Christian, and welcome
10 Mr. Sandve also.

11 MR. COADY: Mr. Chair, apparently I have been advised
12 we are having a technical problem. People who are
13 accessing this SRP remotely can't hear the speakers,
14 so maybe we can take a short break, a suggestion?

15 THE CHAIRPERSON: Please.

16 MR. COADY: Get that fixed?

17 THE CHAIRPERSON: Thank you, and Mr. Coady, just so
18 that I understand, and maybe, is this affecting the
19 telephone line? Or is this the internet stream? Is
20 the internet stream working?

21 MR. BEMISTER: No, I believe it is the Teams stream
22 that is having issues.

23 THE CHAIRPERSON: Okay, in any event we'll take a
24 break. Five minutes? Thank you. We'll come back
25 when you let us know.

26 **(PROCEEDINGS ADJOURNED AT 8:41 A.M.)**

1 depreciation rates, and we have invited submissions
2 from everyone on that. We have invited submissions,
3 we have one set of written -- one written in
4 submission. But we are inviting all parties to make
5 submissions on this issue, and the panel will rule on
6 scope before we get going with the agenda that we'd
7 laid out in A-12. So we'll do that immediately
8 following appearances.

9 The second thing is that Hydro is going to
10 be doing an opening presentation which it will do
11 following that determination on scope. And then I
12 also believe that Mr. Christian has some further
13 remarks on their submission on competitive market
14 issues, which as I laid out as far as the Panel is
15 concerned, is an issue for final argument. But, I
16 believe Mr. Christian will make some comment on that
17 too before they make their opening remarks.

18 So, where we are now then, is where we were
19 when we broke, is we just started with appearances,
20 and we'd heard from BC Hydro.

21 So, Mr. Coady, I'll leave it with you,
22 thank you.

23 MR. COADY: Great. So, the first in order of
24 appearances was BC Hydro, and Jeff Christian is here
25 as counsel for Hydro.

26 Next is Donald Flintoff who is accessing

1 the SRP remotely.

2 MR. FLINTOFF: Yes, my name is Donald Flintoff, F-L-I-
3 N-T-O-F-F.

4 MR. COADY: All right.

5 THE CHAIRPERSON: Thank you, Mr. Flintoff.

6 MR. COADY: Next in appearances Suncor Energy Services
7 Inc.

8 MS. OLENIUK: Good morning, Chair, Commissioners. My
9 name is Terri-Lee Oleniuk, O-L-E-N-I-U-K, and I'm
10 counsel to Suncor, along with Chris Hustwick, H-U-S-T-
11 W-I-C-K, who is the general manager of Suncor's
12 downstream legal affairs team.

13 We are also joined by Ed Ma, M-A, who is a
14 Senior Strategy Advisor for Energy and Climate Change
15 and a member of Suncor's Chief Sustainability Office.
16 As well as Perry Billard, B-I-L-L-A-R-D, who is a
17 Category Manager with Suncor's Customer Service
18 Experience with responsibilities around operation,
19 reporting and marketing, business model refinement and
20 optimization of PetroCanada's EV charging business.
21 Thank you.

22 **Proceeding Time 9:06 a.m. T6**

23 THE CHAIRPERSON: Thank you, Ms. Oleniuk.

24 MR. COADY: Next in appearance panel is ChargePoint.

25 MR. MANHAS: Good morning. Michael Manhas, M-A-N-H-A-
26 S, first initial M, on behalf of ChargePoint. With me

1 today is Suzanne Goldberg, G-O-L-D-B-E-R-G. She's
2 ChargePoint's director of public policy for Canada.
3 And then also attending remotely is Matthew Deal, D-E-
4 A-L, first initial M, and he's ChargePoint's public
5 policy manager.

6 THE CHAIRPERSON: Thank you Mr. Manhas.

7 MR. COADY: Next in appearances, B.C. Sustainability
8 Energy Association and Vancouver Electric Vehicle
9 Association.

10 MR. ANDREWS: Thank you, Mr. Chairman, members of the
11 Panel. William Andrews, A-N-D-R-E-W-S, appearing for
12 the B.C. Sustainable Energy Association and the
13 Vancouver Electric Vehicle Association. With me in
14 the hearing room is Mr. Thomas Hackney, H-A-C-K-N-E-Y,
15 of BCSEA. Thank you.

16 THE CHAIRPERSON: Thank you, Mr. Andrews.

17 MR. COADY: Next is the Commercial Energy Consumer's
18 Association of British Columbia.

19 MR. C. WEAFFER: Good morning, Chair, members of the
20 Panel. It's good to see you in person again. It's
21 Chris Weafer, spelled W-E-A-F-E-R, appearing for the
22 Commercial Energy Consumers Association of British
23 Columbia, and my co-counsel on the matter is Patrick
24 Weafer, also spelled W-E-A-F-E-R. Thank you.

25 THE CHAIRPERSON: Thank you, Mr. Weafer, and it's good
26 to see you again too.

1 MR. COADY: Next is the British Columbia Old Age
2 Pension Organization, Disability Alliance B.C.,
3 Counsel of Senior Citizen Organization of B.C. and the
4 Tenant's Resource and Advisory Centre. And they're
5 participating by remote access.

6 THE CHAIRPERSON: Thank you.

7 MS. WORTH: Good morning, Mr. Chair, members of the
8 Panel. I'm afraid I can't say it's good to see you in
9 person, but I'm looking forward to that pleasure
10 sometime soon. Leigha Worth, W-O-R-T-H, I'm here as
11 counsel for BCOAPO et al, along with my newly minted
12 co-counsel in Ms. Mis' absence, and that is Kristen
13 Barham, B-A-R-H-A-M. Thank you.

14 THE CHAIRPERSON: Thank you, Ms. Worth. I'm glad you
15 could join us virtually.

16 MR. COADY: Next is the Residential Consumer Intervener
17 Association, also participating by remote access.

18 MR. ABROSSON: Good morning everyone. My name is
19 Fredrik Ambrosson, F-R-E-D-R-I-K, A-M-B-R-O-S-S-O-N.
20 I'm here remotely with my coworker, Chris Oakley, O-A-
21 K-L-E-Y. And we represent the Residential Consumer
22 Intervener Association, RCIA.

23 THE CHAIRPERSON: Thank you, Mr. Ambrosson.

24 MR. COADY: Last on the appearances is Gary Guthrie.

25 MR. GUTHRIE: Good morning. My name is Gary Guthrie,
26 G-U-T-H-R-I-E, and I'm a lowly EV owner here

1 representing myself.

2 THE CHAIRPERSON: Thank you, Mr. Guthrie, and welcome.

3 Thank you for joining us.

4 MR. COADY: Okay, Mr. Chair, I believe that's all for
5 the order of appearances.

6 THE CHAIRPERSON: Thank you very much, Mr. Coady.

7 So, we'll begin. Mr. Christian, are there
8 any further submissions you wish to add to your letter
9 at this time?

10 MR. CHRISTIAN: I could do that now or I could maybe if
11 we were going to hear the submissions on the scope
12 issues from B-11. So I have submissions in advance of
13 my witness panel but I think that would be an instance
14 to wait.

15 THE CHAIRPERSON: So we'll hear the rest of it. And
16 you'll have an opportunity to reply to the scope issue
17 submissions when we've --

18 MR. CHRISTIAN: Thank you.

19 THE CHAIRPERSON: Okay, thank you.

20 Mr. Flintoff, do you have any submissions
21 on BC Hydro's scope issues in their letter?

22 MR. FLINTOFF: I've reviewed the documents and there
23 was a (audio drops) the letter that came in yesterday
24 or -- yeah, yesterday. And they showed the losses
25 estimated at 11 percent for the total charging
26 station.

Proceeding Time 9:11 a.m. T7

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And I assume that includes lighting, heating and all the auxiliary, and not the losses in the charging station. Do they know what the losses in the charging station will be?

THE CHAIRPERSON: So, Mr. Flintoff, I'm not sure what letter you're referring to. I was referring to BC Hydro's July 16th letter? It's Exhibit B-11.

MR. FLINTOFF: I am referring to the 28th letter.

THE CHAIRPERSON: What's the Exhibit number?

MR. CHRISTIAN: B-11.

MR. FLINTOFF: It's B-10-1 I believe. Page 2 of 3, there's a table.

MR. CHRISTIAN: If I can assist, Mr. Chair?

THE CHAIRPERSON: Please.

MR. CHRISTIAN: I think Mr. Flintoff is referring to Exhibit B-12, which includes in the public version a table of prices. That's the only thing that we filed in the last couple days that I think has a table in it?

MR. FLINTOFF: Well, I've got an exhibit number here on the document called B-10-1.

THE CHAIRPERSON: That's the errata to the rebuttal evidence. So, if you could hold that until we get to the question and answer period, Mr. Flintoff. What I'm looking for now is on July 19th, in Exhibit B-11,

1 BC Hydro filed a letter, which among other things made
2 an argument that certain issues related to
3 depreciation rates, connection fees and demand charges
4 should not be in scope of this proceeding. And the
5 Commission went out in letter A-20, on July 23rd, and
6 indicated that we would be seeking submissions on this
7 issue today.

8 So if you have submissions on those issues
9 that we asked in A-20, this is the time to make them.
10 If you don't, please hold off with any other questions
11 until later.

12 MR. FLINTOFF: With respect, I'll hold off.

13 THE CHAIRPERSON: Thank you, appreciate that.

14 Ms. Oleniuk.

15 **SUBMISSIONS ON SCOPE BY MS. OLENIUK:**

16 MS. OLENIUK: Thank you, Chair. We just have some very
17 brief submissions with respect to the scope letter.
18 So essentially we understand BC Hydro's of the view
19 that depreciation should be addressed in the Fiscal
20 2023/25 Revenue Requirements Application. And that
21 connection fees and demand charges are out of scope
22 for the SRP, except to the extent that the connection
23 fees and demand charges might relate to the rates
24 proposed in the application. And our position is that
25 they clearly do.

26 Without knowing what specific questions, or

1 issues I guess, BC Hydro views as being beyond the
2 scope of this proceeding in considering rates, it's a
3 bit difficult to provide specific submissions. But we
4 do note that this is the first time, to our knowledge,
5 that BC Hydro has expressed a concern in this
6 proceeding with respect to scope, despite the fact
7 that the 2022 Revenue Requirements Decision came out
8 over a month ago, and there has been a significant
9 amount of evidence, IR responses, from BC Hydro,
10 Suncor and other intervenors, as well as questions
11 from the Commission and interveners that relate to
12 connection fees and demand charges specifically. And
13 in Suncor's view, these are a part of understanding
14 the cost to provide service. Suncor submits those
15 issues are clearly part of what the Commission should
16 consider in setting rates and within the scope of this
17 proceeding.

18 So in our view, I guess, we partially agree
19 that connection fees and demand charges do relate to
20 rates and should be considered by the Commission.

21 Thank you.

22 THE CHAIRPERSON: Thank you, Ms. Oleniuk. Questions?

23 No? Okay.

24 ChargePoint, Mr. Manhas.

25 **SUBMISSIONS ON SCOPE BY MR. MANHAS:**

26 MR. MANHAS: To start, I would say we agree with all of

1 Suncor's submissions with respect to relevance. It's
2 fair to say that we disagree with BC Hydro with
3 respect to the relevance in particular of demand
4 charges and connection fees in this proceeding.

5 I'll just remind the Commission of
6 ChargePoint's interest in this proceeding, which is
7 ChargePoint provides charging equipment and services
8 to Sitehouse [sic] that own and operate charging
9 stations, and who are ultimately customers of
10 utilities, including BC Hydro. And adverse
11 consequences for the EV market from this proceeding,
12 this rate design proceeding will affect ChargePoint's
13 business, as well as the site hosts, who rely on
14 ChargePoint.

15 **Proceeding Time 9:17 a.m. T8**

16 And so we agree with BC Hydro, this is not
17 a rate design proceeding for rates other than those in
18 this application, and we accept that. But, the
19 Commission has broad discretion in this proceeding to
20 approve or deny the rate that BC Hydro seeks to charge
21 the customers of its charging stations. And we say
22 that central to that evaluation is whether the
23 proposed rate is consistent with government policy
24 regarding EV adoption, including the *Clean Energy Act*,
25 and the CleanBC Plan, and whether it's consistent with
26 the Commission's Phase 2 report with respect to the EV

1 charging market. And we'll note in particular the
2 Phase 2 report highlighted the need to establish a
3 level playing field between non-exempt utilities like
4 BC Hydro and those who are private entities operating
5 in the market.

6 And we say to understand whether there is a
7 level playing field requires the Commission to
8 understand what are the prices that other entrants to
9 the market are paying for energy? And that depends on
10 an analysis of BC Hydro's other rates. And so in that
11 regard, we say that those rates are relevant to this
12 proceeding, for the Commission to understand whether
13 there is a level playing field between what BC Hydro
14 is proposing here and what other market participants
15 have to pay for their energy.

16 And I would just note one thing in
17 particular, which is in the Commission's Phase 2
18 report, the Commission addressed specifically the
19 issue of a levelling of the playing field and how to
20 assess rates. And the panel there found that it's in
21 the public interest for non-exempt public utilities to
22 provide a transparent wholesale pricing mechanism that
23 applies to all operators of EV charging facilities,
24 including the non-exempt public utility itself.

25 And so what we have here instead is BC
26 Hydro proposing a rate that applies only to its

1 charging stations, and doesn't in any way affect the
2 rates that other EV charging stations will pay for its
3 energy. And so in terms of assessing the relevance of
4 what BC Hydro is proposing here, we say you need to
5 understand what other customers are paying.

6 And so as a result then, and in particular
7 at the point of questioning, Intervenors should be
8 permitted to ask questions of BC Hydro regarding the
9 extent to which those cost-drivers were considered as
10 part of its analysis in designing this rate. And so
11 that the Commission can understand whether BC Hydro
12 considered whether the playing field has been leveled.
13 And for that reason, we say those questions would be
14 relevant.

15 THE CHAIRPERSON: Any questions? No? Thank you.

16 Mr. Andrews?

17 **SUBMISSIONS ON SCOPE BY MR. ANDREWS:**

18 MR. ANDREWS: Regarding determinations of depreciation
19 rates applicable to BC Hydro's fast charging service
20 assets, BCSEA-VEVA supports Hydro's proposal that
21 these should be considered in the upcoming fiscal 2023
22 to 2025 Revenue Requirement Application. The main
23 reason substantively is that there is a depreciation
24 study underway which was a major outcome of the 2022
25 Revenue Requirement Application, and in my submission,
26 the depreciation rates applicable to fast charging

1 between now and March 2024 when Hydro's proposed
2 evaluation report would be filed and by then the
3 upcoming RRA would have dealt with depreciation rates
4 and that whole full cost of service analysis can be
5 addressed at that point.

6 Regarding connection fees and demand
7 charges, having listened to counsel for Suncor and for
8 ChargePoint I want to be very clear that I'm not going
9 to argue that connection fees and demand charges are
10 irrelevant to Hydro's rates, proposed rates for fast
11 charging service. What I would say is that whether
12 the connection fee is applicable to entities other
13 than BC Hydro should be changed because there's a
14 problem with them or whether the demand charges paid
15 by other customers of BC Hydro should be changed are
16 matters that are outside of the scope of this
17 proceeding. Now, my clients would like to see the
18 development of a rate, of a commercial general service
19 rate that would be aimed at facilitating providers of
20 public fast charging. But that is not this proceeding
21 and I'll leave it at that.

22 In terms of the context here I do want to
23 comment on Mr. Manhas' submission that referred to the
24 Phase 2 report by this Commission regarding electric
25 vehicle charging service regulation. And I think it's
26 important to keep in mind that the outcome of that

1 Phase 2 report which focused on the proper role of BC
2 Hydro and FortisBC as non-exempt utilities gave two
3 generic options or ends of a spectrum, one of which
4 was a broad approach by the government to the
5 regulation of Hydro and Fortis' EV charging, and the
6 other was a prescriptive approach. And the Commission
7 characterized that as an approach in which Hydro and
8 Fortis' participation in the sector would be de-
9 risked.

10 So the Ministry of Energy took that report
11 and held public consultation on which of these two
12 approaches it should take, the broad general one which
13 was the one where the Commission was including the
14 language about level playing fields and requiring EV
15 charging asset planning and rates for other providers
16 and so on, and including the prescriptive approach.
17 And in the end they chose the prescriptive approach,
18 and that's reflected in section 5 of the Greenhouse
19 Gas Reduction (Clean Energy) Regulation, which I'll
20 refer to as GRR and section 18 of the *Clean Energy*
21 *Act*.

22 So when Mr. Manhas says that relevant
23 policy documents are the phase -- include the Phase 2
24 report and the CleanBC plan, I totally agree, but I
25 think that legally one also has to put it into this
26 context section 5 of the GRR and section 18 of the

1 in this application seeking approval of the rates to
2 be charged, obviously, for the fast charging. And the
3 capital costs are among the full -- if you look at
4 Hydro's full cost of service, capital costs are
5 certainly in that bucket.

6 THE CHAIRPERSON: Right, so if you hold -- if we hold
7 off on looking in detail or in depth at a depreciation
8 rate until 2024, then what's the implication on the
9 rate now? Does that mean the rate would be interim
10 until then? Because we haven't really looked at the
11 depreciation rate? Is that what you're suggesting?

12 MR. ANDREWS: No, though what I was suggesting was that
13 the depreciation rate for Hydro's EV charging assets
14 would be addressed in the upcoming revenue requirement
15 application, not that it would be addressed coming out
16 of the review. The reference to the review was that
17 the depreciation rate affects Hydro's cost of EV
18 service --

19 THE CHAIRPERSON: Right.

20 MR. ANDREWS: -- and the cost of service also has a
21 relationship to the appropriate rates, and that is a
22 topic that would be reviewed in the evaluation report,
23 and what I'm saying is that my understanding is that
24 any rate that would actually recover Hydro's entire
25 rate for EV charging, that would recover the entire
26 cost of service would require a utilization rate that

1 is unreasonable to expect.

2 That in -- the problem that the Commission
3 and all of us have right now is that the lynchpin
4 factor in determining whether these rates are
5 important is that nobody knows what the utilization
6 rate is going to be. And so one can spend a lot of
7 time discussing what elements of the cost bucket ought
8 to be recovered by the rate, but unless you know what
9 their utilization rate turns out to be, you can't
10 determine what the revenue will be, because if the
11 rate goes higher, then utilization will go lower, and
12 one can't assume that raising the rates will
13 necessarily raise -- increase the revenue. And so --

14 THE CHAIRPERSON: It sounds to me like you're making an
15 argument that we shouldn't really consider the cost of
16 providing the service, we should consider some sort of
17 price signal and that should be how we would set the
18 rate. And I appreciate that we're probably getting
19 into final argument here, but we're trying to
20 determine whether depreciation should be in scope for
21 this proceeding, and it's my understanding that this
22 proceeding is looking at the factors, the cost factors
23 in providing the service. But now I understand that
24 you are making the argument that that doesn't really
25 matter, and what matters more are the price signals
26 that are being sent.

1 MR. ANDREWS: That is my argument --

2 THE CHAIRPERSON: Determine utilization (inaudible).

3 MR. ANDREWS: And yes, that is an argument and it's why
4 -- that's an argument that I'll be making in final
5 submissions, but it's why I take the view that
6 determining Hydro -- the appropriate, and approving
7 the depreciation rate in this proceeding is not --
8 that this proceeding is not the optimal place to do
9 that, and as I said, mainly because there is a
10 depreciation study going on, but also as a supplement.

11 **Proceeding Time 9:31 a.m. T11**

12 Because, in my submission, it wouldn't -- changing the
13 depreciation rate, if the Commission wanted to get
14 into doing that, would not change the dynamic
15 concerning the actual rate that Hydro seeks approval
16 of. That's my submission.

17 THE CHAIRPERSON: Sure. Thank you, Mr. Andrews, I
18 appreciate that. Nothing more? That's fine. Thank
19 you, Mr. Andrews.

20 MR. ANDREWS: Thank you.

21 THE CHAIRPERSON: CEC, Mr. Weafer?

22 **SUBMISSIONS ON SCOPE BY MR. C. WEAFER:**

23 MR. C. WEAFER: Thank you. Just to preface my
24 comments, the CEC comes to this proceeding with two
25 high level perspectives. One is as ratepayers that
26 will be contributing to any and not recovered from EV

1 charging rates. And then secondly as supporters of
2 commercial activity in the province and a competitive
3 market forces in any sector, that's sort of the
4 substance of where our core clients come from. And so
5 in that context I've got submissions which are
6 substantive and then more secondly to process,
7 although the submissions are actually quite similar on
8 both topics.

9 So, I mean, this application is brought by
10 BC Hydro pursuant to the ratemaking jurisdiction of
11 the Commission, Sections 58 to 61. And it's worth
12 just reminding for the records a couple of comments in
13 those sections, so that we're understanding how we get
14 to fair, just and reasonable. At 59 dealing with
15 discrimination in rates is a question of fact, with
16 the Commission's the sole judge whether service office
17 -- is offered or provided under substantive similar
18 circumstances and conditions, whether in any case
19 there is undue discrimination, preference, prejudice
20 or disadvantage in respect to the rate or service. So
21 it's fairly broad scope in roles for the Commission in
22 looking.

23 In terms of setting of rates and the
24 setting of rate under this Act, the Commission must
25 consider all matters that it considers proper and
26 relevant to affecting the rate. And I'd suggest in

1 this proceeding a significant difference is that we've
2 got competitors in the room looking at this rate and
3 making decisions around whether they will or will not
4 enter this market based on the competitive environment
5 of the market. And so the Commission has a role here,
6 not just vis-à-vis customer classes, but vis-à-vis an
7 industry sector in the province. And so, from a high-
8 level perspective, that needs to be factored into your
9 decision making, I'd suggest.

10 And so, with that said, the submissions of
11 Suncor and ChargePoint ring true to CEC in terms of
12 what this Commission should be considering in looking
13 at setting this rate.

14 In Exhibit B-11, BC Hydro directs you back
15 to the fiscal 2022 RRA decision. And they select some
16 aspects of it. But one aspect we would highlight, at
17 page 101, "However the Panel notes that BC Hydro
18 currently has an application before the BCUC for
19 public EV fast charging rates, which could examine the
20 revenues and costs related to BC Hydro's EV fast
21 charging stations in a wholistic manner." And we
22 would take that comment by that Panel to be consistent
23 with the position Suncor and ChargePoint and CEC are
24 putting forward, which is you should consider
25 everything you can. And to the extent you may not
26 have definitive evidence, you need to consider other

1 proxies, other ways to set the rate that can have you
2 move forward without necessarily commissioning a full
3 depreciation study or without necessarily knowing
4 precise details of the items that Hydro is asking not
5 be considered. We should make reasonable efforts on
6 the evidence free record to enable you to make rates
7 that factor where those may be.

8 And there's two reasons for that, two high-
9 level reasons. One is perception and one is reality.
10 The perception point is that the Commission accepts
11 the Hydro submissions that you should limit the
12 evidence that you should be looking at in setting the
13 rates. The perception arise, as I mentioned earlier,
14 is what is the marketplace in British Columbia? How
15 is the regulator dealing with potential competitive
16 entry? And are they tipping the scales in favour of
17 Hydro as opposed to competitive entry? I'm not saying
18 that will occur, I'm saying it needs to be considered
19 as you make your decision around this evidentiary
20 record topic.

21 **Proceeding Time 9:36 a.m. T12**

22 The second issue, and more substantive, is
23 what's the reality? What if the rates established by
24 the Commission, because you defer on depreciation or
25 other topics, as the Chair pointed out, we could be
26 two years with an interim rate, which could be

1 artificially high, artificially low, if you don't make
2 an effort to understand the best evidence available to
3 consider the topics. To simply ignore them, I don't
4 think meets your duty as a Commission in assessing the
5 evidence.

6 So, those are sort of the substantive
7 topics. The procedural topic is somewhat related. We
8 were taken aback by the submission by Hydro late last
9 week, because we've set a Streamlined Review Process.
10 To be frank, I wasn't sure how we got three days on a
11 Streamlined Review Process in this application, and
12 I'm still wrestling with that. But fundamentally,
13 it's clear there are contentious issues in this
14 application. Certainly as of the submission on Friday
15 to reduce scope and not consider evidence that has
16 already been put on the record. So, I think we're in
17 a situation of, is this truly, you know, is the
18 Streamlined Review Process appendix 8, order G-37-12,
19 is the application or portions of the application
20 particularly contentious? If so, the streamlined
21 review process may not be suitable. Well, we clearly
22 have contentious issues.

23 I think you absolutely can use this process
24 to gather more evidence, to hear more evidence, and
25 I've heard the potential signal this morning that
26 there will be final argument in this proceeding, and

1 certainly the CEC would say there needs to be final
2 written argument in this proceeding. That's not on a
3 procedural timeline right now as I understand it. We
4 come to this last week thinking this was to resolve
5 the application.

6 I think given what you've heard this
7 morning, and the fact there are contentious matters,
8 the CEC submits that there does need to be final
9 written argument in the process, so that you can at
10 least have the arguments and the submissions on the
11 evidentiary issues based on the record to date, and
12 the record that may be established over the next three
13 days.

14 Those are my submissions.

15 THE CHAIRPERSON: Thank you, Mr. Weafer. And just to
16 clarify that, it was not the Panel's intention and it
17 wasn't outlined in A-12 that there would be any
18 argument provided or asked for in these three days.
19 So the Panel does anticipate there would be final
20 argument later, whether that is written or oral, we
21 haven't turned our minds to that, but it's certainly
22 not going to be this week in this proceeding.

23 MR. C. WEAFER: Thank you. We weren't clear on that,
24 and I appreciate the clarification. We would
25 certainly submit that written argument, given that it
26 is going to go into technical evidence around costing,

1 we expect would be preferable to the CEC, a timeline
2 could be established.

3 THE CHAIRPERSON: Well, we'd like to see how these
4 three days go to see what if any further process would
5 be needed before we get to final argument, I think
6 would be a fair --

7 MR. C. WEAFFER: I'm anticipating my submission, I don't
8 think it's going to change, so I just wanted to be
9 fair and up front about it, so thank you. Those are
10 my submissions.

11 THE CHAIRPERSON: Thank you. Do you have any
12 submissions? No questions, thank you, Mr. Weafer.

13 Ms. Worth, are you with us?

14 **SUBMISSIONS ON SCOPE BY MS. WORTH:**

15 MS. WORTH: Yes, Mr. Chair, members of the Panel, I am.

16 Mr. Weafer, as per usual when he speaks
17 ahead of me, takes a lot of my highlights, and I would
18 like to adopt his submissions on this.

19 But I will make some brief comments. I am
20 concerned that there is a proposal by BC Hydro made,
21 as Mr. Weafer noted, last week to leave a fair amount
22 of what I would say are important and material issues,
23 particularly depreciation and the issues that the
24 competitors of rate, the connection fees and demand
25 charges, on the table.

26 Now, I recognize that depreciation is non-

1 cash expense, but it does have an effect on what
2 portion of the monies it does collect, between now and
3 2024 we'll go to depreciation expenses, in addition to
4 the cost that it will allocate to other expenses to
5 provide this service, including the connection fees
6 and things like that.

7 **Proceeding Time 9:40 a.m. T13**

8 So, if we fail to deal with depreciation,
9 at least to some extent, and I'm mindful of what Mr.
10 Andrews said about the coming depreciation study, but
11 I think that it is at least possible for the Panel to,
12 provided there's sufficient evidence on the record, to
13 make some preliminary finding of depreciation so that
14 it can consider that. And then it can be modified
15 once BC Hydro does have the depreciation study in
16 place in the future. Because it's in my mind
17 impossible for this Panel to evaluate whether the rate
18 that BC Hydro is seeking to have approved and has
19 aspects of it that articulated -- sorry, are in line
20 with the Panel's responsibilities, as articulated
21 under the *Utilities Commission Act*.

22 So, I worry now that the SRP is not
23 necessarily the best venue for this. And I worry that
24 if we proceed without having those aspects of these
25 that the Panel accepts, if any, are to be dealt with
26 here. Like, I feel like if we leave too much off the

1 table that it would be really difficult to say that
2 this rate is going to be sufficient to satisfy the
3 public interest evaluation that needs to take place.

4 The fact that BC Hydro is in a situation
5 where there's an SRP should not dictate whether there
6 is discovery or whether there is certain things that
7 are found within scope. The venue, the SRP format,
8 should not trump the purpose of this Panel's
9 jurisdiction, which is to make sure that things are
10 sufficient to the utility's needs, which are the
11 costs, and a reasonable rate of return, but also the
12 public interest. In that, you know, we're not being
13 undercharged or overcharged. And, obviously, people
14 like in the short term to be undercharged but in the
15 longer term it does have some major implications for
16 ratepayers, whether they are accessing this or not,
17 when we don't have any definition of a number of
18 things.

19 So, that's very brief comment on what my
20 longer submissions are going to be, in addition to
21 what Mr. Weafer said and my adoption of those things.
22 Thank you.

23 THE CHAIRPERSON: Thank you, Ms. Worth. Any questions?
24 No? Thank you, Ms. Worth.

25 Mr. Ambrosson, RCIA?

26 MR. AMBROSSON: Yes. This is Fredrik Ambrosson

1 speaking. We have no submissions on BC Hydro's scope.

2 THE CHAIRPERSON: Sorry, you said you had no
3 submissions?

4 MR. AMBROSSON: No, no submissions.

5 THE CHAIRPERSON: Okay, thank you. Mr. Guthrie?

6 **SUBMISSIONS ON SCOPE BY MR. GUTHRIE:**

7 MR. GUTHRIE: As I said, I'm an EV owner and I'm not
8 versed in the workings of this Commission or Hydro.
9 And I realize I'm in a room full of professionals who
10 make their living doing exactly that. And,
11 unfortunately, as a customer and an EV owner it is
12 very confusing. Information is spread between various
13 reports, findings, there's all sorts of acronyms. And
14 I would urge the Commission going forward that we
15 somehow draw this all into one area.

16 I worked for many years, I was fortunate to
17 work at many companies in Canada. I never worked at a
18 company that didn't have a business plan for their
19 product, that couldn't tell you exactly what the
20 product cost, overhead, capital, operating. How
21 could they price it if they didn't know what they
22 cost?

23 And what we're doing here is we've got this
24 price over here, we're not going to include that
25 price, we don't want to include this price. And I
26 realize the Commission is hampered or has to follow

1 certain rules and regulations.

2 My first point is, though, that somehow
3 going forward this should all be brought together so
4 that there's a business plan that shows how much it
5 costs Hydro to do this service. And against that
6 business plan, how are we recovering the costs?
7 Ultimately the public's going to want to know, why are
8 you charging this much for electricity at a fast
9 charging station when I can pay this much at home?
10 And the Commission should be able to say, "Well, this
11 is the cost and this is what we're recovering." Right
12 now you'll have to haul out all sorts of papers that,
13 oh, well, the revenues over here and this is over
14 there. So that's my first point.

15 **Proceeding Time 9:45 a.m. T14**

16 My second point around costing is I don't
17 understand how the Commission can set rates when it
18 doesn't know what the costs are. So if we're not
19 including depreciation, is that not a cost? Or is
20 that a cost, but it is only a cost in 2024?

21 So it seems to me that we're at the
22 beginning of this, we're just getting into this
23 business, Hydro is just starting to enter this
24 business. Now is the time to set the background work
25 that says "Okay, we have these various rulings and
26 legislations we have to follow," but we should be

1 including every cost we can so that at least we know
2 what the shortfall of the revenues are going to be.

3 So, I would argue that we should include
4 depreciation in these discussions.

5 If the Commission wants to promote a level
6 playing field, Hydro needs to play by the same rules
7 that the other players in that playing field is, which
8 is, I can tell you, Suncor knows exactly how much
9 their costs are, and I can guarantee you, Suncor has
10 got depreciation in their pricing schedules. Hydro
11 should be doing the same thing.

12 In terms of rates, I think there is two
13 rates that have to be set here. One, the Commission
14 needs to set a rate that's going to be adequate to
15 recover as much costs as it can now, on Hydro charges,
16 without completely destroying utilization. On the
17 other hand, it needs to set a rate that is sufficient
18 to attract exempt providers, so that they'll enter the
19 market, because ultimately the solution to getting
20 more chargers into B.C. is not BC Hydro, it's through
21 a variety of exempt parties, like Suncor, like Tesla,
22 who are willing to go out and invest their money to
23 provide this service. And the Commission is key to
24 that. The rates should be something that third
25 parties will look at this and say "Hey, we can do this
26 more cost effectively than Hydro, we can compete, and

1 we'll go out and we'll build some more stations."

2 And as I said, my summarized comment of all
3 of this is, I think Hydro should be instructed to do a
4 business plan that shows the full cost of all of these
5 services and their projected revenues, just like we
6 would ask any -- well, just like the regulatory and
7 shareholders do of the exempt parties. Again,
8 everybody I've been in business has a business plan of
9 what it costs to do their service. Thank you.

10 THE CHAIRPERSON: Thank you, Mr. Guthrie. No
11 questions? No?

12 Okay, so thank you, we'll go back up the
13 list then. You have an opportunity to reply to
14 submissions. And Mr. Guthrie, you've had an
15 opportunity to hear everyone else's, and I assume
16 that's -- okay.

17 So, RCIA? Any further submissions in reply
18 to Mr. Guthrie, largely?

19 MR. AMBROSSON: No.

20 THE CHAIRPERSON: No? Thank you. Ms. Worth?

21 MS. WORTH: Nothing from BCOAPO, thank you.

22 THE CHAIRPERSON: Thank you. CEC, Mr. Weafer? No?
23 Thank you. And Mr. Andrews?

24 **REPLY BY MR. ANDREWS:**

25 MR. ANDREWS: I would just note, and I won't repeat my
26 earlier submissions, but it's unclear what exactly

1 would be the issue to do with depreciation that would
2 be resolved by the Commission in this proceeding.
3 That is, we've heard Suncor say that Hydro's equipment
4 is going to be obsolete, but we have no evidence on
5 the proper depreciation treatment of it. And that
6 would require a depreciation study, and that is -- so
7 I will leave it at that.

8 THE CHAIRPERSON: Thank you, Mr. Andrews.

9 Mr. Manhas.

10 **REPLY BY MR. MANHAS:**

11 MR. MANHAS: Just to briefly respond to Mr. Andrews'
12 comments about the GRR and the Phase 2 report. I
13 would just note that the Phase 2 panel was clear that
14 the range of policy responses the government can
15 undertake were on a spectrum. What we have here is
16 the government amending the GRR to make these
17 charging stations a prescribed undertaking, there is
18 no question about that, and there's no question that
19 BC Hydro is entitled to recover its costs for those
20 stations.

21 **Proceeding Time 9:50 a.m. T15**

22 But what the government didn't do, was
23 prescribe how BC Hydro can recover those costs. They
24 have left the issue of rate setting in the
25 Commission's jurisdiction. And so we say that when it
26 comes to exercising your rate setting jurisdictions

1 under Section 59 to 61 of the UCA, issues such as
2 policy with respect to EV charging adoption, is
3 relevant to the exercise of that discretion. And so
4 issues with respect to how this rate may impair the
5 competitive market are therefore relevant, and that
6 lines up with what I said previously.

7 THE CHAIRPERSON: Thank you.

8 MR. MANHAS: Thank you.

9 THE CHAIRPERSON: Appreciate it, thank you.

10 Suncor, no further submissions?

11 Mr. Christian?

12 MR. CHRISTIAN: I'll expect I'll take, if I could, ten
13 or fifteen minutes to get instruction from my client
14 on reply submissions.

15 THE CHAIRPERSON: Okay, would we like to come back to
16 ten o'clock then? Would that give you enough time?

17 MR. CHRISTIAN: I think that would be enough, thank
18 you.

19 THE CHAIRPERSON: Thank you.

20 **(PROCEEDINGS ADJOURNED AT 9:51 A.M.)**

21 **(PROCEEDINGS RESUMED AT 10:01 A.M.)**

T16/T17

22 THE CHAIRPERSON: Please be seated.

23 Please, go ahead, Mr. Christian.

24 **REPLY BY MR. CHRISTIAN:**

25 MR. CHRISTIAN: Thank you, Mr. Chair. First, a point
26 of nomenclature. In Exhibit B-11, that submission

1 defined four terms which I want to just reiterate for
2 the purposes of the record right now and hopefully to
3 the benefit of the panel as they listen to me speak
4 now and in a few minutes on opening submissions.

5 In B-11 the expression "EV charging
6 service" was used, and just so that everybody's clear,
7 when I'm talking about EV charging service, just like
8 in that submission, I'm speaking of the public
9 electric vehicle fast charging service that is the
10 subject and part of BC Hydro's application in Exhibit
11 B-1 in this proceeding. Okay?

12 THE CHAIRPERSON: Thank you.

13 MR. CHRISTIAN: And, similarly, "EV charging rates",
14 again, those are the rates that BC Hydro is applying
15 for and that the Commission will set. Those are set
16 out in rate schedules 1360, 1660 -- sorry, 1360, 1560
17 and 1561. And those EV charging rates includes the
18 pricing and the terms and conditions that are set out
19 in those rate schedules.

20 (DISCUSSION OFF THE RECORD)

21 MR. CHRISTIAN: Try that again.

22 So, so then EV charging service, EV
23 charging rates, fairly self-explanatory. "EV charging
24 costs", again, what I'm talking about here when I use
25 that expression, as in B-11, is the entire costs that
26 BC Hydro incurs in providing the EV charging service

1 and without limitation and trying to be too
2 particular, operating costs, cost of energy and
3 capital costs, including depreciation which is how
4 capital costs are reflected in an income statement.

5 And then, lastly, EV charging revenues is
6 the expression we used in B-11, which I'll be using
7 again today. And that refers to the revenue that BC
8 Hydro is going to generate from the rate schedules
9 that are approved, that is from the EV charging rates
10 that the Commission will determine at the outcome of
11 this proceeding.

12 I think that's all self-explanatory but I
13 know that the language sometimes gets --

14 THE CHAIRPERSON: Thank you.

15 MR. CHRISTIAN: -- mangled a little bit here and there.

16 Anyway, my reply submissions on Exhibit B-
17 11 are going to start with the comment made by Mr.
18 Guthrie at the end of his submissions. And I think he
19 expressed most eloquently something that underpins the
20 submissions of Mr. Weafer and Ms. Worth, and, indeed,
21 also Mr. Smith on behalf of the Strata Plan BR2673
22 intervener. And that proposition is that the
23 Commission can't set rates without knowing the costs
24 of the associated service that are incurred by the
25 utility that's providing that service. And that is
26 the premise upon which I think Mr. Guthrie makes his

1 submissions, Mr. Smith makes his submissions, and Ms.
2 Worth and Mr. Weafer made their submissions. And,
3 with respect, it is simply not correct. There are
4 many examples of the Commission establishing rates at
5 first instance without understanding the full costs of
6 the service associated with those rates.

7 And the most recent example that comes to
8 mind is the establishment of BC Hydro freshet rate,
9 that's under rate schedule 1892. And when that rate
10 was established it wasn't established in a full cost
11 of service basis. Now there's an understanding of
12 what those costs are and it's reflective of costs, but
13 it was not based and set on that basis to start with.

14 More generally, there's a long history, I
15 think, of rate setting regulators to provide
16 exceptions to even the default idea of cost based
17 rates. And so, for example, this Commission has
18 approved bypass rates for customers who have an
19 opportunity to get a service cheaper than what the
20 utility could provide at and leave the utility service
21 to the detriment to all other customers who would lose
22 the benefit of that revenue that would otherwise
23 contribute to the fixed cost of the utility. So the
24 Commission approves a rate lower than what would
25 otherwise be available to that customer to keep all
26 other customers whole, or at least minimize the loss

1 to them arising from the one customer who might leave.

2 Similarly, economic development rates are
3 another example. I'm not sure that the Commission
4 here has had a lot of experience of them, but the idea
5 is one can offer a reduced rate to a customer -- a
6 reduced rate relative to a cost of service rate, to
7 bring in more revenues than would otherwise be
8 available, again, to the benefit of all customers
9 through a contribution of fixed costs that wouldn't
10 otherwise be made.

11 And so for those reasons we say that the
12 idea of the starting point of those submissions we
13 heard earlier that there has to be a cost of service
14 base and the Commission must know all the costs
15 associated with the EV charging service is not correct
16 in practice or in law.

17 **Proceeding Time 10:06 a.m. T18**

18 And in this particular situation we have it
19 -- and another reason for an exception that arises,
20 and that is because of the *Clean Energy Act*, section
21 18, which requires that the Commission not do anything
22 that would indirectly or directly prevent BC Hydro
23 from undertaking the EV charging service.

24 We have heard on the evidence already, and
25 you'll hear more of that today from BC Hydro
26 witnesses, that full cost of service rate for the EV

1 charging service would put -- would be about, in the
2 order of a dollar or so per minute, depending on what
3 the utilization rate was. So, you'll see that that is
4 probably four or five times higher than what the rates
5 are being offered for comparable services by those
6 already in the marketplace. And we would say that a
7 cost of service rate, fundamentally, because it's so
8 high, would put the Commission in conflict of section
9 18 of the *Clean Energy Act* by indirectly preventing BC
10 Hydro from undertaking EV charging service.

11 And so for that reason, it's not necessary
12 for this Commission Panel to determine depreciation
13 rates. It simply is a tiny little wrinkle on the
14 total cost of service associated with the EV charging
15 service that isn't going to affect a rate that the
16 Commission ought to set in order to abide by the
17 obligations it has, both under the *Utilities*
18 *Commission Act*, but also the *Clean Energy Act*.

19 And so those are my submissions with
20 respect to depreciation. The only two topics really
21 that came up I think clearly out of the scope issue
22 that we're talking about today are BC Hydro's
23 connection fees and BC Hydro's demand charges under
24 its general service rate schedules. And the issue is
25 whether or not those are in issue in this proceeding
26 or not. And I'm going to refer this case to Mr.

1 Manhas' submission where he agrees with BC Hydro that
2 this is not a proceeding for setting anything other
3 than EV charging rates, and that is exactly really the
4 point that we are trying to make in our argument.

5 If the Commission thinks it needs to hear
6 information with respect to how we provide service to
7 other participants in this proceeding, then we are of
8 course going to answer questions that relate to that.
9 But at the end of the day, what we're really concerned
10 about is that this forum be used for an opportunity to
11 seek amendments to other rate schedules that are not
12 clearly on the record, or subject to this proceeding.

13 And so those are my submissions with
14 respect to the demand charges and the connection fee
15 issue, in so far as it is relates to the scope of this
16 proceeding.

17 THE CHAIRPERSON: Thank you Mr. Christian. I do have a
18 question.

19 So, as I understand your argument, you're
20 saying that we're going to hear from a witness panel
21 that if BC Hydro was to charge the full cost of
22 service, and I'm paraphrasing what you said here, but
23 please correct me if I'm wrong --

24 MR. CHRISTIAN: And I'm paraphrasing the witnesses, no
25 doubt.

26 THE CHAIRPERSON: Fair enough. That the witness panel

1 is going to tell us that if you were to charge the
2 full cost of service, that that would result in a rate
3 that would discourage the use of EV charging stations,
4 and as a net result, we would be offside with the
5 *Clean Energy Act*.

6 MR. CHRISTIAN: That's right.

7 THE CHAIRPERSON: Is that essentially what you said?

8 MR. CHRISTIAN: Yeah.

9 THE CHAIRPERSON: Well, if we don't know what the full
10 cost of service is, how can we even evaluate the
11 witnesses' testimony? See, the argument seems
12 somewhat circular, is that you're saying that if we
13 were to use the full cost, then we would be offside
14 with the *Clean Energy Act*, so therefore you don't need
15 to have the evidence on what the full cost is? That
16 seems to be what you're saying.

17 MR. CHRISTIAN: I appreciate the element of circularity
18 in the argument, but the reason, and again, I don't
19 want to be going too far into the evidence that the BC
20 Hydro witnesses are going to give, is that the
21 depreciation element of the full cost of service rate
22 is a small fraction of what we already know what a
23 cost of service, what it would look like, that is way
24 higher than the proposed rate and what the rates of
25 those who are already offering the service.

26 THE CHAIRPERSON: So, it is at the margins and it

1 doesn't make any difference?

2 MR. CHRISTIAN: Exactly, it's on the margin, it doesn't
3 make a difference. That's exactly it.

4 THE CHAIRPERSON: Okay. The second question is, the
5 GRR requires us to allow -- sorry, BC Hydro to
6 recover its full costs of electric vehicle charging.

7 MR. CHRISTIAN: Yes.

8 THE CHAIRPERSON: You would agree with that?

9 MR. CHRISTIAN: Yes.

10 THE CHAIRPERSON: Again, we are also -- you would also
11 agree with ChargePoint that under the GRR rate
12 setting is entirely in the Commission's -- it's
13 entirely at our discretion, it's not prescriptive on
14 what the EV rate should be?

15 MR. CHRISTIAN: Quite right. Well, subject to the idea
16 that a rate that prevents BC Hydro from providing
17 service directly or indirectly would be a rate that
18 the Commission would set. And the other limitations
19 if you will, within the *Utilities Commission Act*, on
20 rate setting.

21 THE CHAIRPERSON: Understood.

22 MR. CHRISTIAN: Commission has a very broad discretion,
23 clearly, but it doesn't have an unlimited discretion
24 on rate setting.

25 THE CHAIRPERSON: Understood. So, would you agree then
26 that we have to consider that if the EV rate is not

1 going to recover the full cost of service, we would
2 have to consider that that portion that isn't
3 recovered from EV users, it will be recovered from all
4 other ratepayers somewhere in some class somehow.

5 **Proceeding Time 10:12 a.m. T19**

6 MR. CHRISTIAN: I think that's probably right, but that's
7 more of an evidentiary point. I mean, I think it's --
8 you know, ultimately the EV charging costs need to be
9 recovered from ratepayers and they are going to be
10 recovered from EV charging customers or all other
11 ratepayers who are not EV charging customers. How
12 that gets allocated between them I think we can always
13 look at, but, you know, I think the idea is ultimately
14 those costs will be recovered. BC Hydro's position
15 is, what the Commission should do is try and set a
16 rate with a maximizing coverage from the users of the
17 service.

18 THE CHAIRPERSON: Right. But just reasonable, and not
19 unduly discriminatory would be the test that would be
20 applied, or would be applied to how that recovery is
21 split between EV drivers and other ratepayers.

22 MR. CHRISTIAN: I think that's right. Again, subject
23 to possible limitations arising from the *Clean Energy*
24 *Act* which --

25 THE CHAIRPERSON: But just humour me then. If that's
26 the case, then would we not need to know what the full

1 costs are so we would understand what amount of
2 subsidization is required so we could determine
3 whether it's not unduly discriminatory or not?

4 MR. CHRISTIAN: Well, I'm not sure about that. I think
5 that, you know, the Commission's decision in the F22
6 RRA decision already has appreciated or acknowledged
7 the existence of costs in fiscal '20, '21 and '22 that
8 are going to be deferred to a regulatory account for
9 ultimate disposition in a fiscal '23 revenue
10 requirement. So how those costs get dealt with is
11 kind of -- I think is strictly linked with how the
12 incremental costs between revenues and costs go on a
13 go-forward basis are dealt with as well. I think it's
14 an intractable issue to understand where the -- at
15 least in this proceeding, what that split is, right?
16 Because you need to have the entirety of the costs in
17 front of you to kind of grapple with the question
18 you're raising. The entirety of those costs are going
19 to be in the F23 proceeding, where BC Hydro has a
20 regulatory account, it's been told it needs to propose
21 how to dispose of them, and there will be full
22 reporting on not only costs but ultimately revenues.
23 That's where the Commission will have the ability to,
24 I think, address the fairness issue that you're
25 raising.

26 THE CHAIRPERSON: But at that point, what options would

1 the Commission have? It couldn't go back and
2 reallocate costs in the past.

3 MR. CHRISTIAN: Well, that issue is, I think, alive
4 regardless, right? I mean those costs are incurred
5 and they are going to have to be allocated on some
6 basis, and how that gets done is going to be decided
7 by the Commission in the fiscal '23 revenue
8 requirements hearing.

9 THE CHAIRPERSON: Okay.

10 COMMISSIONER FUNG: Okay, Mr. Christian, a couple of
11 questions. I think I heard you say that you agree
12 that the test under sections 59 to 61 of the *Utilities*
13 *Commission Act* for rate setting is whether or not the
14 rate is, you know, just and reasonable and fair, or
15 unduly preferential or discriminatory.

16 Now, we also heard earlier in this
17 proceeding that market participants in the fast EV
18 charging market are charged connection fees and demand
19 charges. I take it that BC Hydro is not intending to
20 include in the rate any connection charges and demand
21 charges for its own EV stations to people who use
22 their stations. Is that correct?

23 MR. CHRISTIAN: Well, I'm not -- I think the rate is
24 the rate and to ask how it was developed and how it
25 was put together, I think actually is an evidentiary
26 question.

1 At a high level, I think BC Hydro just
2 thought it should try to set a rate at a reasonable
3 utilization rate to recover the cost of its service to
4 the meter. And beyond that, it was looking at how to
5 fit that rate within the scheme of different rates
6 that are offered by similar service providers.

7 So how that recovers the costs that BC
8 Hydro faces in terms of its own demand and connection
9 – I think that's the question – I don't have an answer
10 to that. I think that's an evidentiary question.

11 COMMISSIONER FUNG: And you're saying that there's just
12 not enough evidence on the record to determine whether
13 demand charges are part of that?

14 MR. CHRISTIAN: Well, no, I'm not saying there's not
15 enough evidence in the record, I'm saying I don't have
16 an answer to that question because I think it's an
17 evidentiary question. The witnesses who will be
18 answering questions may have an answer for your
19 question.

20 COMMISSIONER FUNG: Okay, I will defer until we hear
21 from the witnesses then. Thank you.

22 THE CHAIRPERSON: Okay, thank you, Mr. Christian. I
23 appreciate it.

24 So the panel is going to come back with a
25 scope ruling say at 10:30. Thank you.

26 **(PROCEEDINGS ADJOURNED AT 10:17 P.M.)**

1 The cross-subsidization issue also comes
2 into play when we are looking at the competitive
3 market issues, and the Panel is persuaded that the
4 competitive issues are germane to this proceeding.

5 Under section 60(1)(b.1), the Panel has the
6 jurisdiction to use any mechanism to set rates
7 whatsoever. And we feel that there is a public
8 interest consideration in looking at competitive
9 market issues. It may well be that the electric
10 vehicle charging market is best served if it's a level
11 playing field, and we've stated that in our EV report,
12 and that's an issue that we will continue to look at
13 in this proceeding. And it would be -- we would be
14 unable to do so if we didn't fully understand the
15 costs of providing this service. The costs both for
16 BC Hydro and the costs for competitors.

17 Returning to the issue of the cross-
18 subsidization also, you know, it's important to
19 understand that the Panel doesn't consider this an
20 issue of EV owners versus non-EV owners. You know,
21 there is certainly is a world that we're fast
22 approaching where many, if not most of us will own
23 electric vehicles. So, the difference between a
24 ratepayer and an EV owner begins to blur at that
25 point. However, it's still important that the EV
26 service be in a position to recover its costs, and not

1 unduly be subsidized, because we don't want people
2 that are driving a few thousand miles to be
3 subsidizing people that are driving tens of thousands
4 of miles. So, that's a consideration in the cross-
5 subsidy. Whether that is the case now or not, we
6 don't know, and again, without knowing the costs, the
7 costs of these subsidies, we won't know that either.

8 As far as the connection and the demand
9 charges, again, if BC Hydro is not setting its rate
10 based on a cost of service, these issues are
11 irrelevant, and we don't disagree with that statement
12 on its face. That's correct. However, these are
13 charges that everyone else in the competitive market
14 faces. And again, in order for us to understand how
15 that market works, and how it is priced and what the
16 costs are, we cannot make a determination on whether
17 the rates that BC Hydro is proposing are reasonable --
18 just, reasonable, and not unduly discriminatory.

19 So, for that reason, we consider all three
20 of these -- well sorry, I should mention about the
21 depreciation.

22 **Proceeding Time 10:33 a.m. T22**

23 There is already on the record, there's
24 evidence on depreciation. Secondly, we note that BC
25 Hydro applied for depreciation rate in the previous
26 RRA, in spite of its submissions today that the

1 appropriate place to set a depreciation rate is when
2 the depreciation issues are understood through a cost
3 -- through a depreciation study. In the Panel's view,
4 any information about what the depreciation rate
5 should be is better than no information, which is what
6 we had going into this when Hydro had already applied
7 for a depreciation rate. So, for that reason, we do
8 think depreciation rates and any other issues that go
9 to the cost of service are relevant and are in scope
10 for this proceeding, including demand and connection
11 fees.

12 We do agree, however, that it's not within
13 the scope of this proceeding to make any orders
14 concerning demand charges and connection fees or any
15 other aspects of rate schedules that companies like
16 Suncor, for example, are faced with when they take
17 service. But it's certainly relevant to consider the
18 costs of these things.

19 So unless there's any further comment,
20 these will all be in scope for the remainder of the
21 proceedings.

22 MR. CHRISTIAN: Thank you, Mr. Chairman, that's fine.
23 I've got opening comments before the panel takes the
24 stand. And now would be an appropriate time, unless
25 the Commission Panel had something else in mind?

26 THE CHAIRPERSON: No, that's fine. Thank you.

1 **OPENING STATEMENT BY MR. CHRISTIAN:**

2 MR. CHRISTIAN: Great, thank you. So, I've got three
3 topics to cover in my opening comments. I will be
4 probably about 10, maybe 15 minutes. The first one I
5 want to address will be the Panel chair's comment this
6 morning about putting legal argument into Exhibit B-
7 11. Then I'll be speaking a little bit about how BC
8 Hydro has approached its responses to the pre-SRP
9 questions that were submitted to it after the SRP was
10 established. And then the last topic will be just a
11 few comments on the dealing with confidential
12 information and the possibility of an in camera
13 session.

14 So, first, starting with the legal
15 argument, I think it's fairly common in an application
16 for an applicant to provide the legal context for the
17 order that it's seeking. And, indeed, BC Hydro's
18 application for electric vehicle charging rates,
19 Exhibit B-1, has a section on legal and regulatory
20 issues. And, again, just trying to frame what the
21 application is about from a legal context.

22 After the application was filed, BC Hydro
23 got quite a few IRs, about 600 roughly. It was
24 apparent that the scope of issues that people were
25 interested in was quite broad. And, indeed, moving
26 into the SRP we could see that potential for this SRP

1 to be maybe less successful than it could be given the
2 amount of time we have. And so the purpose of the
3 legal submission in Exhibit B-11 was really to help
4 try and frame the issues from BC Hydro's perspective,
5 with a view to ultimately making this SRP successful.
6 I don't think we would have thought any such
7 submissions would have been appropriate or necessary
8 or helpful in a typical oral hearing where there's a
9 lot more lead time and more IRs in advance, or in a
10 written proceeding where, of course, we would have
11 gone right to written argument. And so with that
12 explanation I hope that that --

13 THE CHAIRPERSON: Thank you for the clarification, Mr.
14 Christian. And I do agree, we're probably packing a
15 lot of evidentiary discovery into these three days.
16 But we'll have to assess where we are on Thursday and
17 see what the next steps will be.

18 MR. CHRISTIAN: Exactly. All right.

19 So, just some background to the second
20 topic. BC Hydro's approach to the pre-filed SRP
21 questions. The SRP was established, as everybody
22 knows, I think, by order G-176-21 on June 4th, that's
23 Exhibit A-7 in the proceeding. There's three aspects
24 of the order. I just want to remind the Commission
25 Panel and the participants, the SRP did not allow for
26 a second round of IRs. It did allow for written

1 questions in advance of the SRP, which I'll refer to
2 as pre-SRP questions. And it specifically invited
3 interveners to object to the SRP, and none did so.
4 And I note my comments from my friends, Ms. Worth and
5 Mr. Weafer this morning, about the potential issues
6 associated with having an SRP to deal with this
7 application. And the point really is there was an
8 opportunity for folks to say, "This isn't the right
9 proceeding."

10 Subsequently, and the Commission Panel has
11 referred to this on July 12th, Exhibit A-12 was issued.
12 And we've described already how that sets out the
13 agenda for the SRP.

14 **Proceeding Time 10:38 a.m. T23**

15 Exhibit A-12 also, of course, specifically
16 references the streamlined review process guidelines.
17 Those were issued in 2012 by Commission Order G-137-12
18 and the way we understood Exhibit A-12, it was
19 confirming the applicability of those guidelines.

20 And there's three excerpts from the
21 guidelines that I'm going to refer to you. On page 6
22 the guidelines speak of further development of the
23 evidentiary record at the proceeding, that is after
24 IRs have been issued, occurs in real time through
25 discussion and questions and answers.

26 At page 7:

1 "The applicant will then discuss its
2 application in a manner sufficient to
3 address any questions that may have been
4 posed in advanced by registered interveners
5 and Commission staff."

6 And those words, I think, are referred to in Exhibit
7 B-11.

8 And then last:

9 "Participants should first identify
10 themselves and then ask appropriate
11 questions to assist in further understanding
12 of the application. This part of the
13 proceeding is intended to build the
14 evidentiary record while avoiding the burden
15 posed by multiple rounds of information
16 requests."

17 In short, the guidelines reflect the BCUC's
18 intent that an SRP is not simply a combination of
19 additional IRs into a fairly compressed process, but
20 rather meant to get the benefits of a more streamlined
21 process with some of the benefits of an oral hearing.
22 And it's with that kind of context in mind that BC
23 Hydro looked at the pre-filed SRP questions they got.
24 And they got 340 of them, so that's a significant
25 amount, I would say, in the few weeks leading up to
26 the SRP where the witnesses are charged with becoming
familiar enough with the record, and in this case, a

1 600 IR record, so they can answer questions when they
2 get here.

3 And with that perspective, Hydro looked at
4 the pre-filed SRP questions and identified a number,
5 quite a few really, that were really more like IRs.
6 And so there was a number of questions that seek
7 information related to matters not at all related in
8 any way, I think even based on our submissions today
9 and the Commission's scope ruling related to EV
10 charging rates.

11 And so for example, ChargePoint question
12 3.4, 3.4(i) and 3.5 regarding fleet electrification
13 rates. And it was just an inquiry into those rates,
14 and they were established in a proceeding that ended
15 in March 2020.

16 Some prefiled questions sought information
17 in spreadsheet form or tabular form that isn't
18 amenable to a kind of verbal, oral dialogue, and there
19 I have in mind BCUC questions 18.2, 23.2 and 25.21.

20 And some questions were seeking legal
21 submissions, and here I have in mind Flintoff pre-SRP
22 questions 1.1 to 1.4.

23 So in light of the number of questions, BC
24 Hydro estimated it would probably have taken the
25 better part of day to read the questions and provide a
26 full answer to each one. That would have compromised

1 -- and filing in advance, of course, would compromise
2 its ability to actually master the record to date and
3 be prepared for this SRP.

4 So it's a kind of approach that, I think
5 it's consistent with the guidelines. It's going to be
6 providing a presentation, and in that presentation
7 there's a slide, you've seen it, it's already been
8 filed. It's Exhibit A-13. A lot of the speaking that
9 Hydro witnesses will do in regard to that presentation
10 will address the substance of most of the questions we
11 think that kind of are proper pre-SRP questions. And
12 so the course of that presentation will cover, I
13 think, a bulk of those questions.

14 Then there's another set of questions that
15 are not kind be addressed through the course of the
16 presentation that BC Hydro will address specifically.
17 They are the ones that didn't kind of fall neatly into
18 the presentation, but we can see how they are
19 completely relevant. And so that's going to be the
20 basis of BC Hydro's approximately two-hour
21 presentation, plus answering questions.

22 And obviously if there are questions that
23 people are going to ask afterwards, then we'll be
24 doing our best to answer them, particularly in light
25 of your scope ruling earlier.

26 So that's really by way of introduction in

1 terms of how we --

2 THE CHAIRPERSON: Thank you, Mr. Christian, thank you.

3 MR. CHRISTIAN: And then last comments on confidential
4 information and the potential for an in camera
5 session. In BC Hydro submission the confidential
6 information on this record is at most tangentially
7 related to the establishment of EV charging rates. It
8 will not be putting in any submissions -- it doesn't
9 expect right now, at least, to put in any submissions
10 that rely on any of the confidential information or
11 provide any evidence that would require the reference
12 to confidential information.

13 I suggest, and BC Hydro suggests, that in
14 light of the procedural issues it will entail, if
15 those issues do arise, that -- and I'm speaking here
16 now of course of the idea that you'd have an in camera
17 session where only those who have signed the
18 applicable undertakings will be able to participate,
19 which is obviously necessary sometimes, but in our
20 submissions shouldn't be done kind of without some
21 thought in terms of what the purpose is. In this case
22 we think that it would be reasonable that if
23 interveners want to ask questions or make submissions
24 that rely on any of the confidential information on
25 the record in this proceeding, that they be invited to
26 explain why that information is relevant to what the

1 Commission is doing here, just so we have some sense
2 of purpose.

3 THE CHAIRPERSON: Yes, fair enough. Okay.

4 **Proceeding Time 10:43 a.m. T24**

5 MR. CHRISTIAN: And those are all of my submissions,
6 and I think with that, the BC Hydro witnesses are
7 ready to take the stand. I think we are doing this as
8 an SRP still, so I understand they'll be affirmed, but
9 I am not going to do a formal direct type that we
10 would do in an oral hearing.

11 THE CHAIRPERSON: Thank you, Mr. Christian. Okay.
12 Mr. Weafer?

13 MR. C. WEAFER: Thank you, Chair, I just want to
14 understand, maybe I missed it, but Hydro in the letter
15 speaks of in scope or out of scope issues, and I'm
16 just trying in my own mind understand whether that was
17 based on what they were alleging was in scope in B-11?
18 Or otherwise? Because if this Panel isn't dealing
19 with questions that are now -- and issues that are in
20 scope as ruled by the Panel, we should just get a
21 heads-up on that. I just don't know, I'm not trying
22 to be difficult here, I just want to understand
23 whether this panel is dealing with the issues that BC
24 Hydro identified or argued were not going to be in
25 scope? And if I missed it, I just want to clarify
26 that.

1 THE CHAIRPERSON: All right. Mr. Christian?

2 MR. CHRISTIAN: Well, this panel has a presentation it
3 has prepared, and it didn't obviously anticipate the
4 Commission's ruling in any material way. It could
5 have, obviously understood that it could go any number
6 of different ways. But, remember, the reason for the
7 way it's done its preparation is to kind of have some
8 reasonable chance of getting the SRP done and be
9 successful. And so, it has taken our approach to the
10 questions that I think was probably reflects the
11 limited scope that we thought was appropriate, but the
12 Commission has made a ruling that allows for a broader
13 scope of questions. So, after the BC Hydro witnesses
14 are done, they will be asked questions. Any
15 objections I might have made, I will not be making in
16 light of the Commission's scope ruling.

17 THE CHAIRPERSON: Thank you. And to the extent that
18 the panel is able, I assume they'll answer the
19 questions, and if not, there could be an undertaking
20 to respond to them?

21 MR. CHRISTIAN: That's right.

22 THE CHAIRPERSON: Mr. Weafer?

23 MR. C. WEAFER: Thank you, no that's fine, I just
24 wanted to understand.

25 THE CHAIRPERSON: Thank you. We are ready for the
26 panel now, thank you.

1 **BC HYDRO PANEL:**
2 **MARK SEONG, Affirmed:**
3 **ANTHEA JUBB, Affirmed:**
4 **GREG SIMMONS, Affirmed:**
5 **DEMETRIOUS JIM PAPADOULIS, Affirmed:**
6 THE CHAIRPERSON: Mr. Bemister, do we still have all
7 our remote audience? They can see the presentation
8 can they? I just want to make sure?
9 Is our remote audience happy? Can they see
10 the presentation?
11 MS. DOMINGO: The presentation, Mr. Chair, is not being
12 broadcast. We (inaudible).
13 THE CHAIRPERSON: Okay, so they can --
14 MS. WORTH: I will say I can't see a presentation.
15 THE CHAIRPERSON: Okay, you can follow along then,
16 right? Thank you.
17 **PRESENTATION BY PANEL:**
18 MS. JUBB: All right, well we are very happy to be here
19 today, to talk about our application for BC Hydro's
20 public fast charging rates. And as mentioned, we've
21 got a presentation, and we'll also use this
22 presentation to address some of the questions in
23 advance of the streamlined review process.
24 I will do my best also to read out the
25 slide numbers for those who are following along
26 remotely. And I believe Allwest are going to advance

1 the slides? Okay, thank you.

2 So, moving to slide 2, today we are here to
3 seek approval of our proposed rate schedules 1360,
4 1560, and 1561, and we confirm that full cost recovery
5 is a long-term objective, but it's not possible over
6 the near term. As station utilization increases,
7 revenue and cost recovery will also increase. If
8 rates are too high, we can reasonably expect that
9 utilization will drop, and that would worsen revenue
10 and cost recovery.

11 So, ideally the proposed rates will
12 maximize revenue collection from the users of the
13 stations, and that will reduce cross-subsidization to
14 other ratepayers.

15 The rate design that we are putting
16 forward, however, is subject to constraints. Metering
17 and billing systems do not yet support electricity
18 based rate designs, and particularly as this is a new
19 service the design should be easy to understand and
20 practical to implement.

21 **Proceeding Time 10:49 a.m. T25**

22 In addition, there's uncertainty that
23 cannot be resolved until we complete monitoring and
24 evaluation. Examples of questions we're very
25 interested in but time is required to answer them,
26 including questions such as, do the benefits of more

1 sophisticated rate designs justify their addition
2 costs and complexity? Would a different pricing
3 better maximize revenue? What is the fully allocated
4 cost of service, and is a new class of service
5 justified?

6 So now I'm going to turn to some questions
7 received in advance of the SRP that are relevant to
8 this slide. So we received questions asking to
9 confirm whether or not there's a cost of service or
10 economic basis for our proposed rates. And if not,
11 then why should the BCUC approve the rates? And how
12 does our application consider the interests of all
13 ratepayers? For the transcript, examples of such
14 questions include, Exhibit C7-6, BCOAPO 25.3, 25.4,
15 27.1, 27.1.1 and 35.1; as well as Exhibit C6-4, CEC
16 question 4.2; and Exhibit C20-5, Suncor question 5.1.

17 So, we confirm that the proposed rates are
18 not based on cost of service as that term normally
19 applies to rate design. By making the electric
20 vehicle charging stations a prescribed undertaking,
21 the government has mandated that public utilities such
22 as BC Hydro have a role to play in providing this
23 service even though the rates cannot recover the full
24 cost right now.

25 To the extent that the BCUC sets a revenue
26 maximizing rate, that will support BC Hydro's

1 involvement in a electric vehicle fast charging
2 market, which is consistent with public policy. It
3 will also reduce cross-subsidization, which is
4 consistent with the economic interests of all
5 ratepayers. So, in that sense, the relevant ratepayer
6 economic consideration for this application is to set
7 the revenue maximizing rate to to reduce cross-
8 subsidization.

9 Now, we do not have perfect information on
10 what that revenue maximizing rate is. We do expect
11 that if the rate is set too high it will harm
12 utilization and revenue. And that increasing the
13 rates above our proposal could harm economic interests
14 of ratepayers by reducing revenue.

15 We also received questions in advance of
16 the SRP relevant to this slide on when we expect to
17 achieve the level of utilization that would be
18 required for full cost recovery and how much we expect
19 utilization might grow. So, for the transcript, I'll
20 read out some questions on this topic. Exhibit C7-6,
21 BCOAPO question 25.1 and 25.2; and Exhibit C6-6, CEC
22 question 29.2.

23 Ideally, and it is our aspiration, that we
24 would reach full cost recovery by the time we file our
25 evaluation and potential rate redesign in 2024. We
26 note, however, that the Rocky Mountain Institute's

1 rate design study for fast charging services, which we
2 referenced on page 31 of our application, that study
3 indicates that a fully mature market could reach
4 utilization of 30 percent, however that it could take
5 ten years to get there. So while it is our aspiration
6 to reach full cost recovery by 2024, we recognize
7 there is some uncertainty of if we'll have
8 utilizations at that level by then.

9 We also received questions in advance of
10 the SRP about the rate design and whether or not the
11 simple time based rate design is valid. For example,
12 Exhibit A-13, BCUC 3.1. Time based rate designs are
13 not wide spread in the electric utility industry but
14 they are used. And I wouldn't say they're
15 particularly uncommon. And in BC Hydro's case, for
16 example, our street light service rate design, which
17 is set by the BCUC rate schedule 1701, is a time based
18 rate, and it provides both electricity and the use of
19 an asset. In that case, a light fixture. So it's
20 somewhat similar to this electric vehicle fast
21 charging service. So, yes, the time based rate is
22 valid.

23 **Proceeding Time 10:54 a.m. T26**

24 We received a number of questions about why
25 are we proposing a simple rate design at this time as
26 opposed to more sophisticated rate designs that might

1 include things like dynamic pricing and idling fees,
2 and whether also we'd be open to implementing an
3 electricity based rate design. So examples of such
4 questions include Exhibit A-13, BCUC question 3.3,
5 3.4, 3.4.1, 4.2, 13.1, and 37.3; as well as Exhibit
6 C20-5, Suncor 3.4 and 3.5. So lots of interest in
7 more complex and more sophisticated rate designs.

8 However, given that this is a new service,
9 at this point we think it's prudent and important to
10 set a rate that is easy to understand and practical to
11 administer. And there's two main reasons for this.
12 The first one, which is important particularly in the
13 context of cross-subsidization, is that additional
14 complexity in rate design imposes additional costs.
15 So there could be costs such as metering and billing,
16 and customer communication that would be more costly
17 to implement than a simple time-based rate. And at
18 this time we don't have enough information to know
19 whether those additional costs are justified and we
20 plan to examine those questions through the
21 evaluation.

22 And the second reason that a simple and
23 stable rate is preferable at this time is to encourage
24 utilization and remove any barriers to station usage.
25 More complex pricing in general in rate design can
26 create a barrier to utilization as it reduces cost

1 certainty for the users of the service.

2 I'm now moving on to slide 3, please. BC
3 Hydro conducted extensive customer and stakeholder
4 research for this application, including: personal in
5 depth interviews to test the survey questions, nine
6 such interviews; a public survey targeting our
7 electric vehicle network members, we've received over
8 4,000 responses; and a public workshop targeting
9 stakeholders and organizations. We received almost
10 360 responses with feedback from that public workshop.

11 Now my colleague, Mr. Simmons, will speak
12 to slide 4. Slide 4, please.

13 MR. SIMMONS: Slide 4, please. Thank you, Ms. Jubb.

14 To help inform the development of BC
15 Hydro's fast charging rate, a survey was undertaken
16 during August and September of 2020. For the purpose
17 of this survey Leger was retained. And that's *leh-jer*
18 or *leh-jay*, that's L-E-G-E-R. The survey received
19 about 4,200 responses and it is expected that most, if
20 not all, survey respondents were EV drivers in BC
21 Hydro's -- and in BC Hydro's view this is reasonable
22 since the vast majority of non-EV drivers would likely
23 lack the knowledge and context necessary to respond to
24 the suite of questions that were included in the
25 survey.

26 So the survey highlights are 59 percent

1 indicated charging a rate for the use of public fast
2 charging stations was reasonable, and 74 percent
3 indicated being free to charge was the main reason
4 they were using the stations, and 49 percent indicated
5 they would stop using the stations if a charge or a
6 fee was imposed for use.

7 So these results suggest that many users
8 are or likely are price sensitive. And with respect
9 to the pre-SRP questions, BC Hydro received a number
10 of questions including on what basis we believe
11 customers are price sensitive and whether or not
12 survey respondents provided answers that are self-
13 serving. This includes CEC Exhibit C6-4, questions
14 2.1, 4.1, and 15.3; Suncor Exhibit C20-5, questions
15 3.1.

16 So in response to these questions I note
17 the following: about one-third of the respondents
18 indicated that they would choose the less expensive
19 charger with a longer wait time. In other words, they
20 would be willing to wait in line if the rate was
21 lower. So the rate was implemented on May 1st of this
22 year, and so prior to that it was free. So in April
23 it was a free service, in May the interim rates it was
24 21 cents for a 50 kilowatt charger was put into place.

25 **Proceeding Time 10:59 a.m. T27**

26 The results following implementation of the

1 rate was a significant reduction in use in our
2 stations, which are generally consistent with the
3 findings of the survey. So in April we had --
4 throughout our entire system we have 25,500 charging
5 sessions for our stations, and I believe it was 97
6 stations in April. In May that dropped by 53 percent
7 to 12,000 charging sessions. In June there was a bit
8 of an increase and the resulting decline was about
9 14,000 charging sessions. So clearly the rate had a
10 big impact on the use of large charging stations.

11 Another thing that happened after the rate
12 was implemented is that it was a time-based rate. And
13 so what that means in a time-based rate is, depending
14 on your vehicle, you can actually receiving differing
15 amounts of kilowatt hours for a charging session of
16 the same time. So let's say a vehicle is capable of
17 charging at 50 kilowatts, over an hour it will get 50
18 kilowatt hours. But if your vehicle is one that's
19 only capable of charging at 20 kilowatts, during that
20 same hour charging session you will only get 20
21 kilowatt hours.

22 So if you divide that rate per hour by the
23 amount of energy delivered, the person who has a 50
24 kilowatt capable vehicle, it's far cheaper on a per
25 kilowatt hour basis to receive that energy. So we
26 would --

1 THE CHAIRPERSON: Sorry, just to -- sorry to inter- --
2 is it all right if I interrupt with questions?

3 MR. SIMMONS: Yeah, mm-hmm.

4 THE CHAIRPERSON: Just a quick question, perhaps of Ms.
5 Jubb. You mentioned streetlight rates as being flat
6 rates, or time-based rates as a comparator. Is there
7 a similar phenomenon with streetlights, that different
8 streetlights have different power usage profiles so
9 that, you know, this discriminatory issue that Mr.
10 Simmons is bringing up, that some cars use more
11 electricity than others, do you run into that with the
12 streetlight rates too?

13 MS. JUBB: One minute, please.

14 So to an extent, but I would say it's a
15 much lesser extent, and the reason there is some of
16 that in streetlighting is -- I'm just going to the
17 Rate Schedule 1701, and what you'll see there is that
18 the charges cover a range of wattages. So for
19 example, all fixtures less than 50 watts are charged
20 \$15 a month. So yes, there is a range in there. It
21 doesn't -- and the next level up, all fixtures between
22 51 and 80 watts are charged the same \$18.99. So it
23 does show up in Rate Schedule 1701. It might not be
24 quite as pronounced as in the electric vehicle
25 situation.

26 THE CHAIRPERSON: Okay. Sorry to interrupt, just

1 curious.

2 MR. SIMMONS: So the individual with the car that can
3 charge it at a capacity rate of 20 kilowatt versus the
4 individual at 50 kilowatt, the one with the 50
5 kilowatt will get two and a half times more energy.
6 So what we would expect from behaviour, if customers
7 were indeed price sensitive, is that we would notice
8 that the average power level per charging session
9 across the month would actually go up as those
10 individuals with the lower power capable charging in
11 their vehicles would self-select away from the fast
12 charging because they are paying a higher rate. And
13 indeed, that's exactly what we found, so.

14 During the month of April, which is again
15 before the implementation of the interim rate, the
16 average power level was 31.7 kilowatts. In May it
17 increased to 34.5 kilowatts and in June it increased
18 again to 35.5 kilowatts. And so we did notice this,
19 this self-selection which is somewhat predictable and
20 the data seems to be bearing that out in terms of
21 whether or not customers are price elastic.

22 Now, with respect to the assertion that our
23 survey was self-serving, I would note that a majority
24 of survey responses, 59 percent, indicated support for
25 introducing a rate, and so in the face of it, it goes
26 against the notion that the responses were self-

1 the time based rates have been in effect for quite
2 some time. And so I was, actually. And we do receive
3 letters of complaint from time to time from
4 individuals that are -- they charge their vehicle and
5 they find they only get 17 kilowatt hours during their
6 length of time. And then they say, well, that's not
7 very much because you have a 50 kilowatt charger. So
8 in that case the individuals don't -- they don't know
9 the limitations of the charging capability of their
10 vehicle. So, but I think in answer to your question,
11 I was a bit surprised.

12 But, so currently our network management
13 system cannot bill by kilowatt hour. And the reason
14 for that is simple, they're not going to build that
15 functionality into their charger. It's largely --
16 it's a Canadian firm, largely serving the Canadian
17 market. Until Measurement Canada, and my colleague,
18 Mr. Papadoulis, will talk about this in a subsequent
19 slide, until Measurement Canada approves per kilowatt
20 hour billing for direct current measurement.

21 Our network management service provider,
22 AddEnergy, has indicated that a per kilowatt hour
23 billing functionality in their system will be in place
24 by the spring of 2022. And we don't expect that to
25 come at any cost to BC Hydro. It will -- just, it's
26 in their product roadmap and they view it's something

1 that they need to put into place.

2 The other interesting outcome and result
3 from the survey was station user's value amenities and
4 service that are associated with the charging
5 stations. We had one pre-SRP question as to whether
6 or not customers are charged by -- customers are
7 charged by time but actually are purchasing
8 electricity for their EVs. And as it was discussed,
9 it is true that the product that they're getting is
10 electricity, but there's also a time base element to
11 the charging session. And that is is that there's a
12 parking space there and then there's charging
13 equipment there. That really is for the exclusive use
14 of the customer while they're charging their vehicle.

15 So there is notionally a time element to
16 the use of this resource. It's similar to a hotel
17 room, you pay by time, you pay by day. When you're in
18 that hotel room they can't rent it out to anybody
19 else. And it's similar to a charging station. So,
20 while per kilowatt hour has elements of fairness to
21 it, time base is -- it's appropriate to some extent
22 for rate design.

23 Yeah, and I'll go to the next slide, slide
24 5, which shows some of the --

25 COMMISSIONER FUNG: Sorry, before you do that, Mr.
26 Simmons, I just have a question with respect to

1 customer behaviour once you started charging for the
2 EV service. Did you notice any difference with
3 respect to the length of the charging sessions once
4 you started charging for the service?

5 MR. SIMMONS: I might have that statistic. Offhand, I
6 don't know. I could actually do that calculation,
7 maybe I'll come back to that. Because I have the data
8 here, I just have to run the numbers.

9 COMMISSIONER FUNG: Yeah, thank you.

10 MR. SIMMONS: So not to bog down the presentation, but
11 we can certainly do that very quickly.

12 COMMISSIONER FUNG: Thank you very much.

13 MR. SIMMONS: A survey highlight. So, survey
14 respondents were asked which of the following
15 attributes would you prioritize in the design of
16 future BC Hydro fast charging stations. And 19
17 percent overwhelming indicated that having more than
18 one station, multiple stations, at the site is
19 preferable.

20 **Proceeding Time 11:09 a.m. T29**

21 And I'd just like to note that we have
22 quite a few single charger stations in the field right
23 now. For various reasons we're in the process of
24 expanding those charger stations. I'll get to that
25 later. But certainly customers don't want to wait.
26 If there's queueing and congestion at a station, it's

1 just -- you know, rather than 30 minutes at a station,
2 they have to wait 45 which is not something the
3 customers would want.

4 Easy to find, convenient locations. And
5 so, you know, if the station is hard to find, then
6 it's not going to be particularly appealing. We have
7 efforts in place to put signage on highways for our
8 charging station.

9 Safe locations. Well lit, with a view of
10 the street, not in a back alley or anything like that.

11 And then nearby amenities, like a grocery
12 stores. We have numerous stations adjacent to grocery
13 stores, which are some of our busiest locations on our
14 network. And the availability of washrooms and
15 amenities like that are seemingly quite important to
16 customers.

17 And when we -- and I'll talk about this a
18 bit later, after the presentation, but when we do look
19 for stations and look at potential sites, amenities is
20 a real key factor of what we look for in placing a
21 station. You want it close to -- for 30 minutes, you
22 want something to do during that period, so.

23 And then I'll hand it over to my colleague
24 Mr. Papadoulis for slide 6.

25 MS. JUBB: Oh, not just yet, Mr. Simmons. I'm going to
26 take slide 6 and 7 and then we'll turn it to Mr.

1 Papadoulis.

2 MR. SIMMONS: My apologies.

3 MS. JUBB: So advancing to slide 6, please. So we
4 also have a public rate design workshop which is
5 standard practice for our rate design applications,
6 and we did get some interesting feedback from that
7 workshop. We had very strong support for different
8 rates for the different power level of stations. We
9 have -- although the majority, the overwhelming
10 majority of our stations are 50 kilowatts, we also
11 have 25 and in future we'll have a 100 kilowatt
12 station. We were considering for simplicity charging,
13 or proposing the same rate for all station levels, but
14 there was strong support for different rates for
15 different charging station levels. So that is what we
16 have advanced, the three different rate schedules that
17 vary based on the station power level.

18 There was also preference for the 50
19 kW station rate to be less than 25 cents per minute,
20 and that's reflected in our application. We're
21 proposing 21 cents a minute.

22 And we also consulted on special conditions
23 in that workshop and there is support for BC Hydro to
24 be able to temporarily waive charges in the event of a
25 service interruption related to a technical or network
26 issue.

1 So as mentioned, there is just a wide
2 variety of prices and services that are available and
3 you can see that for the 50 kilowatt station the rates
4 range from free for the Ministry of Transportation up
5 to a high of Fortis' proposed rate of over 56 cents
6 per minute. Likewise, the amenities, there's just a
7 lot of range in the types of amenities that are
8 offered from none, just essentially a plug-in at a
9 curbside which is most of BC Hydro's stations, to
10 extensive such as ample lighting, weather shelters,
11 on-site food and beverage sales, car washes, staff and
12 restrooms. Further, the business models of these
13 providers vary widely as they range from government
14 ministries to private companies that operate retail
15 gas stations.

16 For example, in BCUC's inquiry into the
17 gasoline and diesel prices in British Columbia, their
18 final report from August 30th of 2019, provided some
19 insight into the business model of retail gas station
20 operators. On pages 93 and 94 of that report the
21 Commission found that it's not uncommon for fuel
22 retailers to sell fuel at price below the wholesale
23 purchase price as they use competitive fuel prices to
24 drive customer traffic to their location with the
25 intent of selling other consumable high margin
26 products such as convenience store sales.

1 Now, that business model clearly doesn't
2 apply to BC Hydro or the Ministry of Transportation,
3 for example, and it illustrates just the wide range of
4 business models that these providers use and I hope
5 that it can help understand that BC Hydro really
6 doesn't have information on the cost structures and
7 business models of all of these other operators. We
8 really have limited insights into how they run their
9 business and for that reason we're unable to provide
10 information requested about how other operators fund
11 their station operations, for example.

12 This wide range of prices and amenities and
13 business models, it also makes it difficult to develop
14 standard metrics to compare different providers. And
15 we were asked to suggest some standard metrics to help
16 compare charging rates across providers, but we really
17 don't have a set of metrics that we can suggest given
18 the variety that's out there.

19 We have, however, considered the rates of
20 other providers in setting our proposed rates,
21 recognizing the Commission's interest in the level
22 playing field issue. We have considered the rates of
23 others putting forward our proposal of 21 cents per
24 minute, which you can see, I hope, from this slide 7,
25 falls within the range of other providers and is
26 reasonable in the context of other operators.

1 Now my colleague, Mr. Papadoulis, will
2 speak to slides 8 and slide 9.

3 MR. PAPADOULIS: Thank you, Ms. Jubb. Firstly just to
4 ensure clarity during my testimony, when I use the
5 term "AC" I mean alternating current and "December"
6 meaning direct current. I just wanted to make that
7 clear. And also my wife tells me a mumble, so if I do
8 that too, just let me know, please.

9 THE CHAIRPERSON: Okay.

10 MR. PAPADOULIS: So from the slides I point your
11 attention to the diagram and the diagram shows us that
12 there's a revenue meter upstream up our kiosk and our
13 chargers. There's an embedded meter within our
14 charger. The embedded meter is not approved for
15 electricity based transactions. The meter that's
16 upstream of the whole setup there is a standard AC BC
17 Hydro revenue meter and it measures the entire load of
18 the site. So the equipment that's in the kiosk and
19 the energy that's dispensed to the vehicles. That
20 includes any lighting, any losses in transformation,
21 heaters, cooling fans, and that's all upstream of the
22 EV charging load point of interconnection.

23 The BC Hydro metering system isn't designed
24 to perform bill reconciliation on a per charging
25 session basis using our standard AC revenue meter
26 that's in service today. Because billing using the AC

1 revenue meters is not practical or feasible, we have
2 not estimated a time or cost to bill on this basis.

3 **Proceeding Time 11:20 a.m. T31**

4 We received a number of questions about the
5 current constraints to electricity-based rate
6 designs, including Exhibit A-13, BCUC questions 1.2,
7 1.2.1, 1.2.2, 1.3, 1.3.2 and 1.4.

8 There's currently no Measurement Canada
9 approved meter for DC fast charging applications.
10 Measurement Canada has been monitoring the American
11 National Standards Institute, or ANSI, the U.S.
12 National Institute of Standards and Technology, or
13 NIST, and the European Union Standards Developments.
14 Prior to 2021, there was no industry published DC
15 metering standard. Didn't even exist.

16 Because the embedded meters in our chargers
17 are not approved by Measurement Canada, kilowatt hour
18 based electricity transactions are not allowed and the
19 basis of trade must be time based.

20 Time-based DC fast charging stations are
21 exempt from Measurement Canada compliance. The
22 *Electricity and Gas Inspection Act*, or EGIA, and
23 regulations do not apply to time-based transactions.

24 The AC revenue meter that is approved by
25 Measurement Canada is installed on the line side of
26 the DC fast charging station, as I pointed out

1 already.

2 We're also asked about implementing rate
3 designs that vary based on the power draw of the
4 vehicle, such as tiered rates, or rates that change
5 depending on the maximum power the vehicle can take,
6 such as Exhibit A-13, BCUC questions 3.2 and 4.2.

7 First I want to reiterate that this is a
8 new service and it is important to have a rate design
9 that is easy to understand and practical to implement.
10 BC Hydro's understanding is that the tiered rate, the
11 design of a tiered design described would vary the
12 price based on the non-linear power demand of the
13 vehicle. As such, our understanding is that the
14 described rate requires accurate metering of power
15 demand, and if so, then a Measurement Canada approved
16 meter would be required. Otherwise we'd be depending
17 on the accuracy of the embedded, and not approved,
18 meter to create the tiers.

19 The concept described for the Tesla set up
20 is based on the capabilities of a Tesla charger and EV
21 ecosystem. There's proprietary bidirectional
22 communication between the EV and the charger which
23 makes this possible. For our setup, for BC Hydro's
24 setup, the battery management system that's built into
25 the connected EV communicates with our charger and
26 that conversation, that communication, defines the

1 maximum charging power that can be delivered to the
2 car, and that's similar to what's described by
3 Electrified Canada. However, our current billing
4 system can only support a single rate per charger. It
5 cannot vary the rate transactionally based on the
6 multiple tiered levels of power delivery. On other
7 words, the capabilities of our setup limits us to one
8 hard-coded rate per charger.

9 Next slide, please.

10 THE CHAIRPERSON: Sorry, before we go, just a couple of
11 questions. So you said that the chargers have a
12 built-in electricity based metering and billing system
13 but it's not approved by Measurement Canada, correct?

14 MR. PAPADOULIS: Yeah, the embedded meter is not
15 approved.

16 THE CHAIRPERSON: Correct. But the customer does get a
17 report of how much energy they've taken as a result of
18 that.

19 MR. PAPADOULIS: Correct.

20 THE CHAIRPERSON: So a couple of questions about that.
21 One, does that only measure the output, the amount of
22 energy that came out the one end? It doesn't consider
23 what came in the other end and therefore the losses?

24 MR. PAPADOULIS: No.

25 THE CHAIRPERSON: Correct? It's just what's coming
26 out.

1 MR. PAPADOULIS: Correct. It is just what was
2 dispensed to the vehicle. What the vehicle takes away
3 with it.

4 THE CHAIRPERSON: And I appreciate that you're not from
5 Measurement Canada so you may not be able to answer
6 this, and that's fine, but if you have any insight at
7 all, I'd appreciate it. Is the reason that these
8 meters are not approved by Measurement Canada, is it
9 because they just haven't gotten around to it? You
10 know, it's like the drug approval process that we're
11 all, you know, deeply involved in now, of course, is
12 it kind of like that? Or is there a problem with
13 those meters and that's why Measurement Canada hasn't
14 approved them yet?

15 MR. PAPADOULIS: Well, I think, you know, to best
16 answer your question, the entire electricity grid
17 around the world was built on alternating current.

18 THE CHAIRPERSON: Yes.

19 MR. PAPADOULIS: And now with the evolution of solar
20 panels and wind generation and all that kind of stuff,
21 DC is coming onto the marketplace.

22 THE CHAIRPERSON: Right.

23 MR. PAPADOULIS: So it's emerging.

24 THE CHAIRPERSON: Right.

25 MR. PAPADOULIS: So up until now, any electricity
26 transactions took place at alternating current, and

1 now as DC gets more and more popular, especially in
2 vehicles, there's a need for it.

3 So there wasn't really a need for DC
4 metering until in the last five or so years.

5 **Proceeding Time 11:25 a.m. T32**

6 THE CHAIRPERSON: Okay, and so there isn't a known
7 problem, it's just that Measurement Canada hasn't
8 caught up with it yet?

9 MR. PAPADOULIS: Correct.

10 THE CHAIRPERSON: Thank you.

11 MR. PAPADOULIS: All right, on to slide 9 please.

12 So, just a little bit of an update, which
13 is a good segue from your question. ANSI has actually
14 published a DC metering standard in May, and it's ANSI
15 C12.32, and that defines the performance criteria for
16 a revenue grade DC kilowatt-hour energy, and kilowatt
17 demand meters. So, Measurement Canada is now actively
18 working on developing a standard based on the ANSI
19 C12.32. And you know, without being super accurate,
20 we're, as an industry, expecting approval sometime at
21 the end of 2022, maybe Q3-Q4.

22 To that end, Measurement Canada has
23 initiated public consultation process early this year
24 in 2021, to seek input from utilities, from
25 manufacturers, vendors, and so forth. BC Hydro is
26 actively participating in the Measurement Canada

1 consultation.

2 So, again, several questions were received
3 pertaining to Measurement Canada regulations and the
4 potential use of our AC revenue meter for billing
5 purposes such as in Exhibit A-13, BCUC Questions 2.3,
6 2.4, 2.5, 2.6, 5.7, 5.7.1, 5.7.2, 5.7.2.1, 36.1; and
7 also Exhibit C-12-5, Flintoff Question 1.

8 So, the outcome of the Measurement Canada
9 review process will be to develop performance-based
10 standards, that would allow existing and new electric
11 vehicle charging stations that meet -- that of course
12 meet the established technical standards, can bill on
13 kilowatt-hours dispensed.

14 The timeline for this public consultation
15 was stated as 18 months, starting from January 2021.
16 The exact timing of the Measurement Canada decision
17 isn't known, as I stated, and it would probably be
18 inappropriate to speculate on the timing of
19 Measurement Canada approvals.

20 A formal meeting is expected to be
21 scheduled in August with stakeholders, to discuss the
22 proposed plans for approving DC-based metering
23 devices.

24 So, pointing back to the slide 9 at the
25 diagram, you can see we've illustrated there, our
26 revenue meter that's upstream of the whole station,

1 and we've also introduced a new revenue meter that is
2 shown as embedded in the charger, and we are
3 illustrating there that we can measure the energy
4 dispensed on a transactional basis. So, that's the
5 expected future state. And that will enable us to
6 bill for energy.

7 The extent of any hardware upgrades to our
8 charges isn't really known, as Mr. Simmons eluded to
9 earlier, since the regulations are still under
10 development.

11 The embedded meter in the DC fast charger
12 when approved by Measurement Canada will give us a
13 billable kilowatt-hour at the point of
14 interconnection, as I've stated.

15 BC Hydro doesn't support requesting a
16 dispensation from Measurement Canada. So there is a
17 few questions that it listed off earlier pertaining to
18 dispensations. And we don't have a time or cost
19 estimated for Measurement Canada to respond to such a
20 request. Further, BC Hydro is not aware of any cases
21 where a dispensation was granted for EV fast charging
22 across Canada.

23 BC Hydro's view is that the appropriate
24 approach is to work with Measurement Canada to develop
25 appropriate standards, and this is our focus as
26 opposed to seeking a dispensation.

1 THE CHAIRPERSON: Could you just give us some insight
2 into why not? Why you were, as you put it, opposed to
3 seeking? And secondly, why you seem to be suggesting
4 that those are mutually exclusive approaches, seeking
5 a dispensation and working with Measurement Canada on
6 the approval. Could you not do both?

7 **Proceeding Time 11:30 a.m. T33**

8 MR. PAPADOULIS: I would say to answer that question,
9 the dispensation issue isn't -- it would be a parallel
10 process but it would also take probably a very long
11 time, because it's not very common across the country,
12 and to that point, the only time that we've received a
13 temporary dispensation was in -- when we implemented
14 our Smart Meter infrastructure program, when we put in
15 our Smart Meters in around 2010 and that was only
16 because we had a series of meters that needed approval
17 from Measurement Canada, and it took them four years
18 to get through that approval. So they said, "Go ahead
19 and put them in service, we'll give you a
20 dispensation." And then they quickly rescinded it as
21 soon as they gave us that approval.

22 THE CHAIRPERSON: What's the cost of applying? I mean,
23 what's the downside to applying for a dispensation?

24 MR. PAPADOULIS: I don't know. I don't know.

25 THE CHAIRPERSON: So what's the reason that BC Hydro is
26 opposed to it then?

1 MR. PAPADOULIS: The reasoning being is that there is
2 this consultation process that's ongoing. It's
3 involving utilities, it's involving the Canadian
4 Electricity Association, vendors. That process is
5 ongoing and Measurement Canada is focusing on that
6 rather than having every utility or other party come
7 to them with a dispensation. You know, that's their
8 focus, is creating a standard, rather than giving
9 people --

10 THE CHAIRPERSON: But that supposes that they can't do
11 both? You're presupposing they can't do both.

12 MR. PAPADOULIS: I am, yes. You know, my staff that
13 works with them, you know, does tell me that they are
14 very under-staffed and even when we interact with
15 them, it takes time just to get simple answers on
16 questions. So their focus is on creating that
17 standard collaboratively and I think if every utility
18 came at them with a dispensation, it would probably
19 grind everything to a halt.

20 THE CHAIRPERSON: Okay, thank you.

21 MR. PAPADOULIS: You're welcome.

22 Just for completeness sake, a more recent
23 dispensation was issued by Measurement Canada at no
24 one's request but it was due to COVID, in March 2020.
25 Because, of course, we didn't have mobility to go and
26 do our inspections and remove meters. They couldn't

1 come and inspect our meter shop labs and so forth, so
2 they were forced to put that in place just so we
3 didn't fall out of compliance.

4 THE CHAIRPERSON: So that was around inspection time.

5 MR. PAPADOULIS: Correct, yeah.

6 THE CHAIRPERSON: Thank you.

7 MR. PAPADOULIS: You're welcome. If there's no
8 further questions, Ms. Jubb will carry on with slide
9 10.

10 MS. JUBB: Thank you. Slide 10 now. This slide
11 describes our rate design approach and I'm using the
12 50 kW station to illustrate as that's by far the most
13 common station power level we have.

14 So our approach was to first calculate
15 hypothetical rates in cents per minute that would be
16 required to cover different levels of costs from
17 electricity only, to electricity plus maintenance, to
18 electricity plus maintenance plus capital cost. We
19 then identified a range of utilization that we
20 believed to be reasonable over the near term, and that
21 range is between 3 and 5 percent. From there we were
22 able to calculate the rates that would be required to
23 recover at least electricity related costs at these
24 reasonable utilization levels, and those rates fall
25 between 17 and 25 cents per minute.

26 We selected 21 cents per minute which is in

1 the middle of that range based on considering the
2 jurisdiction review of prices, as well as our customer
3 and safholder feedback. And our goal of maximizing
4 our venue to reduce cost impacts to all ratepayers.

5 As we recognized that many customers have a
6 choice of where to charge – they can charge at home,
7 they might be able to charge at work, they might be
8 able to charge at other fast charging stations or
9 level 2 station that are free. So in many cases
10 there's choices available to customers where they
11 charge. So given that, it's important that we set a
12 rate that's not so high as to drive the customers
13 away.

14 **Proceeding Time 11:35 a.m. T34**

15 We believe that at the utilization levels
16 expected, 3 to 5 percent, our proposed rate -- or
17 hypothetical rate, not our proposed, excuse me. But a
18 hypothetical rate that would recover all of
19 electricity plus maintenance plus capital cost would
20 be so much higher than alternatives available to other
21 customers that we could reasonably expect it to harm
22 utilization and revenue. It would be well over \$1 per
23 minute, which is far outside the range of other
24 providers and well in excess of other options
25 available to customers.

26 So, I'm going to now also speak to some

1 questions related to this slide that came in advance
2 of the SRP about which costs are currently and which
3 costs should ultimately be recovered by the rate and
4 how the rate relates to revenues.

5 So as we noted in our application, our
6 long-term rate design objective is that this rate
7 cover all the costs of service that are directly
8 attributable to fast charging service, within the
9 practical constraints of data tracking. So examples
10 of costs that on a principle basis ultimately we would
11 like this rate to be able to recover do include things
12 like the cost of any necessary ancillary equipment,
13 such as lighting or heating; the costs of overhead,
14 such as labour; the cost of call centre support that's
15 required to support customers of the service.

16 On a principle basis, ideally and
17 ultimately, this rate should cover all of those costs
18 and then it would be a full cost of service based
19 rate. But at this time we are far away from full cost
20 recovery or being able to do a full cost of service
21 rate. And, in fact, we reasonably expect to recover
22 approximately 20 percent of an estimated full cost.

23 There's also a consideration, which is I
24 think a very valid consideration for this new service,
25 is that there is some costs that we won't actually
26 know what they are until we get through the evaluation

1 process. In particular, the demand related costs.
2 And I'll speak a little bit more to that in a
3 following slide.

4 So, given that we cannot recover, we know
5 we cannot recover, full cost of service, and there's
6 some costs that we can't quantify right now, we will
7 acknowledge that the presentation of costs in the
8 application is not exhaustive. It does not include
9 the costs that I just mentioned, such as some overhead
10 costs and the costs related to providing ancillary
11 equipment at the station. The cost of those ancillary
12 equipment though were calculated in our rebuttal
13 evidence.

14 So, and now I would like to move on to
15 slide 11, please.

16 COMMISSIONER FUNG: Sorry, Ms. Jubb, before you move on
17 I do have a question with respect to the rate as well
18 as the experience you've had since we approved the
19 interim rates on March 23rd. You've now had four
20 months of experience under these new rates. Can you
21 tell me what your data shows you in terms of what the
22 average utilization rate has been in that four-month
23 period? Does it bear out your assumptions that you're
24 targeting it between 3 to 5 percent at 21 cents?

25 MS. JUBB: To clarify, I wouldn't describe the
26 utilization as a target. I mean, our ideal target is

1 over 20 percent and that would give us full cost
2 recovery. So it's more of a range of what seems to be
3 reasonable. And in respect of what the data shows so
4 far, perhaps Mr. Simmons could speak to that?

5 MR. SIMMONS: Sure, thank you, Ms. Jubb.

6 So our overall system or network
7 utilization rate in April was 20.3 percent, and that's
8 on a timed 24-hour clock basis. Meaning that across
9 our network for all stations 20.3 percent of the hours
10 or minutes where somebody plugged into the station on
11 average.

12 **Proceeding Time 11:39 a.m. T35**

13 THE CHAIRPERSON: So that's comparable to the 3 to 5
14 percent in your hypothetical then, is that what you're
15 saying?

16 MR. SIMMONS: Sorry, the --

17 THE CHAIRPERSON: That's measured on the same --

18 MR. SIMMONS: It is, correct. Yeah.

19 THE CHAIRPERSON: Yeah. So I should be looking at the 20
20 percent and comparing it to the 3.5, 3 to 5 in your
21 hypothetical?

22 MR. SIMMONS: Yeah, exactly. I mean there's two ways
23 to do it, one is on the energy capacity --

24 THE CHAIRPERSON: Right. But these are all time based.

25 MR. SIMMONS: But this is purely time, yeah.

26 THE CHAIRPERSON: As is the three to five.

1 MR. SIMMONS: Yes, correct. So that was 20.3 percent
2 before the rate implementation on May 1st, so that was
3 for the month of April. For the month of May it fell
4 to 8.1 percent and for the month of June it increased
5 to 9.6 percent. Bear in mind there is a bit of
6 seasonality in here, with the onset of the summer
7 driving season we expect to see the rates bump up a
8 little bit in the summer.

9 COMMISSIONER FUNG: Thank you.

10 MS. JUBB: So it is very nice to see utilization at
11 those levels. Whether or not it will persist is to be
12 determined and the extent to which utilization is
13 higher than 3.7 percent is to the benefit of all
14 ratepayers. It means that we're able to recover more
15 than just electricity only costs.

16 THE CHAIRPERSON: What is this slide we're looking at?
17 Is this your elasticity estimates, is that what this
18 is?

19 MS. JUBB: No -- slide 11? Are we on slide --

20 THE CHAIRPERSON: Yes, yes.

21 MS. JUBB: We're on slide 11, right? So slide -- so
22 coming back to the slide deck, what slide 11 depicts
23 is the rates in cents per minute at what we reasonably
24 expect to be the range of utilization over the near
25 term, what the rates would be to recover different
26 levels of costs. So I'll focus on the 3.7 percent

1 utilization. Our proposed rate of 21 cents per minute
2 would recover electricity related costs, including
3 demand related costs under the applicable general
4 service rate, at utilization of 3.7 percent. A rate
5 of \$1.06 per minute would be required to recover full
6 cost of service at that level of utilization.

7 THE CHAIRPERSON: But you're getting actual utilization
8 rates of 8 and 9 percent though.

9 MS. JUBB: Yes, for these two months we are, yeah.

10 THE CHAIRPERSON: But you're not modelling that in this
11 table?

12 MS. JUBB: We have -- this table does not show that.
13 There is -- bear with me.

14 MR. SIMMONS: I think one thing that needs to be
15 considered here is that the utilization follows the
16 rate, it's not the other way around. Computationally
17 utilization, you plug it in the model, you'll get a
18 rate out of it. But generally if you put a price
19 signal out there, the utilization will follow that,

20 MS. JUBB: That's our expectation.

21 So to address the question as I understood
22 it, on page 31 of our application we do show
23 illustratively at a utilization rate of 10 percent the
24 rate that would be required for different levels of
25 cost recovery. And that is shown on Table 3.

26 At this point though, we're not confident

1 to hypothesize that we'll be able to maintain
2 utilization levels of 9 percent year round and across
3 all of the stations. We have the two months of data
4 which are very promising. Whether or not that will be
5 sustained, we're really not in a position to know
6 right now. But to the extent that it is, it is to the
7 benefit of all ratepayers as it will result in
8 additional revenues to reduce cross subsidization.

9 I did have some questions that came in
10 advance of the streamlined review related to this
11 slide, which I'll move on to now.

12 **Proceeding Time 11:44 a.m. T36**

13 I wanted to acknowledge on this slide a
14 question on Exhibit C6-6, from CEC 29.2, about whether
15 the rate of 25 cents per minute might be more
16 appropriate than 21 cents per minute to ensure at
17 least recovery of electricity related costs.

18 We did consider this range of rates from 17
19 to 25 cents per minute in developing our proposed rate
20 of 21. And we acknowledge that CEC's suggestion of 25
21 cents per minute, it does fall within that range under
22 reasonable and perhaps conservative utilization
23 assumptions.

24 We believe 21 cents per minute, though, is
25 still appropriate, considering customer feedback and
26 stakeholder feedback indicating preference for a rate

1 below 25 cents per minute, and also considering the
2 jurisdiction review of prices, 21 cents per minute
3 puts us more closely in the middle there. So,
4 acknowledge the 25 cents per minute falls within the
5 range, and we do believe the 21 cents is more
6 appropriate considering those other factors.

7 COMMISSIONER FUNG: Can I just stop you there, Ms.
8 Jubb. When you say it is within the range, I
9 understand what you're saying that it's the range as
10 established by BC Hydro, which is between 17 and 25,
11 but then when I look at your slide where your
12 jurisdictional review summary on slide 7, I have to
13 say that I take a look at that and I say, well other
14 than the entities that are providing it for free, and
15 other than the City of North Vancouver, which is a
16 municipal provider that provides parking charges on
17 top of the EV charging rate, you are the lowest at 21.

18 So, is that something that you took into
19 account when you picked 21 as the appropriate rate to
20 propose?

21 MS. JUBB: So, we did not weight the rates of other
22 service providers in developing our proposed rate. We
23 did not undertake a formal weighting in that respect.

24 We would note that the nature of the
25 service that BC Hydro provides in terms of the types
26 of amenities is arguably closer to the other municipal

1 providers than the private sector providers, that also
2 provide things such as onsite staff, washrooms and
3 other amenities that we're not able to offer.

4 COMMISSIONER FUNG: Well, not exactly true when you
5 look at what Fortis has proposed with respect to its
6 EV charging rates. They are substantially higher.

7 MS. JUBB: That's true.

8 MR. SIMMONS I think I'd like to add that another
9 distinguishing characteristic here is the upper level,
10 or the upper limit on power delivered. So, for
11 example you could say, well PetroCanada is 27 cents,
12 that's above 21 cents. It's equivalent to our 100-
13 kilowatt proposed rate. If they can deliver up to 350
14 kilowatts in power, which is seven times what our 50-
15 kilowatt charger is, and three and a half times what
16 our 100-kilowatt charger --

17 THE CHAIRPERSON: Sorry, you're talking about Fortis
18 here?

19 MR. SIMMONS: No, PetroCanada. So, it's a bit of an
20 apple and oranges comparison on that way, on the
21 delivery of what we talked about earlier, what
22 customers value is the electricity that is delivered
23 to their vehicle. And so that needs to be normalized
24 before you make the comparison amongst jurisdictions,
25 and amenities as Ms. Jubb had pointed out as well.

26 COMMISSIONER FUNG: Thank you.

1 COMMISSIONER LOCKHART: Can I just ask you to clarify,
2 who is a "stakeholder" that is not a customer?

3 MS. JUBB: Examples of stakeholders would be the
4 parties who are here today, for example who came to
5 the public workshop. We did invite interveners, we
6 also had municipalities are interested in this topic,
7 so we had a number of municipalities and regional
8 government participate. I would also argue that the
9 ratepayer groups are stakeholders, the electric
10 vehicle network would be a stakeholder.

11 COMMISSIONER LOCKHART: Okay, thank you.

12 COMMISSIONER FUNG: I think you are on slide 12.

13 MS. JUBB: Yes, thank you.

14 THE CHAIRPERSON: Sorry, just also to clarify, the
15 people that you asked in your survey, those who are --
16 did you select those, or was there any part of the
17 selection process to indicate that they were people
18 that had used your charging stations while they were
19 free?

20 MR. SIMMONS: Well, I can maybe answer that. So, the
21 survey went out while our stations were free --

22 THE CHAIRPERSON: Yeah.

23 MR. SIMMONS: -- and there were two groups. One is the
24 smaller, sample group. I think there was about a
25 thousand, or 1500. They had both --

26

Proceeding Time 11:50 a.m. T37

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There was two surveys that actually -- Part A, Part B. Part A was on customer experience and talked about, you know, whether it was easy to use and things of that nature. And the Part B talked about the actual rate consideration.

So the smaller group got both of those components, Part A and Part B. Those individuals were selected from the group that actually phoned our Customer Contact Centre with issues when they're charging and so we get, I think, about 400 of those calls a month. So of that population we said -- so I think the answer to that is probably, yeah, they are using our service.

The larger group, those -- so when you sign up to use our service you put in your name, email address and then some credit card information for payment, and that makes you a member of BC Hydro's network. The larger group, the second group, I think it was about 10,000 notifications went out, went to all those members.

In addition to that, we understand that the weblink to the survey was included on some other websites, and I'm not sure what websites they were, but I suspect they were EV related ones. So maybe user groups or something like that.

1 So whilst the majority would have been --
2 if they're members of our network, they probably use
3 our station. There's really no other reason to sign
4 up. That small residual, and I'm assuming it's a
5 small residue that responded to the link going out to
6 the larger public, we don't know whether or not they
7 are. But I think it's safe to say that the majority
8 of them were.

9 THE CHAIRPERSON: Okay. Because it seems to me that if
10 you survey a group of people that you've been giving
11 away things to for free, and ask them what you should
12 charge for it, well, there's no surprise that, what
13 was it, 59 percent of them said they wouldn't pay for
14 it.

15 MR. SIMMONS: No, 59 percent said that we should have a
16 rate.

17 THE CHAIRPERSON: Sorry, I got my numbers wrong. 49
18 percent they wouldn't you pay you for it, and of the
19 other remaining 51 percent, they would grudgingly say,
20 "Well, may be 20 cents or 21 cents but not 50 cents."
21 I mean there's perhaps no surprise there because the
22 selection process in that survey had selected people
23 that have a significant -- I don't know if the word is
24 "bias" in this context or not, but they've certainly
25 got a comfort level at not paying anything for the
26 service.

1 MR. SIMMONS: Granted. The corollary to that is that
2 we did hear from a number of user groups, Vancouver
3 Electrical Vehicle Association, members of there, that
4 thought the rates needed to be high enough to avoid
5 congestion at stations. So yeah, a lot of people --
6 everybody wants free stuff. But there are individuals
7 that want that rate to be such that there won't be
8 individuals just charging there because it's free.
9 The resource needs to be rationed.

10 And certainly as we've seen in our
11 statistics that it had gone down markedly after the
12 introduction of the rate, and so -- which, you know, I
13 believe is a good thing.

14 THE CHAIRPERSON: That it went down?

15 MR. SIMMONS: It's gone down to the existing levels,
16 because we did have some queueing at our stations,
17 some of our busier stations. It's been reduced
18 markedly as a result, so.

19 THE CHAIRPERSON: Okay, thank you. I just also, just
20 as a warning -- Ms. Jubb, I guess you're next, right?
21 Not a warning, but I just want to comment that we've
22 got about eight minutes to twelve, so we'll let you
23 decide when you would like to take a break. We're
24 happy to take the lunch break at any time.

25 MS. JUBB: I would suggest that we wrap up the slides
26 which will take 10 to 15 minutes. We also have some

1 additional responses to questions in advance of the
2 streamlined review, and that would probably be another
3 forty minutes. Perhaps we save that for after the
4 break.

5 THE CHAIRPERSON: That's fine.

6 MS. JUBB: Okay, thank you.

7 Okay, so we're on slide 12 now please. And
8 slide 12 simply summarizes the proposed rates and the
9 three rate schedules we're seeking approval of. So
10 rate schedule 1360 for the 25 kW station, 12 cents per
11 minute for rate schedule 1560 for the 50 kW station,
12 21 cents a minute, and rate schedule 1561 for the 100
13 kW station, 27 cents per minute.

14 Slide 13, please. Slide 13 summarizes the
15 metering and billing for this service, which we've
16 covered already.

17 **Proceeding Time 11:55 a.m. T38**

18 Metering is by the minute. I'd just like to
19 acknowledge the billing and payment for this service
20 is a little bit different from our other services, in
21 that it's immediately after the charging session. So
22 there's no accumulation of usage in an account or bi-
23 monthly billing or monthly billing, as is the case
24 with our other services. And nor is there any link
25 between a customer's bill for their fast charging
26 service and any other BC Hydro bill or account they

1 might hold.

2 And just a final point on the activation
3 method. There's four different ways that a customer
4 can activate a station such that it dispenses energy
5 to their vehicle. And one of those ways results in
6 the customer remaining anonymous to BC Hydro.

7 So I'd like to move on now to slide 14 on
8 terms and conditions. So, the electric tariff does
9 apply to the proposed rates. The electric tariff set
10 by the Utilities Commission sets terms and conditions
11 that protect BC Hydro and therefore customers. An
12 example of these includes protection against
13 liability, protection against the cost of damage to
14 equipment and assurance that BC Hydro will comply with
15 standards.

16 The proposed rates also set their own
17 specific terms and conditions to that service, which
18 is standard for the electric tariff. For example of a
19 term and condition in the proposed rate is that the
20 service is available to any member of the public, so
21 they don't have to already be a BC Hydro customer.
22 And that back billing and rebilling is inapplicable,
23 however BC Hydro may waive payment in certain
24 circumstances.

25 I'd like to address here a few questions
26 regarding the treatment of taxes. We received a

1 question under Exhibit A-13, BCUC 8.1 about the
2 treatment of taxes. So BC Hydro applies 5 percent GST
3 to electricity service across all our rate schedules.
4 And the treatment of taxes is covered in our electric
5 tariff, in Section 6.8 of the Electric tariff, which
6 says that the rates charged are set out in the
7 electric tariff do not include the goods and services
8 tax and the provincial sales tax or any other tax and
9 levy which BC Hydro collects. So that's why, you
10 know, taxes weren't added to our proposed rate, in
11 alignment with the electric tariff.

12 Slide 15 moves on to the monitoring and
13 evaluation plan. And there's a lot of interest in the
14 monitoring and evaluation plan. We received questions
15 on the type of data that we'll collect and what kind
16 of analysis we will do. For example, Exhibit A-13,
17 the BCUC 34 series, as well as BCUC 37.1 and 37.2;
18 Exhibit C-7, BCOAPO 38.2.2. We also received a number
19 of questions around additional evaluation reporting,
20 such as Exhibit C6-4, CEC 14.1; Exhibit C20-5, Suncor
21 4.1; and Exhibit C7-6 the BCOAPO's 39 series of
22 questions.

23 So we are proposing to file a public
24 evaluation no later than March 2024. And the purpose
25 of the evaluation will be to inform a potential rate
26 application to the B.C. Utilities Commission to

1 reprice or redesign the rates to improve their
2 performance. We would consider filing the evaluation
3 and application for repricing early if there's a
4 significant change such as the ability to charge by
5 kWh and kW. That type of evolution would trigger a
6 serious consideration of filing early, as it would be
7 a large enough change that might warrant a rate
8 redesign on its own.

9 So, the purpose of the evaluation as we see
10 it really is to improve the performance of the rate
11 and to consider whether or not there's warranted to
12 change the design of the rate to move to something
13 more sophisticated.

14 **Proceeding Time 12:00 p.m. T39**

15 In order to determine whether a more
16 sophisticated rate design is justified, we would need
17 to understand the cost of implementing it and also its
18 potential benefits. So the costs could be, for
19 example, metering and billing and customer
20 communication, and the benefits should be
21 quantifiable. And examples of benefits we would
22 really hope to see to justify any change in the rate
23 design could be increase in revenue collection,
24 increases in customer satisfaction.

25 So we can gauge the potential for increase
26 in revenue by analyzing data such as congestion. We

1 can gauge the potential for increase in customer
2 satisfaction by conducting customer research.

3 We also would very much like to be able to
4 put forward a rate that eliminates cross-
5 subsidization, and in order to do that we'll need to
6 understand the full cost of service and to develop the
7 fully allocated cost of service we use a BCUC approved
8 methodology that considers all the cost of service,
9 including customer demand and energy related costs.
10 And using this methodology we can be confident that if
11 revenues match the fully allocated cost of service
12 then the rates have a cost of service basis and
13 there's no cross-subsidization.

14 However, conducting this full allocated
15 cost of service analysis is quite data intensive and
16 it does take a fair bit of time. It not only requires
17 an exhaustive itemization of all the costs, it also
18 requires at least one full year of electricity data.
19 That one full year of data is an important constraint
20 because it means we cannot report out on the cost of
21 service and cross-subsidization on, say, a quarterly
22 basis or every six months. It does require a full
23 year of electricity data. And the reason it requires
24 a full year of electricity data is that BC Hydro's
25 demand related costs, which are the majority of our
26 costs of electricity, they vary based on the annual

1 system peak demand, and they vary based on the monthly
2 distribution demand. So to get a picture of the full
3 cost of service, we need to make sure we capture the
4 monthly peak demands and the annual peak demands.

5 So that's why it takes some time to get
6 through that exercise.

7 Another consideration is that if want to
8 use the evaluation to set rates going forward, which
9 we believe would be its best purpose, then the
10 analysis should be done over a period of time that's
11 reasonably reflective of conditions going forward. If
12 we evaluate too early or in too short a period of
13 time, we could have a set of results that aren't
14 useful to inform rate design going forward. So ideally
15 we want to have a single comprehensive complete
16 evaluation to inform a rate redesign.

17 And I'd like to illustrate why evaluating
18 too early or too frequently has some downsides. I'd
19 like to illustrate that with an example that some of
20 us will be familiar with. And this is the freshet
21 energy rate that we introduced, that BCUC approved in
22 2015. And like the fast charging rate, it was a new
23 service for BC Hydro and there was considerable
24 uncertainty about how it would perform, what the
25 ratepayer impacts would be, whether or not there would
26 be cross-subsidization.

1 wrap this one up, by the time we went back to the BCUC
2 to apply for the amendments on an ongoing basis, we
3 had been directed to and had completed four different
4 evaluations of that rate, each rate covering a
5 different time period. And there's problems with that
6 approach to evaluation.

7 The first problem is that it's expensive.
8 In completing four separate evaluations instead of
9 just one, we imposed the fixed costs of producing
10 those evaluations four times instead of just once.
11 Also, when we got to the point of applying for the
12 rate redesign, BC Hydro and other parties had to
13 reconcile four different reports covering four
14 different periods, which made the information harder
15 to access, understand and interpret. Having all the
16 relevant information together in one report that
17 covers the time period that's conclusive and strong
18 enough to inform repricing going forward is really
19 much preferable I would say to having multiple
20 reports, some of which may not be very useable.

21 So for that reason and in response to a
22 number of submissions around earlier and more frequent
23 evaluation, we do strongly urge the Commission to
24 consider those factors and support filing of a single
25 comprehensive evaluation at such time as we're able to
26 redesign the rate, which we believe is 2024 or earlier

1 if we can implement measurement, Canada based rate
2 designs that allow us to charge for electricity.

3 Our last slide is for Mr. Simmons to talk
4 about the plan. This is on slide 16.

5 MR. SIMMONS: Thank you, Ms. Jubb. I will be quick here.
6 And I believe ironically last time I was here I was
7 between everybody and lunch, so I don't know, it's
8 just by happenstance, so I'd better be quick here. So
9 BC Hydro currently operates 97 stations at 71 sites
10 across the province. I indicated earlier that we're
11 in the process of doubling up the stations. So 26 of
12 those have dual -- are dual station sites.

13 So our objective in deployment is to ensure
14 that all primary and major secondary highway corridors
15 across BC Hydro's service area are electrified to
16 facilitate travel using an EV. So an example of an
17 highway corridor would be starting from Vancouver you
18 want to go to Kamloops, let's say, well, and the range
19 of your EV is maybe 150, 200 kilometres. So we have a
20 station in Chilliwack, we have a station at Hope, we
21 have a station at Britton Creek after the -- I think
22 it's after the big hill on the Coquihalla, Merritt,
23 and finally to Kamloops. And so, that essentially
24 extends the practical range of an electric vehicle
25 which allows intercity travel, and so that's a primary
26 reason for our deployment.

1 Currently and going forward we're looking
2 at 15 new sites per year and 45 new stations per year.
3 At the end of 2025 our plan is for 325 stations across
4 145 sites. About two-thirds of these new stations
5 will be on highway corridor areas, and so those
6 will --

7 THE CHAIRPERSON: Sorry, finish your sentence.

8 MR. SIMMONS: Oh, I thought that was a question. Will be
9 on highway corridors, with the balance one-third would
10 be densification of urban and suburban areas. And any
11 deployment of additional stations after 2025 is likely
12 subject to provincial government direction.

13 THE CHAIRPERSON: Yeah, I'm just wondering if your
14 objective -- your objective as stated is to ensure
15 that primary, major and secondary highways are
16 electrified and I assume that's -- is that a
17 government objective, a BC Hydro objective? Whose
18 objective is it?

19 MR. SIMMONS: It's really, it is a government objective
20 to really with the ZEV to ensure that travel
21 throughout the province using an EV is practical.

22 THE CHAIRPERSON: Right, understood. And so presumably
23 one of the reasons that government has involved you in
24 this, or you are involved with government in that
25 exercise is that you feel -- and we did talk about
26 this in our EV report, that electrifying highway

1 corridors may be areas where the private sector may be
2 less likely to be active, and they would be more
3 likely to be active in urban areas I think that we
4 talked about that. Is that the reason that the
5 objective is focusing on highways?

6 MR. SIMMONS: Well, yeah, I mean it is, actually. I
7 mean, the objective is to enable the ZEV mandate,
8 yeah.

9 THE CHAIRPERSON: Right. So, given that, why are a
10 third of your proposed stations going to be in urban
11 areas?

12 MR. SIMMONS: Well again, this is our plan, and so our
13 plan is typically when we go to deploy, and I was
14 going to talk about this after lunch, but when we look
15 at a station, we look at the area we wanted to -- I'm
16 talking about suburban and urban areas, and so we look
17 at density.

18 **Proceeding Time 12:10 p.m. T41**

19 We also look at whether or not at that
20 area, is the demand is satisfied. Are there any EV
21 stations existing there? If they're not, that's a
22 signal for BC Hydro to actually fill that void.
23 Because we do want to enable EV ownership throughout
24 the province, and fulfilling government's objectives
25 here, but that doesn't preclude those that live in
26 suburban and urban areas that live in apartment

1 buildings where they don't otherwise have access to
2 charging. And so, you know, to ensure sort of the
3 ubiquitous deployment of EVs across the province, we
4 do need to look at the urban/suburban areas.

5 THE CHAIRPERSON: Okay, thank you.

6 MR. SIMMONS: And that being it, I guess it's lunch?

7 THE CHAIRPERSON: Mr. Christian?

8 MR. CHRISTIAN: Yes, Commission Chair, sorry to put
9 even more time between people and lunch, but I do
10 require direction in one respect. In a normal
11 Commission hearing, an oral hearing the witnesses
12 would, once under cross-examination not be discussing
13 or meeting with counsel or other members of their
14 team. We are in a bit of a hybrid situation here.
15 The witnesses are sort of giving what's equivalent of
16 direct testimony I think, but they are clearly engaged
17 in a conversation with the panel, and I just wanted to
18 confirm whether or not you thought it was desirable or
19 necessary that they sequester for the lunch break?

20 THE CHAIRPERSON: I don't personally see a reason for
21 that. Enjoy your lunch together.

22 MR. CHRISTIAN: Excellent, thank you.

23 THE CHAIRPERSON: Okay. So, unless there is anything
24 else now, it is 10 after 12, we'll come back at 10
25 past one. Thank you.

26 **(PROCEEDINGS ADJOURNED AT 12:12 P.M.)**

1 session length across all of our stations with 32
2 minutes; in May, following introduction of the rate
3 that fell to 28 minutes; and in June, that was 28.2
4 minutes. So, again it declined from April a little
5 bit of an increase. So, I'd say overall there is,
6 we've noticed a decline in the average session length.

7 COMMISSIONER FUNG: Thank you, Mr. Simmons.

8 THE CHAIRPERSON: Thank you. Ms. Jubb, are you taking
9 the --

10 MS. JUBB: We will now provide some additional
11 responses to questions filed in advance of the SRP.
12 The order will be Mr. Simmons will go, and then Mr.
13 Papadoulis, and then Mr. Seong, and then myself.

14 THE CHAIRPERSON: Okay.

15 MR. SIMMONS: Thank you, Ms. Jubb.

16 So, some of the questions I am going to
17 address related to BC Hydro's deployment and related
18 planning process. I recognized during our discussion
19 during the presentation, there is some overlap here,
20 and I will try to avoid that as much as possible for
21 the sake of brevity.

22 But anyway, the pre-SRP questions that are
23 related is BCUC Exhibit A-13, the 11 series of
24 questions, question 26.1, and then the 31 series of
25 questions. Suncor Exhibit C20-5, questions 3.2 and
26 3.3, and CEC Exhibit C6-4, question 4.2.

1 I'll start off talking about our key
2 objectives for our deployments which we touched on
3 earlier. Our general approach to the deployment and
4 then the process for determining specific sites once
5 we have identified those so-to-speak dots on the map
6 on how we find a site that we deem as appropriate for
7 deployment of the station.

8 So, again, we are deploying fast charging
9 stations to help the province reach its emission
10 reduction targets, and the fast charging stations can
11 be considered critical EV infrastructure, and the
12 absence of these stations would seriously hamper the
13 adoption of electric vehicles in the province, since
14 they couldn't be used for intercity travel, and
15 wouldn't be practical for those who have no access to
16 home or workplace charging.

17 So, that essentially leads to two
18 categories of EV fast charging stations in our
19 planning process. Those along the major, or primary
20 and major secondary highway corridors which makes
21 inter-city travel feasible, and those in
22 urban/suburban locations that provide charging
23 opportunities to apartment dwellers and those without
24 home charging, and also those that the duty cycle of
25 their EV cannot be met through a level 2 or slower
26 charger. And so they are using the vehicle all day,

1 they need a fast charge to get where they're going
2 thereafter.

3 So, those are our broad deployment
4 objectives, and as we talked about a little bit
5 earlier, we identify at a broad level the locations on
6 a map where that electric connectivity across the
7 province, and in doing so we worked closely with the
8 Ministry of Energy, Mines, Low Carbon Innovation.

9 **Proceeding Time 1:16 p.m. T44**

10 We worked closely with the Ministry of Transportation
11 Infrastructure, who are also involved in deploying EV
12 fast charging stations at their rest stops across the
13 province. We worked with FortisBC, and also we work
14 with other EV fast charging service providers in
15 setting up these deployment plans.

16 From the broad perspective and when I
17 talked about the identification of potential sites on
18 a map, we have in the past followed a study that was
19 commissioned by Energy Mines, at that time Petroleum
20 Resources, and it's called a gap analysis for B.C.'s
21 electric vehicle direct current fast charging network.
22 And that's from 2015. It was, like I said,
23 commissioned by the government agency. I believe that
24 was filed in the IRs as evidence, at least a web link
25 to that particular study was.

26 So, I think that study looked at the range

1 of a 30 kilowatt hour Nissan Leaf. I think, believe,
2 the temperature was minus 20 degrees, the ambient
3 temperature recognizing that the battery -- the
4 distance that you can get driving a vehicle is
5 inversely related to temperature. So at minus 20 the
6 range actually reduces. And it's not a complete
7 inverse relationship because when it heats up it also
8 reduced in its potential.

9 So we rely on that study to find the
10 different communities across the province that need
11 electric vehicle fast charging stations.

12 With respect to the urban and suburban
13 locations, we look at those areas that are densely
14 populated with a significant number of MURBs, multi-
15 unit residential buildings, and to provide
16 opportunities, like I said, to those without home
17 charging.

18 So once we have that mapped out we then
19 take a specific location. And for the sake of
20 argument let's assume this location is Smithers. Then
21 we need to find a specific site. We generally do not
22 pay land lease costs. And we pay an annual cost for
23 only one of our stations in our current fleet, and
24 that is for our Rogers Pass station which is in a
25 Canadian park, or it's operated by Parks Canada. And
26 I think the fee for that is, I believe, it's \$250 per

1 year. And it's almost a licence that anybody doing
2 business on their park needs to pay. It's almost like
3 a business licence or something like that. So, it's a
4 fairly minimal amount.

5 Most businesses that we talk to with
6 respect to deploying a fast charging station look at
7 the fast charging station as almost attracting
8 business and foot traffic and vehicular traffic to
9 their particular business. And so they see that as a
10 good thing. We have sited numerous stations working
11 with Loblaws, that's one of our largest private sector
12 partners. They run the Canadian Superstores,
13 Thriftys, I believe, and some others. So we've
14 partnered with them. We have charging stations in a
15 few gas stations at Tynehead Esso Station in Surrey,
16 we have a fast charging station there as well.

17 THE CHAIRPERSON: Excuse me, Mr. Simmons. I seem to
18 recall that before lunch your testimony was -- the
19 panel, and I'm sorry I don't remember who gave it.
20 But the testimony was that one of the reasons that we
21 should be careful about comparing rates is that BC
22 Hydro's charging stations don't have the -- you know,
23 don't have the washrooms and the convenience and so on
24 and so on. But now you're saying you actually locate
25 your charging stations near supermarkets and gas
26 stations and so on. Can you reconcile those two,

1 please?

2 MR. SIMMONS: Yeah. It's an objective and it's
3 something that we attempt to do is have amenities
4 nearby. I think maybe the point was made that they're
5 actually not part of the station. That we look at it
6 with close proximity. So certainly in the case of the
7 Great Canadian Superstore is they are on their
8 property, they're on their parking lot. But we do
9 have numerous, a great number of stations that aren't.
10 Many are in municipal lots and things.

11 But certainly a suburban or urban locations
12 we're almost -- it's getting more and more difficult
13 to find locations to put. For example, we wanted a
14 station in the Oakridge area, which was next to
15 impossible. And the reason why is the amount of
16 development legislated for it, nobody wants to incur
17 or encumber their property with a ten-year lease at no
18 lease payment for that reason. So in some instances,
19 especially in the city, we're -- our only possibility
20 is to get a business owner to allow us to situate our
21 site there, and the amenities are just a bonus, I
22 think.

23 THE CHAIRPERSON: Thank you. Also --

24 **Proceeding Time 1:22 p.m. T45**

25 MS. JUBB: I just wanted to add that in the discussion
26 earlier about the amenities, one of the items that BC

1 Hydro was also considering there is that the revenue
2 from, for example, a convenience store or a car wash
3 service is something that is also not available to BC
4 Hydro. So although we would ideally like to locate
5 the stations as locations that are attractive to our
6 customers, to an extent that results in some
7 additional revenue from those individuals making
8 purchases that can't go towards funding our
9 operations, whereas in the case of other parties in
10 this space, it may be that convenience store sales, or
11 car wash sales can be a revenue source to fund the
12 operations.

13 THE CHAIRPERSON: I understand, but your testimony also
14 was that you were looking at price points there and
15 that you could charge -- that one could charge more if
16 there was also facilities and as you, and Mr.
17 Christian, have pointed out before, your rates aren't
18 based on your costs or presumably your revenues,
19 they're based on making sure that utilization is
20 there, correct?

21 MS. JUBB: That's correct.

22 THE CHAIRPERSON: We seem to be going different places
23 with it, depending on what the question is. Is that
24 correct?

25 MS. JUBB: I think if I was unclear, I apologize for
26 that. The way that I would consider it is that we

1 acknowledged and we expect that customers would be
2 more attracted to a station if it has amenities.

3 THE CHAIRPERSON: Right.

4 MS. JUBB: Whether those amenities are provided by the
5 service provider such as BC Hydro or a shopping centre
6 that's right beside, or co-located. So I don't think
7 we would disagree with that statement.

8 THE CHAIRPERSON: Okay, thank you. And if I could
9 also, Mr. Simmons, as I understood it, you said one of
10 the reasons that you do focus on -- or to the extent
11 that you do focus on urban/suburban areas, it's
12 because there's a lot of people that live in MURBs and
13 don't otherwise have access to home charging. So do
14 you locate -- in those circumstances then, do you
15 locate the fast chargers within a building in the
16 underground parking?

17 MR. SIMMONS: No, we don't actually, so -- no, they
18 wouldn't.

19 THE CHAIRPERSON: So locating it over at the closest
20 Save-On Foods or Overwaitea Store is still not going
21 to provide home charging for those people, is it?

22 MR. SIMMONS: That's correct. It needs to be
23 accessible and certainly in putting a fast charging
24 station in a MURB or in a parking lot probably
25 wouldn't be in accordance with the Greenhouse Gas
26 Regulation because those stations do have to be

1 available to the public 24 hours a day.

2 THE CHAIRPERSON: Thank you.

3 MR. SIMMONS: Anyway, okay, the other attribute that
4 we look at in selecting amenities and proximity to the
5 corridor safety lighting, things like that, they are
6 connection costs, and in the past we've found some
7 really good locations that haven't really worked out
8 because of the connection costs were too significant,
9 and in that case we need to find another location for
10 that station, because it was just too onerous and just
11 didn't meet our budget constraints.

12 Sometimes there's some creative solutions.
13 An example, that would be our Prince George -- our new
14 location in Prince George at the Superstore there.
15 There were two locations where we could have connected
16 in that case. The least expensive location was on the
17 -- nearby the parking lot, but we would have to trench
18 through the grocery store parking lot, and our site
19 host did not want to disrupt their business that way.
20 Although it was least cost from our perspective, it
21 was just not something they would entertain and
22 disrupt their business.

23 The next alternative was overhead lines
24 going across a corridor in Prince George. That was
25 the next least cost alternative for us.

26 We submitted permit to the City of Prince

1 George. That got rejected because they did not want
2 any new lines across that corridor. So we
3 essentially, for a time, had abandoned that station.
4 The only third option was directional drilling under
5 the highway and it just didn't meet our budget
6 requirements in that particular case. And so we were
7 looking for another location when the contractor that
8 does that directional drilling weren't particularly
9 busy at that time and called us and said, "We have
10 crews available, we can do it for X." And so we
11 actually did that.

12 So those are some of the things we go at a
13 local level to try to get these done, stations in
14 place.

15 **Proceeding Time 1:27 p.m. T46**

16 COMMISSIONER FUNG: Sorry, Mr. Simmons, I hate to
17 interrupt but I just want to follow up on that
18 connection charges issue.

19 If I understood what you said just now, you
20 do take into account in deciding whether or not to
21 locate a specific station the issue of connection
22 charges and whether or not they are prohibitive enough
23 so that you would choose one option versus another in
24 terms of location. Is that correct?

25 MR. SIMMONS: That's correct.

26 COMMISSIONER FUNG: So where do those charges show up in

1 your calculation of how much it costs you to put a
2 station there? Does that get reflected in the capital
3 costs of the station, and is that factored into rates?

4 MR. SIMMONS: It's included in our capital cost
5 estimates for stations, and it is booked as a capital
6 cost, the connection charge. Whether or not
7 it's reflected in -- and when you say "rate" I'm
8 assuming --

9 COMMISSIONER FUNG: In the rate design, I guess more
10 specifically.

11 MR. SIMMONS: Yeah, I'll leave that to Ms. Jubb.

12 MS. JUBB: Thank you. So it is included in our
13 application as part of the capital costs that are
14 described on page 30 of the application. The capital
15 costs include -- and I'll paraphrase. I'll read it
16 out for those who maybe don't want to flip to the
17 page. They include \$85,000 per dual station site,
18 including costs such as engineering, lighting,
19 signage, line construction, civil construction and
20 others. So they are within that \$85,000 capital cost
21 number.

22 And in terms of how they flow through in
23 our presentation of the rate design and the potential
24 for revenue collection. They are in that scenario 3
25 which is on table 3 of page 31, what we describe as
26 full cost of service electricity plus maintenance,

1 plus capital cost. So they are captured within that
2 capital cost item.

3 COMMISSIONER FUNG: Okay, thank you.

4 MR. SIMMONS: Thank you. I'll just go on.

5 So aside from connection costs, what we'll
6 look at -- the other factor that we'll look at quite
7 closely with respect to a perspective site is
8 accessibility by disabled drivers. That's one our
9 deployment objectives, is to make the sites
10 accessible. And in some instances it's not possible,
11 within an reasonable cost, but it is an objective of
12 ours, to make all our sites accessible. And I believe
13 right now 16 of our sites are fully accessible.

14 So our deployment plans are periodically
15 adjusted and when I say "periodically", it's probably
16 more than periodically. They are adjusted quite
17 regularly and there's a bunch of reasons for that.
18 Some is we can't find a suitable location in the
19 community. We just can't find a willing site host, we
20 can't find an appropriate location, and then we have
21 to look at an adjacent community or another community
22 or another location elsewhere.

23 Another reason is another entity intends on
24 deploying a fast charging station in the community,
25 and we've run into this a few times. I think one or
26 two years ago, EnerCan, a proposal which was accepted,

1 a BC Hydro proposal, we had selected Vanderhoof which
2 is kind of on that Prince George, Highway 16 corridor.
3 We learned that Confederated Coop, which is a chain of
4 grocery stores and gas stations, they had slated a
5 site in Vanderhoof. They were in Alberta and I
6 believe Ontario and they were deploying. And so we
7 had learned through conversations with them that they
8 wanted to deploy a station. At that time we backed
9 off. We said, okay, there's not enough room at
10 Vanderhoof for two stations. So we let Confederated
11 Coop.

12 Now, the end of that story is that they
13 have not deployed a station there yet, and so we're in
14 discussions with them potentially doing a joint
15 venture, deploying a station on their site.

16 Yeah, I indicated that there's inability to
17 secure a site lease, a place of occupation, connection
18 costs too high and permits not granted is a common
19 reason for not.

20 The survey results indicated that reduced
21 waiting times are a valued attribute and BC Hydro's
22 standard for all new fast charging stations is two
23 stations. So when we began deploying in 2013 we were
24 deploying only single charger stations.

25 **Proceeding Time 1:32 p.m. T47**

26 Aside from congestion issues, there's also

1 an issue with reliability. And that is if one of
2 those stations under -- sees an unplanned outage then
3 there's a potential for a motorist or EV drivers to
4 get stranded at that location. So having two
5 stations, it's kind of that n minus 1 level of
6 redundancy that provides that level of reliability.

7 And there's actually another benefit to
8 having two stations that we're finding. And it's when
9 a station goes down in a single station it's we need
10 to get a repair technician as soon as possible to get
11 that situation resolved. That can be expensive. The
12 emergency callout charges for an electrical contractor
13 are expensive. I believe it's, like, minimum \$500 and
14 then there's traveling costs and things. If you have
15 two stations we can actually extend that, and so it's
16 no long an emergency callout. It's we've extended our
17 turnaround time to 48 hours for those stations where
18 there's two -- or those sites which there are two
19 stations.

20 And there was another question whether or
21 not we -- that we consider locations that would
22 maximum usage so that we reach economic break even.
23 And while we do look at sites to maximum usage and
24 that would be one of our objectives. Economic break
25 even, we don't envision that's going to happen until,
26 you know, at least 2025 at this time for our network

1 of stations.

2 And, yeah, that's pretty much all I have to
3 talk about our planning process.

4 THE CHAIRPERSON: Mr. Simmons, so we talked before the
5 break about your objective and your strategy of
6 placing charging stations along major highway
7 corridors and perhaps not so major highway corridors
8 also. And the purpose of that was to ensure that
9 people who bought electric vehicles were able to go
10 somewhere long distance, travelling between cities and
11 so on or towns. But if you're only placing your
12 infrastructure in places where you can get a
13 reasonable utilization factor, do those two goals,
14 could they possibly conflict with each other? I mean,
15 like, does that mean then that a highway has to have a
16 certain amount of traffic before it gets an EV
17 charging station?

18 MR. SIMMONS: No, there is certainly some tension
19 there. I guess my point was we'll seek the
20 location which would maximize usage. And so -- and
21 that would be nearby amenities. If we put a station
22 where it looks dangerous or, you know, it's dark and
23 -- it's probably not going to get very much usage. If
24 you forgo any of those objectives, you may move off
25 that maximization. So, yeah, that's the point I was
26 trying to make.

1 THE CHAIRPERSON: I understand, thank you.

2 MS. JUBB: Mr. Papadoulis?

3 MR. PAPADOULIS: Thank you. So, the questions that I'm
4 going to answer now I've grouped them into, kind of,
5 themes. And the first one is electric vehicle battery
6 characteristics. So, several questions were posed
7 regarding battery behaviour and charging speeds at
8 various chargers, such as in Exhibit A-13, BCUC
9 questions 15.1, 15.2, 16.1, 16.2 and 16.3.

10 So, due to the variability of electric
11 vehicles battery chemistries, battery capacities,
12 onboard battery management systems, environmental
13 conditions, is it hot, is it cold, and even factors
14 like the EV owner user settings that the driver can
15 actually adjust from within the vehicle. It would be
16 impossible to predict the charging behaviour as
17 described in those questions. Suncor IR responses
18 5.1.1 and 13.1.1 in Exhibit C20-10 concur that it is
19 in fact impossible to predict with certainty battery
20 behaviour based on different chargers.

21 In addition, the text in our application
22 refers to the time to charge the battery, not the
23 amount of electricity dispensed. So, for the reason I
24 just mentioned, the amount of electricity dispensed to
25 charge the battery will vary by vehicle make and
26 model. So that was the battery section.

Proceeding Time 1:37 p.m. T48

1
2 The next theme I'm going to talk about is
3 the questions that came about suggesting that our
4 chargers are outdated. So, it has been suggested that
5 BC Hydro's installed asset base of 50 kilowatt DC fast
6 chargers are outdated, such as in Exhibit A-13, BCUC
7 questions 30.1, 30.2, 30.3, and Exhibit C3-5, BCSEA
8 4.1 and 4.2.

9 So, we disagree with the suggestion that
10 our 50 kilowatt chargers are outdated. The charger
11 models were primarily available to us when we started
12 our program, and that was at the 50 kilowatt range.
13 Most vehicles, most EVs on the road today are only
14 able to charge in this 50 kilowatt range. Our average
15 power per charging session over the past 7 years is 27
16 kilowatts, which is well less than 50.

17 That value is increasing year over year, if
18 you look at the trend, but it's still at 30 kilowatts
19 average for 2021, and it has bumped up to 34.2 since
20 May of this year, since we introduced our charging.

21 Even many electric vehicles that are sold
22 today can't charge beyond the 50 kilowatt range. And
23 certainly most vehicles on the road today will be
24 underutilizing at the 100 kilowatt and higher levels.

25 BC Hydro has well developed approaches to
26 managing asset risk. From an asset management

1 strategy perspective, our current installed asset base
2 of our 50-kilowatt chargers has an average age of two
3 years, and 68 percent are between one and four years.
4 We expect to run our chargers to the end of their
5 useful life, and premature replacement of 50 kilowatt
6 chargers is not planned.

7 Many of our stations have the capability
8 for increase load based on distribution supply,
9 transformer sizing, kiosk size and so forth. They
10 will not become stranded assets, and may have some
11 salvage value at the end of their life in other
12 markets.

13 We are currently testing and plan to soon
14 deploy chargers in the 100-kilowatt range, but not at
15 the expense of retiring any 50 kilowatt units early.
16 We will continue with our industry market sounding
17 research and testing, and for other power ranges.

18 The next theme is charging station
19 efficiency. The station efficiency, meaning the DC
20 energy dispensed to vehicles relative to the metered
21 energy at a DC fast charging station, has also
22 generated several questions, such as in Exhibit C3-5,
23 BCSEA 6.1, 6.2, and Exhibit C7-6, BCOAPO 28.1 and
24 28.2. As detailed in BC Hydro rebuttal evidence,
25 Exhibit B-10-1, the efficiency of BC Hydro's DC fast
26 charging stations is 89 percent. In other words, 89

1 C7-6, BCOAPO 33.1 and 43.1. The capital costs for EV
2 stations using the application do not include any
3 amounts that may have to repaid due to the
4 unlikelihood of any amounts having to be repaid. And
5 that's on the capital side.

6 On the maintenance side there was a
7 question about average maintenance cost. In fiscal
8 2020 the average maintenance cost, or unit cost that
9 is, was \$19.7 thousand. And in fiscal 2021 the
10 average maintenance cost was \$7,700.

11 And that's all I had. I'd like to pass it
12 over to Mr. Seong.

13 THE CHAIRPERSON: Thank you.

14 MR. SEONG: Thank you, Mr. Papadoulis. The topics I'll
15 be covering are around the rate calculations, the
16 illustrative bill calculations, the assumptions that
17 went to those calculations as well as the load profile
18 question that came up.

19 And so the first response is to the Exhibit
20 C7-6, BCOAPO question 38.2 series regarding fast
21 charging station cost accumulation and the potential
22 for it to be paid back by future station users. And
23 so if we allowed the fast charging station costs to
24 accumulate, BC Hydro estimates that it will take about
25 13 years for future users to pay that back. And in
26 calculating that, BC Hydro used a simplified

1 assumption of currently accumulated cost amount, which
2 is \$7.7 million. And then we assumed that the costs
3 would continue to accumulate at the same rate as the
4 past year, which is about three and a half million
5 dollars. It was 2.9 with 126 stations but we're
6 projected to have 155 stations by the end of fiscal
7 2022. And we prorated it up to three and a half
8 million dollars accordingly. And then we assumed the
9 utilization rate would grow at the rate illustrated by
10 the Rocky Mountain Institute's rate design study of 5
11 percent the first three years, and then 10 percent the
12 next three years and then 30 percent thereafter.

13 And so the 13 years is quite a long time
14 and it's actually longer than the useful life of our
15 asset, which means that the future users will be
16 paying for these stations may not have even used these
17 stations.

18 The second response that I'll be covering
19 is regarding the usage of BC Hydro's 50 kilowatt
20 station data as a proxy for all the other power levels
21 -- all the other power level analysis. And this is
22 seen in Exhibit A-13, BCUC question 9.2 and 9.4, which
23 ask clarification on why BC Hydro used 50 kilowatt
24 data for the Tesla and PetroCanada field calculations,
25 as well as questions BCUC 17.1 and 18.1 which request
26 similar reasoning for using 50 kilowatt data for the

1 going back to absence of actual data, we can verify
2 how well those adjustment factors would come across.
3 And also with us being in the early stages of the rate
4 implementation, even with the reliable kilowatt data,
5 there's a high amount of uncertainty in how that would
6 turn out due to change in charging characteristics and
7 user behaviour with the rate in place.

8 And the last reason is the complex battery
9 characteristics and the nature of the battery
10 charging, as Mr. Papadoulis has mentioned. As I said,
11 it's not linear charged system.

12 And the last response -- oh, sorry, the
13 second-last response is regarding the basic charge.
14 And BCUC questions in 14 series, 17.4 series, and 22.1
15 requests confirmation of importance of basic charge in
16 the electricity cost, and the impact of -- what the
17 impact of including basic charge would be in our
18 proposed rates. And BC Hydro confirms that the basic
19 charge is an integral part of electricity cost.
20 However BC Hydro did not include basic charge in the
21 proposed rates as the impact of it in the proposed
22 rate is quite small.

23 As an example, the 50 kilowatt station
24 using medium general services rate, MGS, the basic
25 charge would add about .5 cents per minute at the 3.7
26 percent utilization that is proposed.

1 And for small general service rate, that is
2 the basis of 25 kilowatt stations, that would about .7
3 cents per minute.

4 And my last response is regarding those
5 shaped graph in BC Hydro's response to the BCUC IR
6 1.12.2 in Exhibit B-4. If you'd like to follow along,
7 that's again Exhibit B-4, BCUC IR 1.12.2 and BCUC
8 questions 36.3 and 36.4. Can I request a description
9 of the graph because the graph is kind of small. I
10 think that -- I guess the writing was a little hard to
11 read, and so this is just an average hourly low shaped
12 graph showing 24 hour cycles for each of the months,
13 starting from April to March, our fiscal year.

14 And so the X axis shows that 24-hour cycle
15 and the Y axis is the average consumption that takes
16 place per hour at each of the sites. And the green
17 graph, which is the darker of the two, represents the
18 weekday load shape, and the orange graphs, which is
19 the lighter of the two graphs, represents the weekend
20 load shape. And it shows that the weekend load shape
21 is slightly higher, as in a slightly higher average
22 consumption during the weekend than week day.

23 And what BC Hydro -- whether BC Hydro
24 intends to use this -- sorry, the question also asked,
25 whether BC Hydro intends to continue to collect the
26 data from the station and whether it will be used in

1 the future rate design, and yes, BC Hydro plans to
2 collect as much of the collectable data as possible
3 from the individual stations and from all the charging
4 stations and that will inform our future rate designs.

5 And I'll hand off to Ms. Jubb to continue
6 answering your questions, unless there's questions for
7 me.

8 THE CHAIRPERSON: Thank you.

9 MR. SEONG: So Ms. Jubb has asked me to clarify the
10 difference between 50 and 100 kilowatt demand charge
11 and how that gets allocated. Although they are both
12 -- both 50 kilowatt and 100 kilowatt stations are
13 based on the medium general service, the MGS rates,
14 because the peak demand that can be drawn from the 50
15 kilowatt station versus 100 kilowatt station is
16 different, the peak demand for 100 kilowatt stations
17 set at the 100 kilowatt of the out which is basically
18 our demand charge per kilowatt times 100, and the
19 medium -- the 50 kilowatt station is set at 50
20 kilowatt times are demand rate of the medium general
21 service rate to compensate for the difference in the
22 ability of our charging station to dispense that
23 power.

24 **Proceeding Time 1:51 p.m. T51**

25 MS. JUBB: Thank you. Building on Mr. Seong's response
26 to those questions, we did not adjust the energy

1 dispense, the 13.1 kWh, and we did not adjust the
2 average charging session time between the 25, the 50
3 and the 100 kW station. But we did account for the
4 difference in peak demand. And peak demand is a very
5 important driver of cost. So the peak demand was
6 different based on for those different charging
7 station power levels. It's a 100 for the 100 kW, 50
8 for the 50.

9 All right, so I've also got a few responses
10 to questions that came in in advance of the streamline
11 review. We received some questions on the application
12 of the F22 general rate increase adjustment to our
13 proposed rates. This came from, through Exhibit A-13,
14 BCUC 11.7. The F22 RRA adjustments arose from
15 Commission Order number G-187-21, in respect of BC
16 Hydro's F22 revenue requirements application.

17 In that application we applied for a 1.16
18 percent general rate increase, and as a result of the
19 adjustments, it is now 1 percent. So, it dropped by
20 .16 percent. And as BCUC staff certainly noticed in
21 our fast charging rate application, in our proposed
22 tariff pages, we proposed that general rate increase
23 changes apply from F23 forward, which means this
24 adjustment would not apply.

25 The reason that we proposed that they would
26 be from F23 forward was really just in the interest of

1 ease of administration and costs. Applying the
2 adjustment would require sending staff out to each
3 charging station to program the change.

4 We don't expect that applying this
5 adjustment, which is .16 percent reduction, would have
6 a material impact on the overall cost recovery from
7 our fast charging rates. That said, we would be
8 amenable to making that adjustment if the Commission
9 determined we should.

10 We also received a series of questions
11 about the recovery of demand related cost for our 25
12 kW stations, and why did we set -- the questions also
13 asked us why did we set the 25 kW station rate to be
14 60 percent of the 50 kW station rate, rather than
15 aligning it more closely with the types of
16 calculations we did for the 50 and 100 kW station?

17 Examples of these questions are Exhibit A-
18 13, BCUC 21.1, 21.1.1 and 21.3.

19 So, I start by acknowledging that over half
20 of BC Hydro's cost of electricity service is demand
21 related, so being related to providing that power,
22 that single highest power draw in the year. So,
23 demand related costs are important.

24 The medium general service rate, which is
25 the rate that is relevant to the 50 and 100 kW
26 stations has a demand charge. A small general service

1 rate which is relevant to our 25 kW station does not
2 have a demand charge. It is similar to our
3 residential rates, in that it only has a volumetric
4 charge that applies cents per kWh essentially.

5 So, it is generally true that in rate
6 design that if there is a low load factor load, and it
7 is on a volumetric only rate, there will be demand
8 costs under recovery. So, based on that, and we also
9 reasonably expect that electric vehicle fast charging
10 is going to have low load factors. So, high peak
11 demand relative to the energy used.

12 **Proceeding Time 1:56 p.m. T52**

13 So based on that, it's reasonable to expect
14 that if we only applied the small general service
15 volumetric charge, and understanding our 25 kW rate,
16 we could under-recovery demand related costs, which is
17 why we set the 25 kW rate, not based just thinking
18 about the SGS volumetric charge, but relative 60
19 percent of the 50 kW charge.

20 I'd also just like to note that -- and we
21 were asked about what are those demand related costs
22 for the -- what they are, and we don't know what they
23 are right now. Understanding them and quantifying
24 them requires that fully allocated cost of service
25 study that we discussed in the opening presentation,
26 and I'll think it will be a very interesting and

1 important part of that study when it's done.

2 So moving on, we also received some
3 questions as to why we viewed the SGS or -- that's our
4 small general service, rate schedule 1300, or the
5 medium general service, MGS, that's rate schedule
6 1500s, as being relevant to our proposed rates.
7 Examples of these questions were from Exhibit A-13,
8 BCUC 24.1 and 24.2, and the questions were along the
9 lines of if you had multiple charging stations at a
10 location, would you not be more appropriately
11 considered under, for example, the large general
12 service rate?

13 So we've aligned the rate schedules with
14 the applicable general service rate as per electric
15 tariff. As per the electric tariff, the availability
16 for medium general service is 35 kW to 150 kW, which
17 lines up with our 50 kW station and our 100 kW
18 station. The availability for small general service
19 is less than 35 kW, so it lines up with our 25 kW
20 station.

21 Even in a hypothetical situation which was
22 raised in the question of where you had, say, multiple
23 25 kW stations at a single location, and would that be
24 more relevant to consider it now as being in the
25 medium general service category, we don't see that as
26 being appropriate because the service we're proving is

1 at the station level. The customer is receiving
2 service from an individual charging station, not all
3 charging stations that are co-located. So given that
4 the service is at the charging station level, we think
5 it's appropriate to align with the small general
6 service or medium general service.

7 We received questions about whether or not
8 we consulted on BC Hydro not being able to guarantee
9 charging speed, and also whether the fact that
10 charging speed is not guaranteed results in --
11 combined with these being time-based rates, whether
12 that results in a unique treatment for electric
13 vehicle fast charging customers relative to other
14 customers. So I believe the line of thinking was that
15 if you're on a cents per kWh rate and service is
16 interrupted, you don't pay while your service is
17 interrupted, so is that more fair than when you're on
18 a cents per minute rate and you're charging speed is
19 lower than you expected, but you still pay the same
20 cents per minute.

21 So I'd just like to clarify regarding our
22 consultation on this topic of not being able to
23 guarantee charging speeds. As shown in Appendix E of
24 our application, Appendix E, page 29 of 44, we did
25 include this topic in our public workshop.

26 Also to clarify, section 9.4 of the

1 electric tariff which also applies to this service, BC
2 Hydro may interrupt or reduce service to any customer
3 under certain circumstances. So it's not that it's
4 unique to fast charging.

5 I'd also like to note that there are a
6 number of time-based charges in the tariff that would
7 not -- where a customer could be faced [with] the same
8 total charge irrespective of whether there was an
9 interruption. And an example of that is the basic
10 charge which applies by day.

11 **Proceeding Time 2:00 p.m. T53**

12 We still apply that charge even if there's
13 issues with the power. So this situation's not unique
14 to fast charging rates.

15 So, moving on to the next topic, we were
16 asked about the fully allocated cost of service of our
17 proposed rates relative to medium and small general
18 service. For example, Exhibit A-13, BCUC question
19 34.6 and 34.7. Now, as I mentioned, we don't know our
20 fully allocated cost of service for these proposed
21 rates and we won't know that until some time. But we
22 do have a sense of the order of magnitude, and
23 certainly it's very well below the cost of service for
24 the medium and general service rate classes. For
25 Fiscal 20, the total fully allocated cost of service
26 for the medium general service rate plan was \$346.2

1 million. And for the small general service rate
2 class, it was \$450.9 million. So, irrespective, this
3 service is going to be a small part of that total
4 cost.

5 I'd like to move on to a question on
6 Exhibit C6-4, question 7.2 from CEC, which asks us to
7 please confirm the customers who elect to charge at
8 home instead of charging at BC Hydro public station
9 would be contributing to the overall cost of service
10 of electric vehicle charging. And we confirm that,
11 yes, they would to the extent there's cross-
12 subsidization as there currently is, as being paying
13 as part of all ratepayers, they would be contributing.

14 We were also asked about an interesting
15 study that BCUC staff put on the record as Exhibit A2-
16 4. And the question came to us in Exhibit A-13, the
17 BCUC 35 series of questions. The study that was
18 posted as Exhibit A2-4, it's an interesting study done
19 by consulting economist E3 for Hydro Quebec. And it's
20 a study to try to understand the extent to which a
21 utility's investment in public electric vehicle fast
22 charging infrastructure will encourage electric
23 vehicle adoption leading to increased utility revenues
24 from charging at home or other locations.

25 So, first, we should confirm that we do
26 believe that BC Hydro's investment in public fast

1 charging infrastructure will encourage electric
2 vehicle adoption. And over time that should result in
3 increased revenue from charging, say, at home or at
4 work or other locations. So we don't dispute that
5 that effect exists.

6 However, the effort and costs that would be
7 required to verify the extent of that effect would be
8 -- it would be a long and resource intensive exercise.
9 We've not completed the study done by E3 and I'd like
10 to just clarify that the E3 study does not attempt to
11 verify the effect, rather – and this is described on
12 slide 16 of the study – E3 developed iterative
13 scenarios of essentially a potential future forecast
14 of how the world could play out and compared those
15 scenarios to come up with an estimate of a potential
16 effect.

17 To actually verify whether or not that
18 effect occurred and the extent to which it occurred,
19 we would have to undertake the effort shown in the E3
20 study on page 8 where they've presented an econometric
21 model where you would verify in this model, for those
22 -- I'll read it out. It is, you're basically solving
23 for the coefficient on the growth of electric vehicles
24 due to the utility's investment, along with all other
25 factors that influence the growth of electric
26 vehicles.

1 And E3 acknowledged that these all other
2 factors could be gas prices, government policies,
3 battery costs, or anything else that could influence
4 consumer decision to purchase an EV.

5 **Proceeding Time 2:05 p.m. T54**

6 So I think we can all imagine the data
7 collection effort required to build a model to isolate
8 the effect of the utility's investment while
9 controlling for all those other factors. It's a
10 fascinating study. It would be expensive, it would
11 take many years, and in considering of, you know,
12 prudence and the cost to ratepayers, we're not
13 suggesting that we undertake this type of study.

14 So I will now move onto a question from
15 CEC, Exhibit C6-4 question 3.1. It asks us to confirm
16 that if we were able to fully recover the cost of the
17 fast charging stations, would that mitigate ratepayer
18 risk. And I would maybe need to clarify or restate
19 that. Fully recovering the cost from the users of the
20 station as opposed to from all ratepayers.

21 And we confirm, that if we could recover
22 all the costs of the service from the users of the
23 service then risk to all other ratepayers would be
24 mitigated. However, as noted, we expect it to be
25 several years until we can achieve that goal.

26 CEC also asked us in Exhibit C6-4, question

1 16.1 and 16.2, to confirm that ratepayers who are
2 subsidizing electric vehicle charging are impacted by
3 the proposals under consideration today, and to
4 confirm that all ratepayers have a legitimate interest
5 in having their views heard. And first, we do agree
6 that all ratepayers have a legitimate interest in
7 having their views heard, and it is true that all
8 ratepayers are impacted by the proposals. However, on
9 an individual basis, this impact is fairly modest. So
10 for example, you may be aware that for the F22 revenue
11 requirements application, we remove the costs
12 associated with the electric vehicle charging
13 infrastructure from the general rate increase and that
14 impacted the general rate increases by 0.05 percent.
15 That's equivalent to a bill impact for an average
16 residential customer of 5 cents per month.

17 So on an individual basis, it's fairly
18 modest. However, collectively and when you think of
19 it across all ratepayers, that's where I believe it
20 becomes more material. We do need to consider the
21 impacts on all ratepayers and our proposal considers
22 those impacts and the interests of all ratepayers by
23 aiming to propose a rate that will maximize revenue
24 recovery and reduce cross-subsidization.

25 And finally, the last one --

26 THE CHAIRPERSON: Before you go on, can we just go back

1 to the study, the Hydro Quebec study, Exhibit A2-4.
2 So you said you -- I think you said you think it would
3 cost a lot of money. Do you have any cost estimates?

4 MS. JUDD: So I'm speaking from my experience for five
5 years as the manager of a group that conducted these
6 types of studies and it was fascinating work, and --
7 yeah, it was very interesting work. So in my
8 experience we would probably need to collect about
9 three years of data, and the data collection effort
10 could cost -- it could cost several hundred thousand
11 dollars. And the reason is that -- maybe 200 hundred
12 if I had to budget for it.

13 And the reason is that some of this data we
14 would have to produce ourselves through surveys. It's
15 not data that would be immediately available. So for
16 example, questions of what influences a consumer's
17 decision to purchase an electric vehicle, we'd
18 probably have to ask people that. And we'd have to
19 ask it repeatedly to get a good quality longitude data
20 set.

21 THE CHAIRPERSON: And that's what they did in Quebec?

22 MS. JUDD: No, they did not do that, and I think
23 that's an important clarification.

24 THE CHAIRPERSON: But they've come up with some
25 conclusions and recommendations.

26 MS. JUDD: They did. They did it based on what I

1 would describe as a potential study where they've
2 developed hypothetical scenarios of what the future
3 may hold and they've compared them. So they haven't
4 verified an effect. What they've done is understood
5 under a range of outcomes what that effect could be.

6 THE CHAIRPERSON: Okay.

7 MS. JUDD: So it has quite a lot of uncertainty.

8 THE CHAIRPERSON: Fair enough.

9 MS. JUDD: And I'd like to add, if you don't mind: I
10 mentioned the data collection costs. At the end of
11 the data collection cost you also have to hire a
12 skilled econometrician to run the model and that could
13 easily be another hundred thousand dollars.

14 THE CHAIRPERSON: So just as a matter of curiosity, you
15 know, you used the word "prudence" with regards to the
16 expenditures. Then you've just pointed out to us that
17 the entire amount of subsidization for the EV charging
18 system is, I think you said, .05 percent. And you're
19 describing these model costs as, from what I can see,
20 the cost of a couple of electric DC fast chargers.

21 **Proceeding Time 2:10 p.m. T55**

22 So, I think we'd be into the several
23 decimal places worth of impact on the revenue
24 requirement for a study like that. So, I'm just
25 curious, you know, why would it not -- why would you
26 not be justified in doing that if it helped steer the

1 program and helped make decisions about things that
2 are uncertain. I'm just wondering why you are so
3 willing to dismiss it out of hand, because it costs a
4 few hundred thousand dollars, when we're looking at a
5 program here that costs many, many times more of that,
6 even though all of it is only .05 percent of the
7 revenue requirement?

8 MS. JUBB: So the cost is roughly as Mr. Seong
9 mentioned, is roughly around 3 million a year. And I
10 can't speak to precisely what that number is, but I
11 think the cost of the overall effort is in that order
12 of magnitude. And the revenues that we're thinking
13 of, we might get less than a million a year in revenue
14 from this service.

15 So, in that context, spending \$300,000 on a
16 study, the use of which -- or the value of which,
17 aside from being very interesting, which it is, but
18 the direct value of which is unclear, I'm not sure
19 that it would be in a position to justify it on that
20 basis.

21 And the other comment is for those who have
22 done these econometric studies will know that you
23 often fail to get a significant result. So, you can
24 do -- you can collect all the data, you can run the
25 model, and still not get a statistically significant
26 sign on the coefficient. This error term on slide 8

1 can still blow up on you. So we may not get a useful
2 result out of the study. And we would have to be
3 prepared to accept that, you know? We could spend
4 \$300,000 and three years of effort, and not get a
5 result that had a statistically significant sign.

6 So, I'm interested in the study, but in
7 thinking about the cost to verify it, and the very
8 likely possibility given all those other factors that
9 you have to control for, a very likely possibility
10 that you won't get a statistically significant result,
11 I wouldn't recommend it. Although it's very
12 interesting study, I probably wouldn't recommend it..

13 THE CHAIRPERSON: Thank you.

14 MS. JUBB: Okay, I've had the last question here, so I
15 will just wrap that up. We received questions on how
16 we use the jurisdiction review of prices in this
17 application, and how it's used in other applications.
18 So, for example, CEC, Exhibit C5-4, RCIA issue number
19 2, question 2, and Exhibit C7-6, BCOAPO 29.1.

20 So, I'll just clarify that we use the
21 jurisdiction review, and I think we've spent a fair
22 bit of time on that already today, to assess whether
23 our proposed rates fall within the range of other
24 providers, and are therefore consistent with the
25 Commission's interest in a level playing field.

26 As I mentioned earlier, we did not weight

1 the rates of other providers, and give some providers
2 more weight than others.

3 I'd like to mention in response to a
4 question from RCIA that it is common to include
5 jurisdiction review of prices in rate design
6 applications. It's very common, standard practice.
7 And for example, see BC Hydro's 2015 rate design
8 application.

9 And I'd also like to clarify further to the
10 questions from RCIA, and confirm that jurisdiction
11 review is not a cost of service analysis. It doesn't
12 give you cost of service. Cost of service analyzes BC
13 Hydro's costs, it's inward looking, whereas a
14 jurisdiction review is an outward looking review of
15 the rates charged by others, and may not provide any
16 insights to costs.

17 **Proceeding Time 2:15 p.m. T56**

18 That's all we had on the questions in
19 advance of the SRP, thank you.

20 THE CHAIRPERSON: Thank you, Ms. Jubb. Okay, so we're
21 going to give people an opportunity to ask follow-up
22 questions now.

23 Mr. Flintoff, are you still with us? Mr.
24 Flintoff?

25 MR. FLINTOFF: Yeah, just trying to get my mic on.
26 Thank you very much. Can you hear me?

1 THE CHAIRPERSON: Yes.

2 **CROSS-EXAMINATION BY MR. FLINTOFF:**

3 MR. FLINTOFF: Q: Okay, there's a few questions, and
4 some -- I'll start with the more technical one first,
5 we'll dispose of that. It's page 9 to 17 of the
6 presentation where it shows the diagram of the charger
7 metering constraints-progress. And in that diagram
8 you imply that a DC meter will be added to the
9 charging stations and will be able to implement
10 billing by customer in kilowatt hours, is that
11 correct?

12 MR. PAPADOULIS: A: Hi, Mr. Flintoff. This is Jim
13 Papadoulis. The diagram is just that, it's
14 diagrammatic. What we anticipate is that we'll be
15 utilizing the built-in charger that's part of the
16 charging mechanism. I don't anticipate we'll be
17 adding anything else.

18 MR. FLINTOFF: Q: Oh, because you used the word
19 embedded and I was just wondering if you were
20 embedding it or if it's already there.

21 MR. PAPADOULIS: A: It's already there.

22 MR. FLINTOFF: Q: Okay. So, to add a AC meter we would
23 incur an error of about 3 to 5 percent but we would
24 have to condition the inputs to interface with the
25 charging unit, is that correct?

26 MR. PAPADOULIS: A: Correct. The revenue meter that's

1 upstream of the entire service there is incapable of
2 doing a transactional based --

3 MR. FLINTOFF: Q: Right, so it would be a separate
4 meter, CTs and PTs, ahead of the charger?

5 MR. PAPADOULIS: A: If the service becomes that big,
6 yeah.

7 MR. FLINTOFF: Q: Yeah. Well, no, even if it was
8 smaller, we could still add an AC kilowatt hour meter
9 on the line side of the charger, right?

10 MR. PAPADOULIS: A: Do you mean downstream of our
11 transformation and our kiosk, like in between?

12 MR. FLINTOFF: Q: That's correct. On the 380 volt or
13 whatever it is -- or 600 volt line going to the
14 charger, we could put an AC system in, metering
15 system.

16 MR. PAPADOULIS: A: Okay.

17 MR. FLINTOFF: Q: And that would only introduce an
18 error of about 3 to 5 percent on the kilowatt hours
19 consumed by the EV customer.

20 MR. PAPADOULIS: A: All right.

21 MR. FLINTOFF: Q: Okay. So that's possible?

22 MR. PAPADOULIS: A: It's possible to configure it
23 electrically however we like. The problem is that we
24 can't bill per transaction, that's the issue, that's
25 the constraint.

26 MR. FLINTOFF: Q: Yeah, but if the input is the same as

1 the input in the meter that's embedded, then would
2 there be a big issue? It's really -- it's not reading
3 directly kilowatt hours, it's reading some signal
4 condition output -- or input, excuse me.

5 MR. PAPADOULIS: A: Right, but then we wouldn't be able
6 to, you know, identify the vehicle that's consuming
7 the energy and bill them accordingly. Like, our
8 revenue meter is incapable of doing that at this
9 point.

10 MR. FLINTOFF: Q: Yeah, a revenue meter is incapable of
11 doing it but it appears the charging station is
12 capable of doing it, from the diagram. If you can do
13 it for DC, you should be able to do it for AC.

14 MR. PAPADOULIS: A: Again, our meter, our revenue
15 meter, our approved revenue meters on the AC side are
16 not transactional. They collect data and --

17 MR. FLINTOFF: Q: No, I agree. But what is the
18 transactional component?

19 MR. PAPADOULIS: A: It collects data twice a day. And
20 then creates your bill that you get ever 30 or 60
21 days.

22 **Proceeding Time 2:20 p.m. T57**

23 MR. FLINTOFF: Q: So it identifies the users, how?

24 MR. PAPADOULIS: A: Well, our revenue meters that you
25 have on, you know, residential, industrial, commercial
26 services are attached to a customer.

1 MR. FLINTOFF: Q: That's right, but the ones in the
2 charging unit aren't attached to a customer, they're
3 attached to a user. Is this a software issue?

4 MR. PAPADOULIS: A: Well, it's a software issue, it's
5 a hardware issue and it's a Measurement Canada issue.

6 MR. FLINTOFF: Q: Okay. Okay, my other question goes
7 mostly to the *Clean Energy Act*. I don't know who is
8 going to answer that one. It deals with the *Clean*
9 *Energy Act* Section 18(3). And in there it says:
10 "The commission must not exercise a power
11 under the UCA in a way that would directly
12 or indirectly prevent a public utility
13 referred to in subsection (2) from carrying
14 out a prescribed undertaking."
15 Now assuming we all agree it's a prescribed
16 undertaking, what are the constraints that BC Hydro
17 would place on the Commission in regards to rate
18 setting that would directly or indirectly prevent you
19 from proceeding?

20 THE CHAIRPERSON: Mr. Christian?

21 MR. CHRISTIAN: Mr. Chairman, can you hear me? Am I
22 getting through this time?

23 THE CHAIRPERSON: I can hear you, yes.

24 MR. CHRISTIAN: Excellent. Thank you. These are some
25 of the questions that I referred to in my opening
26 submissions that were clearly legal interpretation

1 questions that the panel wasn't going to be prepared
2 to speak to today.

3 The other thing that I think came clear in
4 this morning's session was that the Commission panel
5 is going to be seeking legal argument, or argument at
6 the end of this and not during the SRP. I understand
7 there's going to be a written argument phase.

8 THE CHAIRPERSON: That's correct.

9 MR. FLINTOFF: Okay.

10 MR. CHRISTIAN: So my suggestion is that Mr. Flintoff
11 confirm the questions that he's asked in advance of
12 the SRP that he'd like responses to and we'll deal
13 with them in written argument.

14 THE CHAIRPERSON: Mr. Flintoff?

15 MR. FLINTOFF: Yes. Yes, the response basically goes
16 to what constraints are placed on the ability of the
17 Commission to set rates, and if it's an indirect
18 perception, what are the limits of those perceptions
19 in price and in types of metering, be it time based or
20 kilowatt hour based.

21 THE CHAIRPERSON: Yeah, I think that as Mr. Christian
22 pointed out, that requires a legal argument, and so
23 we'll -- if you can hold off and we can pose that
24 question to Hydro to address in argument.

25 MR. FLINTOFF: Q: Okay. Now, on the losses -- like if
26 you have a level 2 charger at your residence, you

1 would pay the losses on that charger, right? And if
2 you have fast charging, you don't pay the losses on
3 the charger. So there's some inequities between the
4 two systems, be it level three and level two. And is
5 there any -- who pays the losses basically? You've
6 identified 11 percent losses. Are they totally
7 recovered in rates, or are they just partially
8 subsidized?

9 MS. JUBB: A: This is Anthea Jubb. I would like to go
10 back to our commentary earlier today on slide 10,
11 where we noted that our long-term objective is to
12 recover all the costs of the station from the station
13 users, but that currently we're not able to do so.
14 And examples of costs that are not recovered from
15 station users right now include the losses such as the
16 electricity used for ancillary equipment.

17 **Proceeding Time 2:24 p.m. T58**

18 That said, we did estimate the impact of
19 including those losses in the calculation of the rate,
20 and filed that in our rebuttal evidence. And the
21 impact was very modest. Perhaps my colleague Mr.
22 Seong can speak to that?

23 MR. SEONG: A: Sure. The impact of that was about
24 again .05 cents per minute -- or sorry, .5 cents per
25 minute, with the losses included of the 11 percent.

26 MR. FLINTOFF: Q: Right, and the impact doesn't sound

1 too big, except some of the customers are up country
2 and 100 percent electric heat, in which case the
3 impact is greater than in the urban areas, where there
4 is natural gas. So, I think there is still an impact,
5 even though you feel it's small.

6 MS. JUBB: A: This is Anthea Jubb. For clarity, we
7 were referring not to home charging in the response we
8 just provided, but rather to public fast charging.

9 MR. FLINTOFF: Q: Okay.

10 MS. JUBB: A: So it isn't clear to me how home heating
11 fuel is relevant, unless I'm missing something?

12 MR. FLINTOFF: Q: Well, it affects the ratepayer at the
13 end of the day, so.

14 MS. JUBB: A: Agreed.

15 MR. FLINTOFF: Q: And since all costs aren't being
16 recovered, some of it is going to flow back to the
17 ratepayer.

18 MS. JUBB: A: Agreed.

19 MR. FLINTOFF: Q: Okay, thank you. Thank you, Chair.

20 THE CHAIRPERSON: Thank you, Mr. Flintoff.

21 Ms. Oleniuk, does Suncor have --

22 **CROSS-EXAMINATION BY MS. OLENIUK:**

23 MS. OLENIUK: Q: Thank you, Mr. Chair, and good
24 afternoon panel. Thank you to the BC Hydro panel for
25 your very helpful presentation and response to some of
26 the SRP questions. I just have a few clarification

1 questions today, so just the first one here.

2 Earlier today, Ms. Jubb, you indicated I
3 believe an expectation that full cost recovery of the
4 EV fast chargers would occur in approximately 2024.
5 Then later in the presentation I believe it was Mr.
6 Simmons indicated the earliest would be approximately
7 2025. And then Ms. Jubb I believe you noted the full
8 utilization wasn't expected to occur until 2031. And
9 I'm just wondering if the panel can reconcile those
10 statements, and those dates in particular.

11 MS. JUBB: A: This is Anthea, do I need to say my name
12 every time before I respond?

13 MR. BEMISTER: It helps on the web and transcript.

14 MS. JUBB: A: It helps, okay. So, I will do so, so
15 this is Anthea Jubb.

16 So, the reference to full cost recovery by
17 the time we file our evaluation in 2024 was referred
18 to as an aspiration. So it is our aspiration that we
19 would be in that position by 2024. Whether or not we
20 can achieve that aspiration, that goal, there is a lot
21 of uncertainty there.

22 The reference to the 30 percent utilization
23 in a mature market, that is referring to the Rocky
24 Mountain Institute's Rate Design Study that is
25 referred to on page 31 of our application, and that is
26 their submission. Rocky Mountain Institute's

1 submission in their study that based on their
2 information, they expect it to take ten years to get a
3 to a 30 percent utilization.

4 MR. SIMMONS: A: I would just add that when I referred
5 to 2025 I was referring to the end of the GGRR with
6 respect to all our stations need to be put into
7 operation by then, and I'm not sure exactly but --
8 what the record shows, but I should have said that we
9 would hope by some time there that full cost recovery
10 could have been achieved.

11 MS. OLENIUK: Q: Okay, thank you, that's helpful. And
12 just, Ms. Jubb, just a really quick follow up
13 question. You mention, you mention you referred back
14 to the Rocky Mountain study to clarify that. Is that
15 BC Hydro's position as well, approximately 10 years to
16 full utilization? Or do you have a different
17 position?

18 MS. JUBB: A: We don't know, to be honest. We don't
19 know how long it would take to get to that level of
20 utilization. And it's one of those uncertainties that
21 we believe can't be resolved until we have time to
22 conduct monitoring and evaluation.

23 MS. OLENIUK: Q: Okay, thank you. And just continuing
24 with you, Ms. Jubb, with respect to your portion of
25 the presentation dealing with cost of service, I
26 believe you indicated that BC Hydro wouldn't know the

1 full cost until a complete year was finished because
2 of the monthly and annual peak demand changes I think
3 is what you said.

4 **Proceeding Time 2:24 p.m. T59**

5 Can you just explain that a little bit more
6 in terms of why the full year is required?

7 MS. JUBB: A: This is Anthea Jubb. So what I was
8 referring to in that was the -- not the monthly peak
9 demand charges that show up in the tariff, but BC
10 Hydro's demand related costs. So that is BC Hydro's
11 cost associated, for example, with having a big enough
12 transmission and distribution serve system to be able
13 to provide power when everybody most wants it at that
14 hour when it's in most demand. So I was referring to
15 BC Hydro's costs, not the charges that show up in the
16 tariff.

17 And the reason that a full year of data is
18 required to analyze these costs is because these costs
19 vary seasonally, they're not constant or a steady
20 state costs, they're driven by the system peak which
21 is once a year and also the non-coincident peak which
22 is monthly.

23 MS. OLENIUK: Q: Thank you. And whomever is best
24 equipped on the panel to answer this question can
25 certainly feel free to do so. Does BC Hydro intend to
26 individually meter each 100 kilowatt charger at a

1 location with two 100 kilowatt charges to stay under
2 the 150 kilowatt peak for large general service?

3 MR. PAPADOULIS: A: Okay, this is Jim Papadoulis. We
4 do not intend to meter individually, it would be at
5 the site level.

6 MS. OLENIUK: Q: Okay, thank you. And just a
7 confirmation on this one, I think the panel – I can't
8 remember exactly who it was – mentioned that if
9 Measurement Canada approved measurements by energy
10 consumed or per kilowatt per hour pricing, that BC
11 Hydro would support a rate on this basis. I'm just
12 looking for that confirmation that I heard that
13 correctly.

14 MS. JUBB: A: We are certainly interested in
15 electricity based rate design. We've heard from our
16 customers that it's their strong preference and we
17 know that it would perform better on various Bonbright
18 criteria, such as fair allocation of costs. Certainly
19 if and when we have the ability to implement an
20 electricity based rate design, we will carefully
21 consider it and the costs associated with it, and may
22 come back to the Commission earlier than 2024 to ask
23 for approval of such a design change.

24 MS. OLENIUK: Q: Thank you. And just lastly just to
25 wrap up here, I just wanted to confirm that BC Hydro
26 will be providing written responses to those SRP

1 questions that weren't addressed today, in particular
2 given the scope ruling this morning Suncor is
3 interested, very interested in BC Hydro's position and
4 evidence on all of the SRP questions provided on July
5 12th and 22nd that weren't responded to today. And
6 Suncor would expect that the Commission, who asked
7 most of the questions, and the other interveners would
8 similarly be interested as well.

9 THE CHAIRPERSON: Mr. Christian?

10 MR. CHRISTIAN: Well, the gist of -- sorry, it's Jeff
11 Christian. I think I can be heard. The gist of the
12 submission I made this morning was that BC Hydro took
13 the Commission's streamlined review process
14 guidelines, looked at the number of pre-SRP questions,
15 came to some views on scope, but also looked at other
16 issues related to those questions including types of
17 questions that are legal, those that seek tabular
18 spreadsheet data, and thought that the best way to
19 handle it within the confines of a three day SRP was
20 to allow the witnesses to answer the substance, what
21 were the most relevant questions. And the kind of
22 implication of that is that, no, BC Hydro has no
23 current plans to file written responses to all the
24 outstanding questions to the extent there are any.
25 That of course would have been simply a second round
26 of IRs that would have been filed some time prior to

1 the SRP which probably would have made Hydro's
2 participation in the SRP quite problematic given the
3 amount of time it take to prepare for a three day oral
4 hearing.

5 So it's obviously a question ultimately for
6 the Commission to decide, but the answer is from
7 Hydro's perspective is that there was no intention of
8 doing that and I don't believe Hydro will do that
9 unless it was ordered to by the Commission.

10 THE CHAIRPERSON: Thank you, Mr. Christian.

11 Ms. Oleniuk, what I suggest is that when
12 the hearing draws to a close tomorrow, we'll have a
13 discussion about next steps and we'll discuss those
14 questions, getting the answers to those questions and
15 any other next steps in the proceeding then.

16 MS. OLENIUK: That sounds good to me. Thank you, sir.

17 THE CHAIRPERSON: Thank you.

18 MS. OLENIUK: That's all I had. Thank you, panel.

19 THE CHAIRPERSON: I wonder if I could just ask a --
20 it's okay if I could just as a follow-up question
21 however though on this question of 2024, 2025 and the
22 full utilization.

23 **Proceeding Time 2:35 p.m. T60**

24 So do you need to get to 30 percent
25 utilization in order to get full cost recovery or is
26 it that you need 30 percent utilization at the current

1 21 cent -- at the 21 cent price in order to get full
2 cost recovery. And if you increase the price, you
3 wouldn't need that utilization. Do I understand that
4 correctly?

5 MS. JUBB: A: Just a moment.

6 THE CHAIRPERSON: Because there's a lot of difference
7 between 2024 and 2030. That's a big difference.

8 MS. JUBB: A: Yes. So, I'll refer you to our response
9 to BCUC 1.14.9, BCUC IR 1.14.9. In there we indicated
10 that we expect that we could get to full cost recovery
11 with an average utilization rate of 20 percent. So,
12 we don't believe we would have to get to 30 percent.
13 If we had a rate of 21 cents per minute and we got an
14 average utilization of 20 percent, we believe we could
15 get to approximately full cost recovery at that time.

16 THE CHAIRPERSON: And that's where the 2024 estimate
17 comes from, is that correct?

18 MS. JUBB: A: That's our aspiration, yes.

19 THE CHAIRPERSON: Sure. Okay, thank you.

20 ChargePoint, do you have any questions of
21 the panel?

22 MR. MANHAS: We do. If we are going to take an
23 afternoon break, perhaps --

24 THE CHAIRPERSON: This would be a good time? Okay,
25 great. So, we'll take ten minutes, then.

26 And just before we break, we had said we

1 of the jurisdiction review summary of prices and
2 discussion of different business models and operating
3 characteristics of other providers.

4 MR. MANHAS: Q: Well, we'll come back to that. And so
5 this concept came up a few times this morning of a
6 revenue maximizing rate and if you want a reference,
7 it was mentioned specifically on slide 10 of the
8 presentation this morning. And I just want to
9 confirm, that concept or that phrase doesn't actually
10 show up in the application, correct?

11 MS. JUBB: A: The exact language may not be in the
12 application, however the concept is certainly within
13 the application. Including, for example, on page 2,
14 line 11 where we talk about minimizing -- I'll just
15 read out the sentence from page 2.

16 "The proposed rates are intended to collect
17 users from the fast charging service, not
18 only to recover the cost of electricity for
19 the service, also partly recover BC Hydro's
20 charging station, capital and maintenance
21 cost, to minimize the cost impact on all
22 ratepayers."

23 MR. MANHAS: Q: Okay. So I tried to substantiate that
24 claim in the application and the best I could come up
25 with was on page 26. We're at lines 9 to 11. BC
26 Hydro states that:

"Higher rates would reduce initial station

1 utilization and BC Hydro expects this would
2 reduce revenue recovery."

3 That was the strongest substantiation I could find in
4 the application. And so I just wanted to confirm.
5 There's no specific analysis, you know, like an
6 elasticity analysis or any other sort of economic
7 analysis that confirms that this is a revenue
8 maximizing rate, is there?

9 MS. JUBB: A: We confirm that we do not have a price
10 elasticity study for this proposal.

11 MR. MANHAS: Q: And so when you call this is a revenue
12 maximizing rate, that's based simply on what you
13 describe here as BC Hydro's expectation, is that
14 right?

15 MS. JUBB: A: It is based on our customer research and
16 our professional judgment and as mentioned in the
17 opening presentation, there's uncertainty about what
18 that revenue maximizing rate is and we are -- our
19 judgment is that it falls within that range of 17 to
20 25 cents per minute.

21 MR. MANHAS: Q: And again, just to confirm, you were
22 asked this by the panel earlier but that was based on
23 a survey largely of drivers of electric vehicle
24 stations -- drivers of electric vehicles that use
25 charging stations, correct?

26 MS. JUBB: A: The fact that a customer respond to price

1 is, I believe, a widely accepted economic theory, and
2 the extent to which these fast charging service
3 customers might respond to price was based on the
4 survey that we did of them.

5 MR. MANHAS: Q: You also made a comment this morning
6 that you had limited insight into how they, and "they"
7 being other providers of EV charging services, run
8 their businesses and I just want to confirm, you
9 didn't do any specific stakeholder consultation to
10 better understand the nature of competitors in the
11 market's business, correct?

12 MS. JUBB: A: That's correct.

13 MR. MANHAS: Q: And so the only consultation that these
14 competitors could have taken in was the large
15 consultation with over 300 individuals who registered
16 to participate, correct?

17 **Proceeding Time 2:52 p.m. T63**

18 MS. JUBB: A: The public rate design workshop was open
19 to all interested parties.

20 MR. MANHAS: Q: And do you recall that ChargePoint
21 provided written submissions following that
22 consultation session?

23 MS. JUBB: A: Subject to check.

24 MR. MANHAS: Q: Okay. And as far as you're aware you
25 don't discuss the concerns that ChargePoint raised as
26 part of your application to the Commission?

1 MS. JUBB: A: Are you able to provide us an exhibit
2 number in respect of that comment?

3 MR. MANHAS: Q: Well, the comments that were provided
4 were provided in the context of the consultation.
5 They were not included, as far as I can tell, as part
6 of the application. They haven't been filed on the
7 record. And I'm just asking, as far as you're aware,
8 you don't discuss those comments at any point in your
9 application?

10 MS. JUBB: A: I'm unable to confirm that.

11 MR. MANHAS: Q: And you'll agree that the application
12 largely does not discuss any concerns raised by
13 competitors that may have been raised through the
14 consultation process?

15 MS. JUBB: A: I'm also unable to confirm that. I would
16 need to review all such matters. I can, like, I'll
17 search records of comments made by other parties,
18 which I cannot do by memory right now.

19 But I can confirm that the application is
20 focused on BC Hydro ratepayers and the interests of
21 our ratepayers, and that was our primary focus in
22 developing these proposed rates. Far more a focus for
23 us than matters related to a competitive market,
24 wanting to protect our ratepayers, propose rates that
25 could maximize revenue in order to reduce cross-
26 subsidization and minimize cost to all ratepayers. So

1 that very much was our focus.

2 MR. MANHAS: Q: But you also assert that these rates
3 will maintain a level playing field, do you not? I
4 can give you references, for example on page 26 at
5 lines 4 to 6.

6 MS. JUBB: A: Thank you. In the language here
7 describes, yes, to encourage station utilization while
8 maintaining a level playing field. So that is
9 correct, we did consider that, of a level playing
10 field interest.

11 MR. MANHAS: Q: And that's one of the bases on which
12 you seek to justify your application, correct?

13 MS. JUBB: A: I would rather describe that as a
14 consideration. The primary basis or justification for
15 the rate -- for the application really is in respect
16 of BC Hydro's ratepayers. The level playing field is
17 a consideration and it's -- we strove to put forward
18 an application that was consistent with the level
19 playing field interests of the Commission, as
20 expressed in the EV inquiry report.

21 THE CHAIRPERSON: But, Ms. Jubb, the rest of that
22 sentence states, "the proposed rates are designed to
23 align with prices of other operators."

24 MS. JUBB: A: Yes, that's correct. We did --

25 THE CHAIRPERSON: So that is a design criteria.

26 MS. JUBB: A: Fair enough, yes. That's correct, fair

1 MR. MANHAS: Q: And just to confirm though, the
2 application is predicated on a range of 3 to 5 percent
3 being assumed for the purpose of setting rates?

4 MS. JUBB: A: The rates -- illustrative examples of
5 revenue recovery presented in the application are
6 based on a range of utilization of 3 to 5 percent.

7 MR. MANHAS: Q: Sorry, I want to move on now to the
8 monitoring and valuation report that's described at
9 slide 15 of your presentation this morning?

10 And so my question for you here, again,
11 you'll agree with me that the examples of data to be
12 collected, and analysis to be conducted here, you'll
13 agree with me that they are focused again on ratepayer
14 rather than competitive market impacts?

15 MS. JUBB: A: Yes, that is fair.

16 MR. MANHAS: Q: If we could move ahead then to slide 16
17 from your presentation this morning. This is where
18 you provide the current number of stations, and your
19 objectives for the near term. First bullet point says
20 that there are 97 stations at 71 sites across the
21 province. And my first question is, are those all
22 fast charging stations?

23 MR. SIMMONS: A: This is Greg Simmons, that is correct.
24 They are all direct current fast charging stations.

25 MR. MANHAS: Q: And are you able to tell us what
26 proportion of fast charging stations in B.C. are these

1 97 would constitute? That are publicly available?

2 MR. SIMMONS: A: I don't know that offhand, it would be
3 subject to check.

4 MR. MANHAS: Q: Well, I'll ask if you can take that
5 away, and if you're able to come up with an answer, if
6 you could advise the panel.

7 **INFORMATION REQUEST**

8 MR. SIMMONS: A: Okay. Just for the record then, the
9 undertaking is identify the number of EV fast charging
10 stations in British Columbia as of today?

11 MR. MANHAS: Q: That are publicly available.

12 MR. SIMMONS: A: Publicly available. Is that eligible
13 charging stations pursuant to the Greenhouse Gas
14 Regulation, or include Tesla that are only useful for
15 Tesla motor vehicles?

16 MR. MANHAS: Q: I would say anything that's not in
17 someone's garage, or anything like that, yeah.

18 MR. SIMMONS: A: Okay, so all direct current fast
19 charging stations.

20 MR. MANHAS: Q: Yeah.

21 MR. SIMMONS: A: Thank you.

22 MR. MANHAS: Q: My other question relates to your
23 projection of 325 stations across 145 sites by the end
24 of 2025. And I think this relates a little to what
25 Ms. Oleniuk asked you, but -- so on average you're
26 expecting that there will be multiple stations at each

1 site by 2025?

2 MR. SIMMONS: A: That's correct.

3 MR. MANHAS: Q: Okay. So, now I'm going to ask you a
4 few questions that were pre-filed that were not
5 answered, that given the uncertainty about where
6 things might go in the next couple of days, I would
7 like to have answered.

8 The first I don't expect to be contentious,
9 but I don't think we've gotten direct answers on
10 these. Does BC Hydro agree that expanding the number
11 of electric vehicles on the road supports the
12 government's policy objectives?

13 MR. SIMMONS: A: This is Greg Simmons. Yes, I would
14 agree with that.

15 MR. MANHAS: Q: Okay, and does the panel agree that the
16 deployment of fast charging infrastructure is an
17 important aspect of the adoption of EVs in British
18 Columbia going forward?

19 MR. SIMMONS: A: Yes, I would agree with that, but I
20 would caveat that with locations of those stations is
21 also important, and the assurance that we have a
22 network of EV fast charging stations across the
23 province that would facilitate inner city EV travel is
24 important.

25 **Proceeding Time 3:02 p.m. T65**

26 MR. MANHAS: Q: And does the panel agree that expanding

1 the EV charging infrastructure in the province will
2 require a significant investment?

3 MR. SIMMONS: A: I would agree with that.

4 MR. MANHAS: Q: Does the panel agree that investment
5 from the private sector in fast charging stations will
6 be an important part of supporting the government's
7 policy objectives?

8 MR. SIMMONS: A: Over the future period, yes, I agree.

9 MR. MANHAS: Q: So as I take your evidence, and your
10 application, BC Hydro agrees at present it is
11 challenging for an EV station operator to recover all
12 of its capital and operating costs from drivers
13 directly. At present.

14 MS. JUBB: A: We confirm that is the case.

15 MR. MANHAS: Q: And so in this application, BC Hydro's
16 proposed solution is that in the near term, ratepayers
17 will cover the deficit between revenues and costs.

18 MS. JUBB: A: Well, I'm not sure I would characterize
19 it as BC Hydro's solution, but rather the government
20 policy as articulated in the Greenhouse Gas Regulation
21 prescribed undertaking.

22 MR. MANHAS: Q: And so you're providing a legal
23 interpretation on the Greenhouse Gas Regulation?

24 MR. CHRISTIAN: I think the witness is trying to answer
25 the question as best she could without giving a legal
26 interpretation, but if we need legal submissions, then

1 I'm happy to hear the questions and we can take them
2 in final argument or --

3 MR. MANHAS: Q: My question was purely factual in the
4 sense that the solution to the fact that BC Hydro is
5 not going to recover all of its costs at present is to
6 make up any financial shortfall from ratepayers,
7 correct?

8 MS. JUBB: A: I would confirm that costs not recovered
9 from the fast charging station users are expected to
10 be recovered from all ratepayers.

11 MR. MANHAS: Q: And so BC Hydro has no reason to
12 believe that private operators of charging stations do
13 or do not face similar obstacles with respect to cost
14 recovery from drivers?

15 MS. JUBB: A: I don't know enough about private sector
16 operating cost models to know exactly what challenges
17 they may face. I do expect that all operators in the
18 fast charging market right now will have a hard time
19 recovering their costs from the users of their
20 service.

21 MR. MANHAS: Q: You would agree that exempt utilities
22 who are providing EV charging services generally don't
23 have a rate base or ratepayers from which they can
24 collect (inaudible)?

25 MS. JUBB: A: I don't believe they would generally have
26 a rate base as that term is defined in rate

1 regulation, that's correct.

2 MR. MANHAS: Q: And would agree that if BC Hydro prices
3 the charging stations too low, that could potentially
4 create a barrier to private investment going forward
5 in charging stations.

6 MS. JUBB: A: I'm not sure that I know. BC Hydro's
7 service was free for quite a long time and we did see
8 parties come to here and set up fast charging
9 stations. So I don't know the extent to which the
10 rate may be a barrier to other investments.

11 MR. MANHAS: Q: And in particular, you know, we know
12 what the state of the market is today, but we don't
13 know what the impact may be in the future, correct?

14 MS. JUBB: A: Sorry, can you repeat that question.

15 MR. MANHAS: Q: Well, in particular, you say that there
16 has been investment in the market to date, but in
17 particular there's no information in your application
18 that allows for an assessment of what potential
19 impacts there may be in the future?

20 MS. JUBB: A: That's correct.

21 MR. MANHAS: Q: And there's nothing in your application
22 that allows the Commission to determine if there may
23 be more or fewer total charging stations in 2024
24 because of BC Hydro's application here today.

25 MR. SIMMONS: A: This is Greg Simmons. We believe that
26 BC Hydro's efforts related to EV deployment throughout

1 the province, including, you know, some secondary
2 highway corridors, will promote EV adoption in the
3 future.

4 **Proceeding Time 3:07 p.m. T66**

5 MR. MANHAS: Q: But because we don't know what impact
6 this may have on private investment going forward,
7 there's no way for the Commission to assess whether
8 there would be more charging stations in the province
9 if BC Hydro were to select, for example, an
10 alternative rate.

11 MR. SIMMONS: A: We don't know. But as Ms. Jubb had
12 indicated earlier, we do know that when we had
13 stations that were free for charging we saw a number
14 of different entities, essentially, set up shop within
15 the province and deploy EV fast charging stations.
16 That's what we do know.

17 MR. MANHAS: Q: And is the panel aware that the
18 Commission's Phase 2 report specifically addressed the
19 question of how demand charges may impact private
20 market or EV charging stations?

21 MS. JUBB: A: By memory, I do recall that the
22 Commission's EV inquiry report mentioned that a number
23 of parties raised demand charges as a barrier to their
24 investment in electric vehicle charging.

25 MR. MANHAS: Q: And will you agree with me that demand
26 charges have regularly been identified as a barrier to

1 EV deployment across North America?

2 MS. JUBB: A: I am aware that in other jurisdictions,
3 such as Nevada and California, issues of demand charge
4 has been raised by providers of public charging as a
5 barrier to them investing.

6 MR. MANHAS: Q: And BC Hydro -- would the panel agree
7 that such barriers to invest will inhibit ultimately
8 the buildout of charging stations in British Columbia?

9 MS. JUBB: A: I certainly don't have enough information
10 to conclude whether or not demand charges would
11 inhibit the buildout of fast charging infrastructure.
12 We know that a number of entities are here in British
13 Columbia offering fast charging service under our
14 general service rates. I think understanding the
15 general service rate design and the extent to which it
16 imposes barriers on customers really should be -- you
17 know, if it's necessary, it should be subject of its
18 own study and engagement. And we certainly didn't
19 attempt to examine the large general service or medium
20 general service rate design as it applies to those
21 customers as part of this application.

22 MR. MANHAS: Thank you, those are my questions.

23 COMMISSIONER FUNG: If you don't mind, Mr. Manhas, I do
24 have a follow up question with respect to one question
25 that Mr. Manhas has raised. And it relates to what,
26 Mr. Simmons, you said in your evidence earlier this

1 afternoon. You gave the example of the small town of
2 Vanderhoof where you became aware that Confederate Co-
3 op was planning to put in an EV charging station
4 there. And perhaps unexpectedly but you did the right
5 thing, which is Hydro decided to back out of that and
6 allow Confederate Co-op to do that. Because it
7 doesn't make sense to have two EV service chargers in
8 that small town.

9 So has it occurred to BC Hydro to do that
10 kind of, perhaps, consultation or partnership in
11 conjunction with other players out there in larger
12 areas? Just to avoid exactly the scenario that you
13 painted.

14 MR. SIMMONS: A: This is Greg Simmons. Yeah, in fact
15 we do have discussions with fast charging providers.
16 There are additional examples in addition to the
17 example in Vanderhoof. We had identified -- we wanted
18 to expand our station in Squamish and were constrained
19 at the existing location in Squamish and we couldn't
20 expand it beyond a single station. It couldn't handle
21 two 50 kilowatt stations.

22 **Proceeding Time 3:12 p.m. T67**

23 So we found another location within
24 Squamish and during our discussions with another EV
25 fast charging provider Electrify Canada, which is a
26 part of VW Group, they had indicated that they were

1 having difficulties finding a suitable location within
2 Squamish. We actually gave up our location in
3 Squamish to Electrify Canada.

4 Similarly, they had issues in Hope. We had
5 already identified a location in Hope, our Hope
6 station was limited in our capacity. We offered and
7 gave up that site in Hope to Electrify Canada as they
8 were willing to -- what we ended up with in Squamish
9 and Hope are 25 kilowatt charges in those locations,
10 so we thought we can't really compete with the high
11 capacity charges, not where we saw our place in the
12 market at that particular time, and so we thought,
13 well, some of those drivers of Leafs -- and I talked
14 about before that they're not capable of fully
15 utilizing that high capacity charging, putting in a 25
16 kilowatt charger which is less expensive and
17 ultimately could have a less rate, they could charge
18 more towards the maximum of the capability of that
19 charger, it would make more sense to provide that
20 offering too so they have the -- available for high
21 capacity charging in that location, and then low
22 capacity charging. And hopefully that suite of
23 choices can, you know, fulfill the market needs. And
24 so that's what happened in those two jurisdictions as
25 well.

26 COMMISSIONER FUNG: Thank you.

1 MR. MANHAS: Thank you.

2 THE CHAIRPERSON: Thank you. BCSEA and Vancouver
3 Electric Vehicle Association. Mr. Andrews.

4 **CROSS-EXAMINATION BY MR. ANDREWS:**

5 MR. ANDREWS: Q: William Andrews for BCSEA and
6 Vancouver Electric Vehicle Association. My first
7 topic is accessibility of your sites and stations to
8 persons with disabilities. You said earlier today
9 that 16 of the 97 sites are currently considered fully
10 accessible and that you have aspirations to increase
11 that number. Can you comment on what it will take to
12 increase the number and percentage of your sites that
13 are accessible and whether there are financial
14 implications, cost implications of that?

15 MR. SIMMONS: A: This is Greg Simmons. Yeah, first of
16 all I will say there at many times cost implications
17 of doing so, making the site accessible. So one of
18 our objectives that I outlined earlier today is
19 accessibility. And so if we have multiple sites, then
20 we'll look at the various attributes of those sites
21 and accessibility being one of them, and then we'll
22 select the site that best meets the objectives. In
23 some cases it is extra money that can make the site
24 accessible.

25 There is one site we're looking at right
26 now, we had a very -- I guess I could say the location

1 is in Smithers. And we had actually a very tough
2 time, it was my surprise, we had a tough time finding
3 a suitable locations in Smithers and the location we
4 did find that was offered by the city of Smithers,
5 town of Smithers, I'm not sure what their
6 incorporation is, but is unfortunately the chargers
7 are at sidewalk level and the vehicle part is on -- so
8 we're looking at trying to make that site accessible,
9 and hopefully in this case the municipality can
10 retrofit the site to make it accessible and get their
11 crews, their sidewalk crews to make that site
12 accessible.

13 But it's definitely an objective of ours.
14 But I have to say that each deployment has an
15 expenditure authorization request which has a funding
16 amount, and where the expectation is is that we deploy
17 those stations within that funding amount. And if it
18 comes down to having an accessible station or having
19 no station, or an inaccessible station, we probably
20 will select having the station.

21 MR. ANDREWS: Q: Is the degree of accessibility of the
22 various BC Hydro charging sites something that you
23 will address in the evaluation and monitoring report?

24 MR. SIMMONS: A: I think so. I think we probably would
25 want to include metrics on how many are accessible.
26 Of our stations and that evaluation report.

Proceeding Time 3:17 p.m. T68

1
2 MR. ANDREWS: Q: Thank you. To change the topic a bit,
3 I'm going to get into the topic of demand charges and
4 demand costs. First of all, I want to clarify a
5 pretty simple aspect of it, which is whether the power
6 rating of the charger can simply be added when you
7 added additional stations to get a sense of the peak
8 demand at that site. So for example, if you have a
9 site that has one 50 kilowatt charger and then you add
10 another three, so you've got four, does it follow that
11 you now have the potential for 200 kilowatts of
12 demand? Assuming you've got four vehicles that can
13 take that much at the same time. Is it additive in
14 that way?

15 MR. PAPADOULIS: A: Jim Papadoulis. Theoretically,
16 yes, it is additive as you described.

17 MR. ANDREWS: Q: Okay, so in Hydro's choice of the 50
18 kilowatt size of station, can you comment on to what
19 extent you took into account that the potential for
20 demand charges was in the context of medium general
21 service, rather than large general service, if you had
22 chosen either higher kW chargers or multiple stations
23 at the same site? Did you deliberately choose the 50
24 kilowatt approach with a limited number of 50 kilowatt
25 stations per site because that would have a lower cost
26 implication?

1 MR. SIMMONS: A: This is Greg Simmons. So BC Hydro has
2 been deploying mainly, up to recently, 50 kilowatt
3 chargers and the reason for that had really nothing to
4 do with the service size or service connection or
5 anything like that, it had to do with what was
6 available. Our first charger was deployed in 2013,
7 that was what was available, the 50 kilowatt chargers.
8 And it's become the standard for that style or that
9 footprint of charger now. And so it certainly wasn't
10 decided mindful of the general service tariffs.

11 MR. ANDREWS: Q: Thank you. Ms. Oleniuk asked a
12 question about why a fully allocated cost of service
13 study would take at least a year when applied to the
14 EV charging and I understood the response to include
15 the consideration of peak periods of time monthly and
16 annually. Could you explain the distinction between
17 the fully allocated cost of service approach and the
18 calculation of a demand cost according to a tariff?

19 MS. JUBB: A: This is Anthea Jubb. So the rate
20 schedules in our electric tariff group many similar
21 customers together and are intended to recover demand
22 related costs in aggregate over all of those
23 customers. So the medium general service rate
24 schedule has thousands of customers in it, and the
25 demand charge there is intended to reflect the demand
26 related costs of all of those customers together in

1 aggregate, recognizing that some types of customers
2 are going to impose more demand related costs and
3 others are going to impose less.

4 So it's essentially looking at an average
5 overall, and in addition, there's that averaging
6 effect that takes you from the demand related cost to
7 the demand charge, and there's also the rate design
8 process where we consider a whole range of trade-offs
9 in the Bonbright approach, where we look at things
10 like customer understanding and acceptance. So we
11 usually don't end up with an energy charge that
12 perfectly reflects demand related costs, even on an
13 aggregate basis, but aspirationally that's what we
14 would like to have.

15 **Proceeding Time 3:23 p.m. T69**

16 So, within the group of customers that are
17 say charged on medium general service, if there is a
18 subset that have a very different load characteristic,
19 such as a low load factor group, then their demand
20 related costs may not be well reflected by the demand
21 charge in the electric tariff.

22 So that's how you can get -- you can get a
23 difference between the demand related costs that a
24 customer group imposes on the system, and the demand
25 charge that we charge them as per the tariff.

26 MR. ANDREWS: Q: And when you, in your materials, talk

1 about a full cost of service, that would include
2 capital costs for example, the scenario three. Is
3 that considering electricity on the basis of the
4 tariff? Or on the basis of a fully allocated cost of
5 service analysis?

6 MS. JUBB: A: Right, so the entire application when we
7 describe the electricity related cost, it's on the
8 basis of the tariff. So, the assumption behind it is
9 that the electricity related costs are the same as
10 depicted in the medium general service rate schedule.
11 That's the assumption that we've used. In practice,
12 it may not be true. I mean, the energy related costs
13 will line up probably reasonably closely, but the
14 demand related costs will not, likely will not. We
15 won't know until we get there, but likely will not.

16 So, the application is based on applying
17 the tariff and the charges in the rate schedule. The
18 true costs is what you understand through the fully
19 allocated cost of service study.

20 MR. ANDREWS: Q: All right, I'll leave that point
21 there.

22 I want to turn to interconnection costs, it
23 has come up a number of times and you discuss that
24 there were examples where you looked at the possible
25 interconnection costs at a particular site and found
26 them to be too high and chose not to use that site.

1 And can I first confirm that your evidence
2 is that you have included interconnection costs in the
3 capital costs that are presented in the material?

4 MS. JUBB: A: That's correct.

5 MR. ANDREWS: Q: And are those on a station by station
6 basis? That is, one station may have a different
7 interconnection cost than another, by virtue of its
8 location and its circumstances, did you just use an
9 average across the board or is this an actual count of
10 interconnection costs?

11 MS. JUBB: A: The connection costs that are used in the
12 application are averages for across all of the
13 stations, and on an individual basis they can vary
14 quite widely depending on the nature of the site.

15 MR. ANDREWS: Q: Does Hydro -- do you have any
16 information on whether the average interconnection
17 costs that you used for the purpose of this analysis,
18 how it compares to an average interconnection cost of
19 an exempt fast service provider?

20 MS. JUBB: A: I don't have detailed information, but I
21 can say that interconnection costs are highly
22 dependent on the site. How close the electricity
23 service is, whether or not undergrounding is required.
24 And BC Hydro, when we site a facility, we do attempt
25 to site them at places with lower interconnection
26 related costs.

1 pay the construction costs of the extension, less BC
2 Hydro's contribution where that contribution is set up
3 in the tariff. So the customer is responsible for
4 paying the cost to connect to the system.

5 MR. ANDREWS: Q: Does Hydro charge a markup on those
6 interconnection costs?

7 MS. JUBB: A: No.

8 MR. ANDREWS: Q: Regarding depreciation of the --

9 COMMISSIONER FUNG: Sorry, Mr. Andrews, before you move
10 on, if I may interrupt?

11 I just want to make sure I understand how
12 BC Hydro calculates its interconnection charges for EV
13 charging service. Is it based on per station or is it
14 based on per site?

15 MS. JUBB: A: So, I'll do my best here. I'm not the
16 interconnections expert. My understanding is that the
17 interconnection is irrespective of the end use or the
18 nature of the business, the cost is how much it is to
19 connect up to the point of interconnection for the
20 site, including any line extension and related cost.
21 So it's wherever the point at which we connect to the
22 customer's site, the point between BC Hydro's system
23 and the customer's equipment, it's the costs up to
24 that. And it could include costs such as
25 undergrounding lines if a municipality requires that,
26 which I understand some municipalities will. They

1 won't allow you to build overhead, so the customer
2 could incur costs associated with that. But I'm
3 quickly getting out of my depth here because that's
4 not my area of expertise.

5 COMMISSIONER FUNG: I guess what I'm really trying to
6 get at or understand is, is it cheaper for a customer,
7 whether it's BC Hydro or PetroCanada, to basically
8 make sure that you interconnect at one site and put
9 multiple stations on it? Because, overall
10 interconnection charges will be cheaper if you have
11 multiple stations based on one site's connection
12 charges.

13 MR. PAPADOULIS: A: Jim Papadoulis. Do you mind just
14 repeating your question, just for clarity?

15 COMMISSIONER FUNG: I'm trying to understand as a
16 customer if I would like to have EV charging chargers
17 put on to my site, is it cheaper for me to go and ask
18 BC Hydro to put it into one site and then load onto it
19 as many multiple stations as I possibly can, based on
20 the assumption that the interconnection charges are
21 based on per site as opposed to per station. That's
22 what I'm trying to understand.

23 MR. PAPADOULIS: A: Just following up on what Ms. Jubb
24 said, it's really site specific, really. So, if you
25 find a site where the distribution system is
26 reinforced and has lots of capacity, it could be

1 anticipated F23-25 revenue requirement application
2 where Exhibit 11 identifies that an appreciation rate
3 will be identified for EV charging stations. If
4 that's what my friend is asking for, then I'll let the
5 witness --

6 THE CHAIRPERSON: Mr. Andrews, is that what you're
7 asking?

8 MR. ANDREWS: That certainly helps me with where we're
9 going.

10 MR. ANDREWS: Q: So I take it then that BC Hydro in
11 this application is not proposing a depreciation rate
12 for the assets, is that --

13 MS. JUBB: A: The fast charging rate application does
14 not request approval of a depreciation rate.

15 THE CHAIRPERSON: I think the assumption had been that
16 it would have been approved in the RRA, is that
17 correct? This application assumes there would have
18 been a rate approved in the RRA.

19 MS. JUBB: A: This application assumed a depreciation
20 rate of ten years. That was the assumption that was
21 used in it, and that assumption shows up on page 30 of
22 the application. Whether or not that is the number of
23 years that is Commission approved, we work on the
24 basis that that's a subject for the revenue
25 requirements application.

26 MR. ANDREWS: Q: Thank you. And just -- so in the

1 nature of depreciation and amortization, if ten years
2 was maintained or in some way changed to be longer or
3 shorter, that would affect the duration of the
4 recovery of the capital cost, but it wouldn't change
5 the amount of the capital cost that needs to be
6 recovered, is that right?

7 MS. JUBB: A: I think that's right, except to the
8 extent there may be a time value of money or tax
9 treatment which is out of my depth to comment on. I
10 think that's generally correct.

11 MR. ANDREWS: Q: Thank you.

12 THE CHAIRPERSON: Well, the slower the depreciation,
13 the longer it would stay in rate base and if there was
14 a return on rate base it would increase that, but at
15 this point there is no return on rate base per se.
16 Would you agree with that?

17 MS. JUBB: A: I'm not actually sure I can, sorry. It's
18 not my expertise. Sorry.

19 MR. CHRISTIAN: We can agree with that.

20 THE CHAIRPERSON: Thank you.

21 MR. ANDREWS: Q: Well, on the -- since we're on the
22 subject of taxes, you testified that BC Hydro charges
23 GST to EV drivers under the interim approved rate. Do
24 you also charge PST, provincial sales tax?

25 MR. SEONG: A: This is Mark Seong. No, we did not
26 charge PST on the EV fast charging.

1 MR. ANDREWS: Q: Are you aware of whether exempt
2 providers of public fast charging who have a financial
3 fee for their service, charge PST?

4 MR. SEONG: A: From our jurisdiction review, the only
5 charging station or charging provider that we found
6 that charged PST was Suncor/PetroCanada.

7 MR. ANDREWS: Q: I won't take that any further, thank
8 you.

9 In terms of how BC Hydro's proposed rates
10 compare with the rates of other providers, how did BC
11 Hydro go about either adjusting or not for the fact
12 that many of the other providers have higher powered
13 charging stations than BC Hydro's 50 kilowatt
14 stations? You can compare X cents per minute to Y
15 cents per minute, but how you go about comparing the
16 fact that one of them could provide up to 350 kilowatt
17 service whereas the Hydro could only go up to 50?

18 MS. JUBB: A: Well, as I mentioned in the opening
19 presentation, we did not do a formal weighting where
20 we gave certain provider's rates more weight than
21 others. We acknowledge that there's a wide range in
22 the services, the charging power being one. There's
23 very wide range. But we didn't formally weight the
24 rates on that basis.

25 **Proceeding Time 3:38 p.m. T72**

26 MR. ANDREWS: Q: Do you have any information or

1 evidence that you can provide about the extent to
2 which EV drivers are likely to respond to the
3 effective cost of charging where there is a difference
4 in the power of the charging station, and for the sake
5 of simplicity, the same price per minute? In other
6 words, would you expect that EV drivers would be very
7 rational and economic, and conclude that if they can
8 charge at 100 kilowatts, the same or even a slightly
9 higher price per minute could work out to be cheaper
10 to them than Hydro's proposed price at 50 kilowatts?
11 Or do you expect customers to just respond to the
12 cents per minute? And so 21 cents is less than 27
13 cents, so I'll choose 21 cents?

14 MR. SIMMONS: A: This is Greg Simmons. The survey that
15 we talked about earlier today conducted by Leger
16 indicates that 56 percent of respondents would pick
17 the faster charger even if the fee is higher. And in
18 addition to that, I do note that -- and I talked about
19 this earlier, about what we've noticed since the
20 implementation of a rate to the average power
21 procession has increased, which suggests to me that
22 there is some price elasticity there, and people are
23 selecting that 50 kilowatt charger who has the
24 capacity to fully use that 50 kilowatt charger.

25 So, the answer to the question is yeah, I
26 believe the evidence is out there that customers

1 would.

2 MR. ANDREWS: Q: So, you provided very helpful
3 statistics about the utilization of Hydro's fast
4 charging station, which I understood to be 15 percent
5 on an annual basis prior to the adoption of fees.
6 20.3 percent in April, and then approximately 9
7 percent in each of May and June, is that roughly
8 correct?

9 MR. SIMMONS: A: That's roughly correct, yes.

10 MR. ANDREWS: Q: So, is it reasonable to infer that if
11 we can say that that was a drop by a half in
12 utilization rate, that that represents some
13 combination of less EV driving happening, so less need
14 for charge, and charging in other places like at home,
15 and charging at other providers of fast charging? Any
16 combination of those three would be responsible for
17 the reduction in the utilization of BC Hydro's
18 charging stations?

19 MR. SIMMONS: A: Sorry, you'll have to run those
20 scenarios back. I'm trying to --

21 MR. ANDREWS: Q: Well, there has been a drop by a
22 factor of two in the usage of Hydro's stations. So
23 the question is where did that market share go? And
24 I'm suggesting perhaps people didn't drive,
25 theoretically, or they charge at home, or they used
26 another public fast charging station? Does that make

1 sense?

2 MR. SIMMONS: A: Yeah, I would agree. Probably the
3 majority of that reduction that we saw are people that
4 are charging at home, or other level 2 chargers that
5 are free around town that we see.

6 I think given there might be some less
7 driving. In other words the cost of driving actually
8 increased when we put this rate in place. So, that in
9 itself would mean that as people would decrease their
10 driving to some extent because in fact the price has
11 gotten higher. So, just the normal sort of micro-
12 economic response.

13 MR. ANDREWS: Q: Do you have any reason to believe, or
14 evidence, data, that the adoption of a price for BC
15 Hydro's fast charging service led to an increase in
16 demand for other providers? Non-BC Hydro providers of
17 fast charging?

18 MR. SIMMONS: A: We don't have any evidence of that.

19 MR. ANDREWS: Q: On a very specific question, I believe
20 you said that you would be examining the subject of
21 congestion at your sites and stations in the
22 evaluation report. My question is, do you have a
23 metric for congestion? How do you measure, how do you
24 get visibility into the degree of congestion at a
25 site, and if you don't now is that something you will
26 have to develop?

Proceeding Time 3:43 p.m. T73

1
2 MR. SIMMONS: A: Well, we do have a metric now that we
3 look at. And so we look at congestion at each of our
4 stations and utilization at each of our stations and
5 put together a dashboard on a monthly basis that goes
6 to our managers and the executive team. Thus far, we
7 have defined congestion -- and remember that we really
8 can't sit there and visualize the lineup or anything
9 like that. So how we've defined it thus far is that
10 if two consecutive charging sessions occur with a gap
11 of five minutes or less, then we deduce from that that
12 there was somebody waiting. In other words, that five
13 minutes gives the chance for the individual to
14 disconnect their car, you know, pull away, the other
15 individual to get in their car and then pull up. You
16 know, it could be four minutes, it could be three
17 minutes, six minutes -- we've just landed on five
18 minutes as the metric right now to measuring the
19 number of incidents of congestion that we see at our
20 stations.

21 MR. ANDREWS: Q: So are you confident then that you
22 will be able to address the extent of congestion in
23 your evaluation report?

24 MR. SIMMONS: A: Yeah, I think we are. And certainly
25 we could do a scenarios where we look at three-minute
26 gaps or four-minute gaps or five minute. You know,

1 it's going to be directional at best, but it certainly
2 allows us to separate the stations into those that
3 are, you know, no congestion to those that there's
4 significant elements of congestion.

5 The other thing we do on a regular basis,
6 review the comments from people checking in on
7 PlugShare. Some of our busier stations, you know, we
8 receive comments like, you know, "the chances of
9 finding a free charger here are about as good as
10 winning the lottery" or something like that. That's
11 some of our busier -- you know, that's been alleviated
12 to some extent with the rate. But, and so we monitor
13 those. It gives us an indication. But we do have a
14 very good idea of our congestive stations on our
15 network.

16 MR. ANDREWS: Q: As a specific topic, I want to propose
17 and get your response to potential rates for BC Hydro
18 fast charging service. And I'll specifically ask you
19 to respond to a "what if". What if the charge for 50
20 kilowatts was 33 cents a minute and the charge for 100
21 kilowatts was 45 cents a minute. What would be your
22 comment, what impact would that have on the EV public
23 fast charging program?

24 MR. SIMMONS: A: It would reduce usage in our fast
25 charging stations if it were increased to 33 for a 50
26 kilowatt from its current 21.

1 MR. ANDREWS: Thank you. I don't have any further
2 questions.

3 THE CHAIRPERSON: Thank you, Mr. Andrews.
4 Mr. Weafer?

5 **CROSS-EXAMINATION BY MR. C. WEAFER:**

6 MR. C. WEAFER: Q: Good afternoon, panel. It's Chris
7 Weafer for the Commercial Energy Consumers.

8 Just a high level question first, at a high
9 level BC Hydro's position is people won't use the
10 service if the cost is too high. As I understand one
11 of the objectives is to increase the fast charging
12 network throughout the province and through secondary
13 highways between communities that may not have
14 charging stations, is that correct?

15 MR. SIMMONS: A: Sorry, I missed the first part of that
16 question.

17 MR. C. WEAFER: Q: The first part of the question is,
18 as just stated, it occurs to BC Hydro if the price is
19 too high, the service won't get used as much, correct?

20 MR. SIMMONS: A: That's right.

21 MR. C. WEAFER: Q: Right. So the scenario of a highway
22 between Terrace and Prince Rupert with an EV charging
23 station in the middle of that route to ensure a
24 vehicle can get from one town to the other, the price
25 isn't going to be that big a deal, correct?

26 MR. SIMMONS: A: Yeah. I mean, if an individual is

1 facing being stranded during those -- to that point, I
2 would say that it would be quite a bit less price
3 inelastic, especially when their option is getting
4 towed somewhere or something like that. Where it does
5 come into play is if you have somebody, let's say in,
6 I don't know, Smithers is contemplating buying an EV
7 and they travelled to Prince Rupert and they say,
8 "Okay, well, I need to stop at this station in the
9 middle, but it's really expensive and they're kind of
10 gouging us a little bit," then potentially that person
11 may not buy any EV. And so we need to be cognizant of
12 that.

13 **Proceeding Time 3:48 p.m. T74**

14 MR. C. WEAVER: Q: Sure. If it's \$20 to fill up as
15 opposed to \$1.20 a gallon for their F150 pick-up, they
16 still may pick the electric vehicle, even if it's a
17 higher EV rate than --

18 MR. SIMMONS: A: Yeah, obviously there's kind of a
19 threshold where if it becomes a greater cost than the
20 gasoline alternative.

21 MR. C. WEAVER: Q: Right, which is typically the choice
22 people are making to an EV -- decide to buy an EV
23 vehicle. You're avoiding the increasing cost of
24 gasoline as opposed to the smaller difference between
25 BC Hydro as a price leader versus competitors trying
26 to enter into the market.

1 MR. SIMMONS: A: Yes, I think individuals when they
2 choose an EV that's certainly a consideration. I
3 mean, I talk to people that purchase EVs and they say,
4 "I just don't like going to a gas station. I plug the
5 vehicle at home." They do it for, you know, climate.
6 You know, they want to contribute to the climate
7 reduction. So there's a whole host of reasons why and
8 certainly economics plays a big part in anybody's
9 decision to purchase an asset.

10 MR. C. WEAFFER: Q: Right, and certainly environmental
11 issues are a driver for people to buy EV which is
12 maybe partially an explanation why 51 percent of the
13 people are prepared to pay a charge --

14 MR. SIMMONS: A: Yeah.

15 MR. C. WEAFFER: Q: -- while previously it was free, is
16 people are recognizing the -- thank you.

17 I am going to be simple about this and go
18 through Exhibit C6-4 to cover the questions we filed
19 in advance, some of which you've responded to, and
20 thank you for those responses. And some, we're still
21 interested in.

22 So I assume you'll be able to deal with
23 them promptly because there's been notice of them.
24 The first questions with respect to -- it's C6-4.
25 This is with respect to third-party contributions
26 which are not guaranteed but are estimated at 100,000

1 per dual station site bringing expected future net
2 costs to 85,000. This is 1.1 of the SRP.

3 MR. SIMMONS: A: Yeah.

4 MR. C. WEAFFER: Q: Can you elaborate on those third
5 party contributions and when they may occur and what
6 BC Hydro is to realize on that opportunity?

7 MR. SIMMONS: A: Yeah, this is Greg Simmons again. So
8 third party contributions that we receive right now on
9 a -- let's use a twin 50 kilowatt station as an
10 example. So for two stations we get two times 50, so
11 from EnerCan we get 50,000 per station, so that's a
12 100,000. Currently under the CleanBC Program run by
13 -- sorry, funded by the Ministry of Energy, Mines, Low
14 Carbon Innovation, which is managed actually currently
15 through EnerCan and that's 25,000 per 50 kilowatt
16 charger, so that's \$150,000 in contributions for a
17 dual 50 kilowatt charger currently.

18 In the past, EnerCan has -- in the last
19 couple of years, and it's not regular but I would say
20 in between one and two RFPs per year, requests for
21 proposals for EV charging infrastructure, what we've
22 seen in the past.

23 MR. C. WEAFFER: Q: So if I could turn you to question
24 12 in our package, and this is a chart that shows up
25 also at page 11 of your presentation this morning,
26 although a modified version, and then it's at page 31

1 of the application. So we don't need to jump around
2 but it's in there. If you want to just -- if you've
3 got our exhibit C6- 4.

4 MR. SIMMONS: A: So just for -- that was question 12.

5 MR. C. WEAFFER: Q: Question 12 in that Exhibit C6-4.
6 I just want to go to it because it's sort of late in
7 the day and it's a topic that's of interest. So we'll
8 go to this and see if we can flush it out.

9 Here, and I'm focusing on scenario 3 which
10 you define as the full cost of service scenario.

11 MR. SIMMONS: A: Just one second. Could we find that.

12 MR. C. WEAFFER: Q: Of course. So I assumed you had C6-
13 4 in front of you.

14 MR. SIMMONS: A: Well, I have part of it. So we've
15 divvied them up and I apologize.

16 MR. C. WEAFFER: Q: My apologies. Well, we can go to
17 C6-4, or we can go to page 31 of the application if
18 you like.

19 **Proceeding Time 3:52 p.m. T75**

20 THE CHAIRPERSON: Mr. Weafer, while they're looking that
21 up, just have to have a brief discussion about time
22 and I'm just wondering if -- I'm not trying to rush
23 you at all, but does it look like you would wrap up?
24 If not, we'll just -- we'll break at 4:00 and come
25 back tomorrow.

26 MR. WEAFFER: I don't think we're going to wrap up.

1 THE CHAIRPERSON: Okay.

2 MR. WEAVER: I thought I'd cover this question, see how
3 long it took, and then check in.

4 THE CHAIRPERSON: That's fine.

5 MR. WEAVER: I won't -- I expect I'm going to be 15, 20
6 minutes. I don't expect -- but --

7 THE CHAIRPERSON: Okay, we'll break at 4:00 then if
8 that's --

9 MR. WEAVER: Thank you.

10 THE CHAIRPERSON: Or close to it at least. Thanks.

11 MR. WEAVER: Q: Thank you.

12 So I'm sorry, I've referred you to a few
13 locations for this exhibit, this graph. Have you got
14 in front of you?

15 MS. JUBB: A: Just one minute, please, we're almost
16 there.

17 MR. WEAVER: Q: Okay.

18 MS. JUBB: A: Can you give us the exhibit number one
19 more time?

20 MR. WEAVER: Q: The exhibit I've been referring to is
21 C6-4, which was CEC IRs pre-filed for the SRP.

22 MS. JUBB: A: C6-4, okay. Got it. Our apologies for
23 the delay.

24 MR. WEAVER: Q: Not at all, not at all. And this chart
25 will be familiar to you, it's in the application page
26 31. And then you also had a different version in your

1 slides this morning at page 11. My focus is on the
2 scenario 3 full cost of service.

3 MS. JUBB: A: Can you remind me the question number?

4 MR. WEAVER: Q: It's question 12.

5 MS. JUBB: A: Twelve.

6 MR. WEAVER: Q: But I'm just -- this one I'm just
7 referring to the chart, I just wish to -- we'll get to
8 the questions, but we'll get to --

9 MS. JUBB: A: Yes, we're there now.

10 MR. WEAVER: Q: Okay.

11 MS. JUBB: A: Thank you for your patience.

12 MR. WEAVER: Q: Because I just want to be very clear
13 about something I think may have been misunderstood
14 this morning in opening submissions. The CEC is not
15 necessarily advocating for a cost of service being
16 screened. What we're looking to is understanding what
17 the costs of this rate are, to understand what the
18 subsidy is. Okay? Is that a fair thing for
19 ratepayers to pursue?

20 MS. JUBB: A: I think it is a matter of interest to
21 ratepayers.

22 MR. WEAVER: Q: And therefore the Commission.

23 MS. JUBB: A: Yes.

24 MR. WEAVER: Q: Thank you. And so, this is what I
25 understand to be BC Hydro's submission is the full
26 cost of service as known at this time, is that

1 correct, that scenario? And that's what it's labeled
2 as, so I'm assuming that's what it was intended.

3 MS. JUBB: A: Scenario 3?

4 MR. WEAVER: Q: Yes.

5 MS. JUBB: A: It captures direct costs to the best of
6 our knowledge at this time.

7 MR. WEAVER: Q: And it doesn't include the -- scenario
8 3, it's offset by anticipated funding from EnerCan, is
9 that correct?

10 MS. JUBB: A: It is net of any funding from EnerCan or
11 other third parties.

12 MR. WEAVER: Q: And we don't know whether we'll get
13 that funding or not, is that fair? There's no
14 guarantee of those contributions going forward?

15 MR. SIMMONS: A: This is Greg Simmons. No, there is a
16 call right now that is being evaluated, but beyond
17 that we don't with certainty.

18 MR. WEAVER: Q: And is there any reason that assumption
19 wasn't made in the earlier scenarios, scenarios 1 and
20 2?

21 MS. JUBB: A: Scenarios 1 and 2 of Table 3 on page 31
22 do not include capital costs. So whether or not there
23 are third party contributions would not show up in
24 those scenarios.

25 MR. WEAVER: Q: Thank you, that's helpful. And the
26 other -- here we can go to the IR question at C6-4

1 12.1. As I understand this full cost of service, and
2 it's stated in the application, that it doesn't
3 include labour costs of -- is that correct?

4 MS. JUBB: A: That is correct.

5 MR. WEAVER: Q: And why are labour costs not included
6 in the full of cost of service scenario?

7 MS. JUBB: A: The costs included in Scenario 3 are not
8 exhaustive and they do not include indirect costs.
9 They will only include directly attributable cost to
10 this service.

11 MR. WEAVER: Q: But you've identified the labour cost
12 at \$800,000, so I assume that's -- ability to directly
13 allocate to this category?

14 MS. JUBB: A: No, I'm not sure that it is directly
15 allocated, the 800,000.

16 MR. WEAVER: Q: If I could turn you to page 30. "Not
17 included are labour costs associated with electrical
18 vehicle infrastructure which are approximately
19 \$800,000 per year."

20 MR. SIMMONS: A: This is Greg Simmons. Yeah, I'll
21 confirm that number 800,000 and that includes the
22 group I am in, which is under the office of the vice
23 president of customer service, that includes the
24 labour associated with four individuals, including
25 myself, allocated on what we currently spend on EV
26 infrastructure.

Proceeding Time 3:58 p.m. T76

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It's going to be in the order of 60 percent of our time. One is full time in customer -- on customer experience deals with our network management, or network management service provider AddEnergy, things of that nature. Myself I spend about 25 percent of my time directly on EV infrastructure, but that varies. And this year I would say that it has probably been heavier than that due to the regulatory effort that has been required this year, so.

MR. C. WEAFFER: Q: Has BC Hydro done an analysis under the scenario 3, full cost of service, with direct and indirect allocation of costs?

MR. SEONG: A: Hi, this is Mark Seong. In terms of the 12.2 scenario question I can bring that number in, I just don't have that in front of me right now, but we did calculate that number, and I will bring that in for you.

Information Request

MR. C. WEAFFER: Q: Well thank you, if you could undertake to do that I'd like to make sure that --

MR. SEONG: A: I can provide it first thing.

MR. C. WEAFFER: Q: And just to be clear. Any and all indirect costs that are attributable to this full cost of service model, so we can get a better and clearer understanding of when you say full cost of service,

1 what it means, and we assume that would be direct and
2 indirect costs. And without the assumption that
3 you're getting the government grants, which are not
4 necessarily guaranteed.

5 So, what I'd like to understand in scenario
6 3 is what is the full cost of service model with known
7 direct and indirect allocable costs, as well as offset
8 of what would be contributed to the government grants.

9 MS. JUBB: A: So, we have completed -- this is Anthea.
10 We have completed the analysis as requested, that
11 looks at if the share of labour was included in the
12 scenario 3, and we can provide that when we resume the
13 hearing tomorrow. We cannot provide an analysis of
14 all potential indirect costs, because we don't have
15 that information on hand. But certainly the labour
16 that you had raised as interest, we do have that, and
17 can provide that at the resumption of the hearing
18 tomorrow morning.

19 MR. C. WEAFFER: Q: Are there other indirect costs that
20 BC Hydro from an accounting perspective leaks
21 allocations to categories such as EV that you would
22 have in terms of assessing what are the direct and
23 indirect costs of running this program?

24 MR. SIMMONS: A: One -- this is Greg Simmons. One cost
25 does come to mind, and that is our call centre costs,
26 or our contact centre as we call it now. And we do

1 have some call centre representatives that are -- have
2 been trained to receive calls on our -- for our
3 stations. And so those would need to be included,
4 those costs would need to be included there as well.

5 And finally, there are costs in our
6 customer metering group, and those are for our field
7 service representatives, and their efforts are that
8 they go an inspect our end station -- our stations on
9 a regular basis, and that if they're driving an EV
10 they'll test it. They'll check the connections, check
11 for safety considerations, things of that nature, and
12 make sure there is no graffiti and that. So, those
13 costs in addition I believe would need to be included.

14 The one factor that we have, and when we do
15 these types of analysis is, is a difficulty in
16 ascertaining in what actually is incremental. And for
17 example, the FSR cost, the managers there kind of work
18 that into their work schedule. So, in other words,
19 the dispatch will keep that in mind. So we'll include
20 the costs on what they are, we can't really say
21 whether or not those costs will be fully incremental.
22 In other words, if we got rid of all these stations,
23 I'm not sure all those costs would go away.

24 MR. C. WEAFFER: I'm sorry, Mr. Chair.

25 THE CHAIRPERSON: I'm just wondering, what about any
26 distribution system reinforcement due to increase

1 incremental load, is that an indirect cost that you
2 consider at all?

3 MR. SIMMONS: A: This is Greg Simmons. We haven't
4 included any costs of that nature, and to the best of
5 my knowledge there haven't been any specific
6 distribution costs that have been incurred --

7 THE CHAIRPERSON: There may not have been in the past,
8 but presumably going forward?

9 MR. SIMMONS: A: I suppose, yeah.

10 THE CHAIRPERSON: It depends on how far ahead you are
11 looking I suppose?

12 MR. SIMMONS: A: Right, and to the degree, the number
13 of the stations that we actually deploy would be
14 another character -- that is completely out of my area
15 of expertise, so I can't really -- sorry, I'm being
16 interrupted.

17 THE CHAIRPERSON: Sorry to make it more complicated,
18 Mr. Weafer.

19 MR. C. WEAFER: No, it's where we are trying to go, so
20 thank you. I can stand down until the morning on this
21 topic as well, and follow up in the morning if that is
22 helpful?

23 THE CHAIRPERSON: Well, it just would stop where it
24 makes sense for you to do so.

25 MR. C. WEAFER: Now is fine, and I will be following up
26 on this in the morning.

1 THE CHAIRPERSON: Okay.

2 MR. SIMMONS: A: Sorry for the interruption there. No,
3 those costs have not been included, sort of -- and I
4 take it that you're really talking about that organic
5 growth of our distribution system and --

6 **Proceeding Time 4:03 p.m. T77**

7 THE CHAIRPERSON: Well, the growth that would be
8 attributable to both the charging services that you're
9 providing and presumably other providers too. I mean,
10 at some point you may need to beef up a transformer
11 or, you know, whatever.

12 MR. PAPADOULIS: A: To me that sound more like
13 interconnection costs as opposed to, in this context,
14 incremental costs. So, one was covered in our
15 discussion earlier.

16 MR. C. WEAFFER: Mr. Chairman, I can stop for the evening,
17 we're after hours. I think I'm clear on what I'm
18 trying to understand from a ratepayer perspective. My
19 assumption is that BC Hydro would have a business case
20 which would factor in direct/indirect costs in
21 relation to being involved in the EV charging
22 business. And I'm just trying to get the best
23 understanding of that information, and since that is
24 not on the record and this is defined as the full cost
25 of service model, we'd like to know what the full cost
26 of service model is to the best of Hydro's

1 information. So, I can follow up in the morning, it's
2 something to sleep on and identify.

3 And if you can't a number on it, at least
4 help us identify what categories may be indirectly
5 impacted and we'll worry about what the number is
6 after the fact. I hope I'm clear in my direction and
7 look forward to following up in the morning.

8 MS. JUBB: A: Yes, thank you.

9 COMMISSIONER FUNG: So, before you leave off, Mr.
10 Weafer, just don't mean to add to your burden
11 overnight. But since you are checking on this, I'd
12 like to know two things. One is whether the emergency
13 callout costs that you have referenced for people to
14 come out to stations to see whether or not they're
15 working and to fix what's not working, whether those
16 are forecast and included in scenario 3.

17 And, secondly, with respect to capital
18 costs, whether that includes depreciation charges
19 based on the assumed ten-year amortization period that
20 you had sought in the RRA. So those are two discrete
21 questions I would like to have answered tomorrow,
22 please.

23 MS. JUBB: A: We can confirm the ten-year assumption
24 that was included in the application. So that we're
25 able to confirm today.

26 COMMISSIONER FUNG: Thank you.

1 MS. JUBB: A: And tomorrow we will follow up on the
2 costs of the callouts.

3 COMMISSIONER FUNG: Yes. And I don't know whether that
4 qualifies as labour or is it some operating
5 maintenance.

6 MR. PAPADOULIS: A: It's Jim Papadoulis, I can take
7 that right now. Any cost incurred to send someone on
8 a trouble call is covered in maintenance cost.

9 COMMISSIONER FUNG: Okay. So you forecast that, is
10 that correct?

11 MR. PAPADOULIS: A: Yes.

12 COMMISSIONER FUNG: On a one-year basis?

13 MR. PAPADOULIS: A: Yeah.

14 COMMISSIONER FUNG: Thank you.

15 MS. JUBB: A: And the maintenance costs are included in
16 the application and in that table 3.

17 COMMISSIONER FUNG: Thank you.

18 MS. JUBB: A: As for tomorrow morning, just so that
19 we're clear, it's to look at the labour cost component
20 that might be attributable to this service?

21 MR. C. WEAFFER: Q: No. For tomorrow morning I'm asking
22 what if any other elements that have not been included
23 in the full cost of service, direct or indirect, that
24 BC Hydro is aware may add cost to that service in a
25 full cost description. We'd like to have a better
26 understanding of the best information you have on what

1 the costs are of providing the service.

2 MS. JUBB: A: Thank you.

3 THE CHAIRPERSON: Thank you, Mr. Weafer. Thank you
4 panel.

5 We'll close for the day then and we'll be
6 back here at 8:30 tomorrow morning. Thank you and
7 have a good evening.

8 **(PROCEEDINGS ADJOURNED AT 4:08 P.M.)**

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