

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

And
An inquiry into the Regulation of
Electric Vehicle Charging Service

NANAIMO, B.C.
April 14, 2018

Community Input Session

BEFORE:

D. Morton,	Chair/ Panel Chair
A. Fung, Q.C.,	Commissioner
H. Harowitz,	Commissioner

VOLUME 7

INDEX

PAGE

VOLUME 1, MARCH 5, 2018 - KAMLOOPS

SUBMISSIONS BY MR. HARSHMAN2
SUBMISSIONS BY MR. NANSON6
SUBMISSIONS BY MR. OWEN22
SUBMISSIONS BY MS. KABLOONA23
SUBMISSIONS BY MS. COLEMAN30

VOLUME 2, MARCH 6, 2018 - KELOWNA

SUBMISSIONS BY MR. CAWLEY34
SUBMISSIONS BY MR. BOND35
SUBMISSIONS BY MR. MEIKLEJOHN40, 85
SUBMISSIONS BY MR. BROWN47, 82
SUBMISSIONS BY MR. CONDON60
SUBMISSIONS BY MR. EVANS73
SUBMISSIONS BY MS. LOHMANN87

VOLUME 3, MARCH 12, 2018 - PRINCE GEORGE

PRESENTATION BY DR. KOEHLER102
PRESENTATION BY MR. KELLY113
PRESENTATION BY MR. LEMCKE117

VOLUME 4, MARCH 14, 2018 - FORT ST. JOHN

PRESENTATION BY MR. CHRISTENSEN124

INDEX

PAGE

VOLUME 5, MARCH 26, 2018 - CASTLEGAR

PRESENTATION BY MS. LOVE	134
PRESENTATION BY MR. CHEWTER	140
PRESENTATION BY MR. DREW	158
PRESENTATION BY MR. PROSSER	172

VOLUME 6, APRIL 7, 2018 - VICTORIA - Afternoon Session

PRESENTATION BY MR. SPALTEHOLZ	178
PRESENTATION BY MR. BARTLEY	181
PRESENTATION BY MR. MACKENZIE	186
PRESENTATION BY MR. GARY	196
PRESENTATION BY MR. SCHENTAG	203
PRESENTATION BY MR. DOMNEY	206
PRESENTATION BY MR. KARLEN	210
PRESENTATION BY MS. WILSON	220
PRESENTATION BY MR. CALVELEY	222
PRESENTATION BY MR. HACKNEY	225
PRESENTATION BY MR. BROWN	227
PRESENTATION BY MR. WILSON	229
PRESENTATION BY MR. SCOTT	230

VOLUME 6, APRIL 7, 2018 - VICTORIA - Evening Session

PRESENTATION BY MR. SUNSHINE	249
PRESENTATION BY MR. MYRANS	252
PRESENTATION BY MS. LOCKE	263
PRESENTATION BY MR. WIEBE	267

INDEX

	<u>PAGE</u>
PRESENTATION BY MR. BAXTER	271
PRESENTATION BY MR. SHORTREED	276
PRESENTATION BY MR. BARWIN	278
PRESENTATION BY MR. MACKENZIE	290
PRESENTATION BY MR. KARLEN	298

VOLUME 7, APRIL 14, 2018 - NANAIMO

PRESENTATION BY MR. KATILA	302
PRESENTATION BY MR. CONNERY	306
PRESENTATION BY MS. HESHKA	315
PRESENTATION BY MR. CAMPBELL	318
PRESENTATION BY MR. GUTHRIE	327
PRESENTATION BY MS. TURNER	338
PRESENTATION BY MR. FORESTER	339
PRESENTATION BY MS. SEREBRIN	333

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

NANAIMO, B.C.

April 14th, 2018

(PROCEEDINGS RESUMED AT 12:00 P.M.)

THE CHAIRPERSON: Good afternoon, ladies and gentlemen.
My name is David Morton, and I'm the Chair of the panel that's conducting this inquiry into Electric Vehicle Charging regulation, and I'm also the Chair of the Utilities Commission.

With me is Anna Fung, Commissioner Anna Fung, and Commissioner Howard Harowitz, and the three of us will be reviewing all of the information that we have been and are gathering, and we will be writing a report and sharing our findings with the world a little later this year.

So I'd like to thank everyone for coming out. We really appreciate you taking your time on a Saturday afternoon, and we certainly look forward to hearing what you have to tell us.

I'm going to stop now and not go any further. I'm going to first of all turn the microphone over to Patrick from the Commission, who's going to give a short presentation. And also Yolanda from the Commission, who's going to give a short presentation. And then after that we'll turn it over to you, and we're here to listen. Thank you.

(PRESENTATION GIVEN BY PATRICK WRUCK)

1 So I don't need a charging station. But
2 what I think that I do need -- we have SmartMeters in
3 British Columbia, and I need what other jurisdictions
4 are doing. They have a reduced rate for nighttime
5 hours, 7:00 p.m. to 7:00 a.m., or 9:00 p.m., or it
6 doesn't matter. Because all the EVs have programmable
7 charging times, and a reduced rate at that time would
8 encourage participation in the EV movement.

9 And you talked about load on the grid at
10 high usage times. Well, that would certainly
11 alleviate that problem, because no one with an EV is
12 going to charge their car in the daytime when they can
13 get a reduced rate at night.

14 And so that's -- that would be my only
15 suggestion, that we have a reduced rate for off-peak
16 hours.

17 THE CHAIRPERSON: Thank you, sir.

18 MR. KATILA: Thank you for listening.

19 THE CHAIRPERSON: I do have a question, sir, please.

20 MR. KATILA: Yes.

21 THE CHAIRPERSON: When you charge at home, do you charge
22 with a Level 1, the 120 volt, or the --

23 MR. KATILA: Just the Level 1. I have never had a
24 problem.

25 THE CHAIRPERSON: Right.

26 MR. KATILA: I've looked at the 220 volt chargers.

1 They're expensive. I know there's a government grant
2 for them, but there's no advantage to me.

3 THE CHAIRPERSON: Right.

4 MR. KATILA: My car, even though -- my battery is totally
5 depleted, which I've only done once.

6 THE CHAIRPERSON: Yes.

7 MR. KATILA: If I plug it in at 4:00 or 5:00 in the
8 afternoon, by 10:00 the next morning it's fully up.

9 THE CHAIRPERSON: Yes. Okay.

10 MR. KATILA: And that's charging at 8 amps. I can change
11 that to charge at 12 amps, so that it would be -- if I
12 was -- had to go to work at 7:00 in the morning.

13 THE CHAIRPERSON: Right.

14 MR. KATILA: I would still be 80 or 90 percent fully
15 charged.

16 THE CHAIRPERSON: And is your car -- is the charging
17 programmable, like, you can program in time ranges and
18 --

19 MR. KATILA: It's programmable to some degree.

20 THE CHAIRPERSON: Yes, okay.

21 MR. KATILA: The rate at which it charges and the time at
22 which it charges is programmable.

23 THE CHAIRPERSON: Right, okay. Great, thank you.

24 COMMISSIONER FUNG: Sir, how often do you find you have
25 to charge your car?

26 MR. KATILA: My charging is so convenient, I charge it

1 every day. I only live a mile or two from here. When
2 I go home, I'll charge it. I go into the garage -- my
3 charging port on my car is right here. I don't even
4 have to move. I reach over here to the charger, plug
5 it in, and I do it whether I've gone 5 kilometers or
6 50 kilometers.

7 And I've had the car since about October,
8 and it was just this past Thursday that I used my
9 first little bit of fuel. I went to Comox, and I got
10 pretty near all the way to Comox on the battery, and
11 then it depleted, so the gasoline engine comes on to
12 keep a charge. And so we got home yesterday at around
13 4:00 and the battery was totally depleted. So I
14 plugged it into the 110 charger. And I don't know
15 what time it was fully charged, but about an hour ago
16 I went out and it was right up.

17 COMMISSIONER FUNG: And one more question, sir. Have you
18 found that your electrical vehicle charging has taken
19 you up to a next level of usage of electricity?

20 MR. KATILA: It's -- well, I've gotten two statements
21 that I've looked at carefully.

22 COMMISSIONER FUNG: Right.

23 MR. KATILA: And it is so slight that it's
24 unrecognizable. There's a little graphic that
25 compares it with last year. I can't tell.

26 COMMISSIONER FUNG: Okay.

1 MR. KATILA: And then the dollar amounts are so slight
2 that it could be temperature variation or -- no, I
3 don't think it's going to be measurable.

4 COMMISSIONER FUNG: Okay, great. Thank you.

5 MR. KATILA: Thank you.

6 THE CHAIRPERSON: Sir, appreciate it.

7 **PRESENTATION BY MR. CONNERY:**

8 MR. CONNERY: My name is Craig Connery. That's C-O-N-N-
9 E-R-Y. I think I have the previous generation to this
10 gentleman's vehicle, and I typically charge overnight
11 on 110, and I can get by -- through the day most of
12 the time. I don't have quite as much range as his
13 model. So when I come home, if I'm running errands,
14 I'll come home and plug in again. But I haven't
15 depleted the battery in around-town use so far. I do
16 make some use of public charging stations if they're
17 available.

18 **Proceeding Time 12:22 p.m. T3**

19 Partly because of, in particular if I see
20 the station is open. I saw one of the goals of some
21 proponents of EV use is to show their presence in the
22 community. So, I will sometimes plug in to show that,
23 you know, these are available, and stay there for a
24 short time so that if someone who's got a depleted
25 battery needs it, they're not going to be stuck.

26 The one thing that I only just recently

1 heard about this, so I haven't had a chance to go over
2 all your documentation, there's a fellow that I worked
3 with who purchased a Nissan Leaf and a large solar
4 array, and I haven't had a chance to talk to him
5 lately to see how that's working out. But I believe
6 that the overall offset of selling hydro -- selling
7 his electric generation back to Hydro in the times
8 when he's not charging the vehicle, and the times
9 where he just sits there charging, he's -- I think
10 he's almost offset his costs of running the EV, except
11 for the fact that he has quite an investment in the
12 solar array.

13 THE CHAIRPERSON: Yes.

14 MR. CONNERY: So I've been quite happy driving around,
15 and manage -- the only time I use electricity is --
16 I'm semi-retired, but I go down to -- as far as
17 Crofton, and typically around Chemainus, occasionally
18 depending on what the environment is, you know, how
19 much defrost and extra load not related to travel.
20 I'll make it to Chemainus or occasionally to work on
21 the charge one way. And unfortunately work hasn't yet
22 got any capacity for me to plug in there, or I could
23 have the battery -- in a 10-hour work day I could have
24 the battery fully recharged and then I'd be able to
25 drive pretty much electric the whole way.

26 Like the previous gentleman, I don't

1 actually suffer any range anxiety because --

2 THE CHAIRPERSON: Right.

3 MR. CONNERY: -- deplete the battery and the engine comes
4 on and generates the power, which is what happens when
5 I go to work right now. I can drive one way on the
6 battery and then basically on the motor the other way.

7 As far as the supercharger stations, or
8 even the local stations, the one thing I gather that's
9 a bit problematic for everybody to figure things out,
10 because I saw that Vancouver, the city of Vancouver,
11 wants to charge a rate for -- to encourage turnover.
12 But in my case, because of my low charging rate on a
13 220, my Volt is one of the low charging rate vehicles,
14 it would actually cost me more to -- if I parked at
15 one of their stations for four hours, which is what it
16 would take to completely replenish my battery. So if
17 I drove from out of town, had a depleted battery when
18 I arrived in Vancouver, parked for four hours, paid \$2
19 an hour, I'd be paying more than using gas. That's in
20 my personal case. Just to let you know some of the
21 plug-in hybrids can charge twice as fast as I can, and
22 that would maybe offset them. But I think they --
23 it's going to be problematic to deal with, because the
24 difference between a battery electric vehicle that has
25 sufficient capacity to not even need the roadside
26 charging much of the time, other than maybe for range

1 anxiety, because the battery electrics that have the
2 high 100 to 200 to 300 K range, they could say -- say
3 if I lived -- living in, say if I lived in Tsawwassen
4 and drove to north of Vancouver, that would pretty
5 much deplete my battery. There's many battery
6 electrics that could easily do that round trip and
7 have no need for the roadside, and in my case I'd have
8 no need for the roadside because it would cost me more
9 than using electricity -- or using gasoline, pardon
10 me. So it would be easier for me to just drive into
11 town, park anywhere, and use gas to drive home.

12 So the time of use on a charging station
13 could be very problematic for some low-capacity plug-
14 in hybrids and the extended-range hybrids. And of
15 course the supercharger that's DC direct current won't
16 do me any good.

17 THE CHAIRPERSON: Your vehicle won't take a fast charge?

18 MR. CONNERY: No.

19 THE CHAIRPERSON: No.

20 MR. CONNERY: No, it's like that's -- many of the Nissans
21 can't take a fast charge either.

22 THE CHAIRPERSON: Right.

23 MR. CONNERY: And I don't think any of the Ford, the
24 CMax, or the Fusion energy versions can take fast
25 charge.

26 THE CHAIRPERSON: So you're talking about charging around

1 town using public chargers, those are all Level 2
2 chargers, is that right? The 240 volt chargers, yes.
3 MR. CONNERY: Yes.
4 THE CHAIRPERSON: The 240 volt chargers, yes.
5 MR. CONNERY: Yeah. But I primarily get by at home.
6 And if it's a busy day, I've been considering putting
7 in a Level 2 charger at home.
8 THE CHAIRPERSON: Right. Yes.
9 MR. CONNERY: So that if I'm running around in the
10 morning, I can come home and I'll get -- I'll
11 replenish the battery much quicker with the Level 2.
12 THE CHAIRPERSON: And that's cheaper than using gasoline
13 to replenish it. Is that --
14 MR. CONNERY: Oh, yes, yeah. I haven't run the numbers
15 yet, but on BC Hydro's website they say that a typical
16 Nissan Leaf, and they didn't elaborate on whether they
17 were talking about level --
18 THE CHAIRPERSON: Right.
19 MR. CONNERY: -- or the Tier 2 energy.
20 THE CHAIRPERSON: Yes. Right.
21 MR. CONNERY: Or Tier 1. But they said, and it's
22 probably a little dated, they said it was typically
23 about \$2 to run 100 kilometers on a Nissan Leaf.
24 THE CHAIRPERSON: Right.
25 MR. CONNERY: And its energy utilization, I think, is
26 pretty close to the Chevy Volt.

1 THE CHAIRPERSON: Okay.

2 MR. CONNERY: So, \$2 for 100 kilometers is -- maybe \$3,
3 is what I would expect.

4 THE CHAIRPERSON: Yes.

5 MR. CONNERY: And so you see the \$2 an hour at the
6 charging station, that will only give me --

7 THE CHAIRPERSON: Yes.

8 MR. CONNERY: Four hours, rather, at the charging station
9 would give me 50 -- mid-50s kilometres, for \$8.

10 THE CHAIRPERSON: Yes. So the charger, the Level 2
11 chargers around Nanaimo, do they charge? Sorry.

12 MR. CONNERY: No. No. They're all free. The only one
13 that I've heard of that charges is the DC fast charger
14 downtown.

15 THE CHAIRPERSON: Right.

16 **Proceeding Time 12:28 p.m. T4**

17 MR. CONNERY: But I have no personal experience with
18 that. I just -- I know a fellow with an eGolf, and
19 apparently there is a charge for that.

20 THE CHAIRPERSON: Yes. Okay.

21 MR. CONNERY: So -- and I guess the only worry about the
22 cross-subsidization, I was -- I've been on the island
23 for a number of years, and when they put the natural
24 gas pipeline in, I went and revisited some of the
25 documentation regarding that.

26 And their only talk -- their only

1 consideration of the environment was the environmental
2 effect -- that I could see was the environmental
3 effect of installing the line. So, like, what effect
4 it's going to have on, you know, the forest, the ocean
5 bed, and all this.

6 No mention was made about the fact that
7 previous to the natural gas pipeline, Vancouver Island
8 was very heavily electric home heated. You could have
9 oil or propane, but electricity is the typical thing.
10 And being an all-electric home, I'm charging at Tier 2
11 all the time, because I've got a fairly busy
12 household, and my wife does lots of baking, so the
13 oven's on a lot. And I hit Tier 2 rates almost year-
14 round.

15 So my EV is clearly on the Tier 2 rate.
16 So, time of use, you know, overnight would be
17 something I'd be looking forward to.

18 THE CHAIRPERSON: Right. So, the last gentleman
19 indicated that he basically can't find the incremental
20 use that his car is causing on his home bill compared
21 to last year.

22 MR. CONNERY: Yeah.

23 THE CHAIRPERSON: Were you in the same position? Or --

24 MR. CONNERY: Oh, no. No, because I'm into Tier 2. As
25 soon as we hit the heating season, I hit Tier 2 in the
26 summertime.

1 THE CHAIRPERSON: Yes.

2 MR. CONNERY: When the heat's basically turned off.

3 THE CHAIRPERSON: Sure.

4 MR. CONNERY: I still hit Tier 2, because everything in
5 my house is electric.

6 THE CHAIRPERSON: Right.

7 MR. CONNERY: Once heating --

8 THE CHAIRPERSON: You're there -- without the car,
9 though, you're at Tier 2, right?

10 COMMISSIONER FUNG: Yes.

11 MR. CONNERY: Yes.

12 THE CHAIRPERSON: So, does the car make a noticeable
13 difference?

14 MR. CONNERY: I've only had it for a month and a half.

15 THE CHAIRPERSON: Okay.

16 MR. CONNERY: I haven't had a chance to really check and
17 see how much.

18 THE CHAIRPERSON: Right.

19 MR. CONNERY: But that's offset by my not buying gas, so
20 I'm -- no matter what the impact was, I was quite
21 prepared to accept that.

22 THE CHAIRPERSON: Right.

23 MR. CONNERY: Because I knew I'd be not buying gas.

24 THE CHAIRPERSON: Yeah.

25 MR. CONNERY: I didn't know gas prices were going to go
26 up quite as much as they did.

1 THE CHAIRPERSON: And maybe more, even.

2 MR. CONNERY: Yes.

3 THE CHAIRPERSON: Yeah.

4 MR. CONNERY: So I guess the only other thing is, as I
5 mentioned, that fellow with the solar panels, it would
6 be interesting to have somebody do a study about what
7 kind of effect a subsidy potentially for solar panel
8 installations.

9 THE CHAIRPERSON: Yes. Yes.

10 MR. CONNERY: Because that would pay off more than just
11 for the EVs, because, you know, depending on -- I used
12 to live in Cranbrook, sunniest city in B.C.

13 THE CHAIRPERSON: Yes.

14 MR. CONNERY: There could be a significant return to the
15 grid of solar energy all the time, and it would
16 probably offset the electric vehicle use plus some of
17 the home use in the sunnier climates. I don't know if
18 it would work around here, but.

19 Anyway, so I'll maybe hear some more
20 comments and think of other things, but that's all I
21 can think of for now.

22 THE CHAIRPERSON: Okay.

23 COMMISSIONER FUNG: Thank you.

24 MR. CONNERY: Thank you.

25 THE CHAIRPERSON: Thank you, sir.

26 MS. HESHKA: Hi.

1 THE CHAIRPERSON: Hello.

2 PRESENTATION BY MS. HESHKA:

3 MS. HESHKA: My name is Laurie Heshka. H-E-S-H-K-A. I
4 do not have an EV at this point. But I came today so
5 that I could find out more about what I will need when
6 I start looking for one. And I'm really interested in
7 decreasing the amount of gas that I use, not only for
8 the price but for environmental reasons, and since I'm
9 retired I'm also looking at costs and that.

10 I rent, and I rent a suite. My landlord
11 lives in the same house, and I haven't talked to him
12 yet about whether this was going to work for him or
13 not. So, I wanted to come today and -- the level --
14 different levels of energy needed there. That's quite
15 important. Whether he has to put -- like, whether I
16 would have to ask him to put in a different -- a 220
17 charging station. So, yeah. I'm wondering if that's
18 going to increase my rent or not, so.

19 The other thing I was wondering too is how
20 many charging stations are available in town. I don't
21 know, maybe you don't know that. But --

22 THE CHAIRPERSON: It sounds, from what we've heard, that
23 there's one fast charging station and maybe a handful
24 of the 240 volt stations, from what I -- I don't have
25 any prior knowledge, but from what we're hearing, I'm
26 thinking.

1 MS. HESHKA: Okay. And do they charge, or is it free?

2 THE CHAIRPERSON: From what I understand, the last
3 gentleman, the fast charger costs money.

4 MS. HESHKA: Okay.

5 THE CHAIRPERSON: But the others appear not to do that,
6 yes.

7 MS. HESHKA: Okay. I know there's one in front of the
8 swimming pool.

9 THE CHAIRPERSON: Yes.

10 MS. HESHKA: And it looks like it's -- you can only
11 charge for 30 minutes, though. And then I saw that --
12 there was a Tesla one up -- but I don't think I'll be
13 buying a Tesla.

14 THE CHAIRPERSON: Tesla, as you know, has their own
15 infrastructure.

16 MS. HESHKA: Yes. Yes, that's what I thought.

17 THE CHAIRPERSON: Sort of independent of a lot of the
18 public infrastructure.

19 MS. HESHKA: Okay.

20 THE CHAIRPERSON: There's a lady shaking her head in the
21 second row there.

22 MS. SEREBRIN: [*off microphone*]

23 THE HEARING OFFICER: Could you move to the microphone,
24 please?

25 MS. SEREBRIN: Yes. Yes. My name is Shelley, and
26 Serebrin is my last name. S-E-R-E-B-R-I-N. And there

1 are two stations, Level 2 stations, at the Aquatic
2 Centre and you can charge for more than 30 minutes.
3 They do ask you not to charge for more than two hours.
4 And usually that's people who are using the Aquatic
5 Centre. It's not something -- like, that's one thing
6 that I wanted to talk about, was etiquette, and being
7 conscientious of other people.

8 THE CHAIRPERSON: Okay, thank you, ma'am.

9 MS. HESHKA: Those are Level 2s, you said? Okay. Okay,
10 well, that's all I have for questions.

11 THE CHAIRPERSON: Do you pay your own electricity in your
12 rental unit?

13 MS. HESHKA: No, I don't. No.

14 THE CHAIRPERSON: So that might be a challenge with your
15 landlord, then, to --

16 MS. HESHKA: Yes. He's been super so far, so I can't --
17 I don't know.

18 THE CHAIRPERSON: You're going to have to test that.

19 MS. HESHKA: Yeah. Yeah.

20 COMMISSIONER FUNG: Perhaps you can persuade him to buy
21 an electrical vehicle.

22 MS. HESHKA: Yes, exactly. Yes, for sure. Okay, thanks.

23 THE CHAIRPERSON: Thank you.

24 MR. CAMPBELL: Good afternoon.

25 THE CHAIRPERSON: Good afternoon, sir.

26 PRESENTATION BY MR. CAMPBELL:

1 MR. CAMPBELL: I'm Chris Campbell, Campbell spelled just
2 like the soup, and I've come for the cookies. But I
3 don't see any cookies. There's a massive write-up on
4 the cookies, but I don't see any.

5 THE CHAIRPERSON: Yes.

6 **Proceeding Time 12:36 p.m. T5**

7 MR. CAMPBELL: I would like to commend you for starting
8 what I think is actually an extended process that the
9 Utilities Commission is going to be involved in. To
10 congratulate you for actually drawing out some very
11 strong submissions. I've been reading virtually every
12 afternoon. And commiserate with the range of
13 expectations that many of us have

14 THE CHAIRPERSON: Absolutely.

15 MR. CAMPBELL: -- compared to the mandate of the
16 Utilities Commission.

17 THE CHAIRPERSON: Thank you, that's very observant, thank
18 you, sir.

19 MR. CAMPBELL: In the face of an extraordinary
20 uncertainty of where the technology is going, what the
21 rate of adaptation is going to be, and how the
22 business of charging is going to or has to evolve.

23 So, I think at this stage one of your
24 fundamental questions is should we be looking at
25 regulating? I think we're actually at the stage where
26 my doctor looking at my knee would say, we should do

1 no harm. And so, I think you're actually at a phase
2 of facilitation rather than regulation at this point.
3 Facilitating innovation, exploration of business
4 models and generally the use of electric vehicles.

5 And so, for your 2018 slice of this
6 enabling, raising policy questions, setting yourselves
7 up to be able to continue a review in the next two to
8 three years, and basically, looking for a -- we're
9 expecting a strategy from the federal government, but
10 looking for a strategy around the transition to
11 electric vehicles from the B.C. government.

12 Closer to, obviously, your mandate is the
13 relationship with the utilities, BC Hydro and Fortis,
14 and so I was just jotting down some thoughts that
15 perhaps ultimately you're going to end up asking both
16 of those utilities to come up with some kind of road
17 map for what they think their role may have to be.
18 Would they end up setting up separate business units
19 for the whole charging infrastructure supply basis,
20 the whole thing. Is there a mechanism to encourage
21 them to go into some sorts of collaborations or
22 partnerships with utilities, First Nations or
23 whatever, to actually deliver what is required?
24 Utilities have the means to borrow very cheap money,
25 so should the utilities actually be encouraged to play
26 a financing role in the development of this

1 infrastructure?

2 You've had several submissions that have
3 drawn attention to, particularly the stand-by charge
4 issues that could totally drive the cost of provision
5 of charging stations into a dramatic loss position.
6 So, I have no idea what the answer is, but I'm just
7 flagging that within your day-to-day mandate the
8 issues of stand-by charges and their ability to
9 completely stymie this evolution is something you
10 maybe want to be able to look at.

11 There are not too many pages here, so don't
12 worry.

13 THE CHAIRPERSON: That's fine, no problem.

14 MR. CAMPBELL: So, the essence I think in 2018 is how do
15 you encourage the innovation in the business of
16 charging? And one obvious things is to clean up this
17 right to resell issue, so that there's no real
18 confusion about that. There is the possibility that
19 you actually set some obligation on the utilities to
20 support the EV charging infrastructure. To have the
21 utilities committed to working with municipalities and
22 actually with independent or business approaches to
23 charging.

24 The bigger question, the bigger
25 international question, I suppose, is standardization
26 and standards and safety certification and things like

1 whether I or others develop an integrated approach of
2 -- and right now I have none of these things, but I
3 have a 94 year old mother and I have said that we will
4 convert my 94 year old mother and her inheritance into
5 an integrated electrical approach of solar panels on
6 the house, battery storage, plus electric vehicle.
7 That integrated solution has a totally different
8 impact on the distribution grid and the implications
9 for the utility. That will be an even smaller segment
10 of the population, so that may be -- is in your report
11 when you do it in 2020 or 2021.

12 But I think it is an issue that you may
13 want to flag as something that may need to be
14 encouraged or examined at least by the utilities. So,
15 some thoughts, I hope they help.

16 THE CHAIRPERSON: Those were very thoughtful, thank you,
17 sir.

18 COMMISSIONER HAROWITZ: Sir, you said that you're coming
19 forward with more thoughts and architecture of
20 thinking about it, but you talked about reselling
21 which is at the nub of -- you obviously have
22 identified that, you know, the nature of the act says
23 if you are selling energy you, you by default are
24 regulated unless we provide --

25 MR. CAMPBELL: Yes.

26 COMMISSIONER HAROWITZ: -- otherwise. So, when you

1 talked about clarify the reselling, I understand
2 you've raised the question, but do you have a point of
3 view as to whether that is exactly the point? You
4 know, should folks --

5 MR. CAMPBELL: It is the nub, because this whole issue of
6 charging by time or kilowatt hour is driven by the
7 fact that unless you're prepared to incur the rough
8 [sic] you're going to have to do it by time. Unless
9 you're a municipality or someone who is able to
10 actually charge for the energy.

11 So, if we're in a do no harm, in an
12 innovation mode for the purpose of provision of energy
13 to electric vehicles, we need to encourage
14 municipalities, businesses to put in the
15 infrastructure. And to do that they probably need a
16 return on their investment, and so a bunch of people
17 right now who are not the mini utilities that you
18 would identify have to be able to function as a
19 reseller of electricity, I think. That would include
20 even the sole issue around strata and things like
21 that.

22 THE CHAIRPERSON: I just also wanted to point out, sir,
23 that -- as Howard just said, you're absolutely right
24 that that's the nub of the issue is that the Act says
25 that we -- that by definition you're a public utility
26 if you're selling energy, including electricity. And

1 I also wanted to point out that we actually don't have
2 the authority to not regulate that. We have no
3 authority to forbear on regulation. We can make a
4 recommendation to the government that there be a
5 change to the Act or that in that case there is an
6 exemption granted. So that is one of the places that
7 this inquiry wants to go, is whether we should make
8 that -- whether that recommendation should be made or
9 not.

10 MR. CAMPBELL: Well, I commended you for starting this as
11 an inquiry as opposed to a hearing on a application.

12 THE CHAIRPERSON: Exactly.

13 MR. CAMPBELL: So, I think it gives you the licence to
14 have a Chapter 17 of recommendations that's three
15 times the length of the report.

16 THE CHAIRPERSON: Yes, exactly. Thank you very much,
17 sit. @@

18 MR. CONNERY: Hi, Craig Connery, again. I just wanted to
19 ask you, as I said I haven't had a chance to go
20 through all the documentations on your website. One
21 of the things, the tipping points for me to get an
22 electric vehicle was this, the BC SCRAP-IT program,
23 which when I first heard about it a year or so ago I
24 was surprised to hear that it's not a government
25 operation, apparently. Anyway, it worked for me. I
26 had an older vehicle that I took to the wrecker and

1 got crushed.

2 **Proceeding Time 12:47 p.m. T7**

3 But I gather it was working on some carbon
4 offset credits. So, I don't know where -- it may be
5 beyond the mandate of the Commission to consider this,
6 but I know that the provincial government has just
7 enacted some grants to facilitate EV charging
8 stations. And of course there's talk about carbon
9 offset credits.

10 THE CHAIRPERSON: Yes.

11 MR. CAMPBELL: And all going on -- so I don't know where
12 that fits into the thing about facilitating people
13 with EVs to, you know, as the other gentleman said, do
14 no harm. Because as far as the cross-subsidization
15 issue goes, you could argue that from an EV owner's
16 standpoint, particularly a genuine battery electric
17 vehicle one, they're subsidizing the pollution,
18 minimizing the pollution for everybody who burns gas.
19 So they're suffering the impact on the environment
20 because other people haven't gone to battery and using
21 electricity.

22 So I don't know whether carbon -- you know,
23 where this carbon stuff goes into the equation. And
24 as I say, it might be beyond your mandate. But
25 certainly between you and the government, somebody
26 should figure out that there's clearly a benefit in

1 getting people to not burn gasoline.

2 THE CHAIRPERSON: Yes. I don't have any knowledge of the
3 -- you know, other than what you just outlined about
4 the SCRAP-IT program. So I don't know, you know, how
5 long that may live or not.

6 And further, you're right that that is
7 outside of our mandate. Our mandate is the realm of
8 regulation of rate safety and service. Under service,
9 arguably could come, you know, the spacing of -- or
10 the availability of charging stations and, you know,
11 how many charging stations would be available at a
12 given location and so on. It may or may not, but it
13 could arguably be a service issue.

14 But many of the other issues that we're
15 hearing from people that we have heard about are not,
16 strictly speaking, under our mandate. Like the SCRAP-
17 IT program, or the availability of plugs in a strata,
18 the relationship between of the strata and the EV
19 owners and so on.

20 But we're taking -- we're taking a broad
21 approach to this, and we are -- to the extent that we
22 can help inform government policy, even though it may
23 be outside of our mandate, we're happy to hear. And
24 if it's appropriate for us to pass that on in our
25 report, as an issue that should be -- that may, you
26 know, that may need further consideration, we would.

1 But we wouldn't make any specific recommendations on
2 it, and it's certainly not something that would be
3 within our mandate to implement.

4 MR. CAMPBELL: Okay.

5 THE CHAIRPERSON: Yes. Thanks.

6 **PRESENTATION BY MR. GUTHRIE:**

7 MR. GUTHRIE: Good day. My name is Gary Guthrie, G-U-T-
8 H-R-I-E. I'm an intervener in the process and I
9 thought since you were kind enough to come to see us
10 on the Island, that I'd come to meet you.

11 THE CHAIRPERSON: Thank you, sir.

12 MR. GUTHRIE: And with your indulgence, if I could add a
13 few comments, that would be great.

14 THE CHAIRPERSON: Please. Absolutely.

15 MR. GUTHRIE: First of all, for the woman who asked about
16 what charging stations there are in Nanaimo, there are
17 several apps, phone apps, that you can download for
18 free. One's called Plug Share, which lists all the
19 charging stations in a vicinity. I just checked it,
20 it says there's nine in Nanaimo. Most of them are
21 double stations, so that would be 18 stations.

22 The ones I've used have all been free, so,
23 she could charge her car for free and not bother her
24 landlord, just by going out and shopping regularly and
25 plug in at the Woodgrove Centre.

26 Okay. My comments are -- Yogi Berra has

1 often been quoted -- and misquoted. He denied saying
2 it originally, that déjà vu all over again. And
3 that's where I feel we're at today. In January of
4 1970 I saw my first electronic calculator. It was a
5 relatively large box with ten vacuum tubes, and each
6 vacuum tube was a bent wire -- ten bent wires in the
7 shape of numbers. So if you pressed a "5", the first
8 tube, a little 5 would glow.

9 And electronic calculators had started to
10 come out in the mid '60s, but this is what it was in
11 1970. In 1976 I bought this calculator. This is a
12 Sharp ELSI Mate, EL-8120. Solar powered, rechargeable
13 battery, plug in. It saved my life. Instead of
14 lugging around a large box, I had this in my pocket.
15 And this was a pretty good solution, because this is
16 what I carry right now. This is a Canon, same size,
17 solar powered, battery. This one cost me \$84 in 1976.
18 I calculate it's about \$380 today. This one sells for
19 \$7.

20 So things have changed a lot in the
21 electronic calculator market. In 1983 I saw my first
22 IBM 286 PC. It was in the executive offices in Gulf
23 Canada Resources. The fellow said to me, "I don't
24 know what I'm going to do with this." Sitting on his
25 desk, the little green light lipping.

26 **Proceeding Time 12:52 p.m. T8**

1 Ten years later, Windows was on everybody's
2 desks, offices were using word processing, Excel,
3 Lotus, it only took 10 years.

4 1984, Chrysler came out with the minivan.
5 Remember the magic wagons? People laughed at them,
6 who would want to drive an ugly piece of -- car like
7 that? By the mid-90s, one of the most popular selling
8 vehicles in the States.

9 In 1987 was in executive meeting, our
10 systems guy brought us in a Motorola Dynatac 8000x.
11 Weighed about two pounds, it was a cell phone like
12 this, told us it had all these wonder features. Like
13 good executives we sat there and said, well hold on,
14 there is hardly any coverage, our secretaries take our
15 messages, why would we need a phone? Plus there is
16 all sorts of pay phones. Ten years later, 1996, I got
17 a Motorola Startac, which fit in the palm of my hand.
18 It flipped open, so-called flip phones. And there is
19 a lot of parallels between how the cellular industry
20 rolled out and how electric cars are going to roll
21 out.

22 The point of all this reminiscing is I feel
23 here we are again. In 2014, I saw my first true
24 electric vehicle. That was a car that designed from
25 the ground up to be an electric vehicle. Most
26 electric vehicles on the road today are regular cars

1 with the combustion engine and transmission taken out
2 and the battery put in. In fact, Kia's 2019 they come
3 out with a couple of new models, which look exactly
4 the same as their old models, ICE models, internal
5 combustion engine models, except they've got batteries
6 in them.

7 And so 10 years from now, in 2024, if
8 history is any indicator, and based on my life
9 experience, the cars that we're going to be seeing on
10 the market aren't going to be like the cars we see
11 today. In fact, we can't imagine what they're going
12 to be like. In January of 1970 I couldn't imagine
13 this, or when I saw my first cell phone, I couldn't
14 imagine this. So, the vehicles that are coming, we
15 can't imagine.

16 Now, there are some obstacles, unlike these
17 industries, in that the vehicle manufacturing in this
18 is a very mature legacy industry. And they're all
19 having their own Kodak moment right now. There is
20 tens of thousands of people making a very good living
21 off of designing, manufacturing, and maintaining
22 combustion engines, transmissions, fuel pumps, water
23 pumps. All of those people are going to be without a
24 job. So, when General Motors says "lets go build a
25 whole bunch of electric cars," you've got a lot of
26 people saying "Whoa, whoa, just a second here, what am

1 I going to be doing?" It is going to be interesting
2 to see how that all works out.

3 The one thing that is common from my life
4 experience and all those examples was that the product
5 that came out replaced a previous product because it
6 was superior. This is superior to the landline and
7 computers, calculators superior. The cars are going
8 to be superior. And the -- because of that, they're
9 going to be adopted by the public much faster than
10 people think they are. When cell phones first came
11 out, nobody saw what was going to happen. And we
12 couldn't imagine it. Electric vehicles are like cell
13 phones in a way, a large part of them electronics, and
14 we just can't imagine what is going to happen.

15 So, I commend the Commission for coming
16 forward now, because this is going to happen a lot
17 quicker than people realize, and it's good to see that
18 we've got the Commission taking a position early on in
19 the process, and not waiting for us to get behind the
20 development curve.

21 Just to summarize what I had in my written
22 comments. There is a problem with the legislation. I
23 hope the Commission will take upon themselves to go to
24 the government and say that a legislation designed to
25 control monopolies has an unintended consequence of
26 limiting the expansion of electrical vehicle

1 does have a role in managing rates, like you've always
2 been. My concern here is that, first of all we've had
3 several speakers and from what I've seen in the States
4 a lot of people are starting to charge rates based on
5 time, in my view to avoid legislative restrictions.
6 We don't charge people how long it takes them to
7 refuel their car at a gasoline stations, we charge
8 them by the amount of fuel they use. And I think that
9 should be the same for electric vehicles. Charge
10 people for the energy their using not how long it
11 takes them to put the energy in the vehicle.

12 And as mentioned before, and you've heard
13 this in other sessions, there's too many variables
14 related to charge rates and various vehicles and the
15 type of batteries they have. BC Hydro should be
16 encouraged to have variable rates particularly to
17 handle the off-peak load, because like you've heard
18 before from other people, I come home at the end of
19 the day and plug my car in 5 o'clock. Suddenly when
20 the system's being over stressed for demand, I'm
21 putting in something that I could have plugged in at
22 midnight. I didn't have to plug it in at 5 o'clock.
23 So I think there can be something done with rates to
24 encourage that.

25 So in conclusion, this is a very exciting
26 time. I mentioned to Patrick when I was coming in I'm

1 kind of envious of these young people, they're going
2 to see some tremendous changes in the next 10 to 15
3 years. Changes that none of us in this room can even
4 imagine today and I appreciate that the Commission is
5 taking the time and making the effort to do this.

6 Thank you.

7 THE CHAIRPERSON: Thank you, sir. I do have a question,
8 please. What you just said towards the -- just at the
9 end of your talk when you were talking about basically
10 a time of use base rate for charging electric vehicles
11 at home. So, how do you think that that could be
12 implemented, given that many people just have a level
13 1 charger, so they just plug the vehicle into a plug
14 at home and you can plug it into any plug in the house
15 for that matter. So, how would you -- how could one
16 implement a time of use rate on just the electric
17 vehicle or do you think that it should be a rate that
18 would be more broadly applicable to the residential
19 service?

20 MR. GUTHRIE: I think given the way that we meter our
21 homes, that it has to be, say a reduced rate starting
22 at 11 o'clock of something, but it applies to the full
23 house.

24 THE CHAIRPERSON: For the whole household.

25 MR. GUTHRIE: Right. But most people are sleeping,
26 they're not using power then anyways. You may find

1 people start maybe doing their laundry late at night
2 or running the dishwasher later at night. But just
3 because it's an electric vehicle, as you say, the
4 level 1, it's no different than any other appliance.

5 THE CHAIRPERSON: Thank you. Thank you, sir. Please.

6 MR. CAMPBELL: Chris Campbell, again. Just to pick up on
7 that time of use discussion. I have to confess that I
8 haven't followed the debate on time of use that has
9 existed over the years. But it has always mystified
10 me that the system operator hasn't hammered the table
11 really hard and said, unless we do something to spread
12 the load we can go on building Site Cs forever.

13 Every discussion -- I should say I've just
14 spent much of the last 15 years trying to lead the
15 effort for wave and tidal energy, electricity from
16 river currents, tidal currents and wave energy. And I
17 flipped my job to a 32 year old because that's what it
18 will take to make that happen.

19 But that means that I have been dealing
20 with utilities across the country for a number of
21 years. And most of the discussions that we have with
22 utilities are, "we don't have enough capacity", "we
23 don't have enough capacity", "we don't want your
24 intermittent or variable renewable because we don't
25 have enough capacity."

26 One way of having capacity is to shift the

1 load, and so Chapter 18, perhaps, has to be using the
2 electric vehicle or infrastructure as part of a load
3 shifting mechanism. And perhaps in that you have a
4 trojan horse to put the time of day charge in there.

5 I should add, as you may understand from
6 the accent, I grew up in the UK. In my -- my wife
7 grew up with a silver spoon in her house, she had --
8 in her house she had heating. But, it was time of day
9 heating. They had what were known as night store
10 heaters, they're thermal mass electric heaters. The
11 power would come on at night, heat up -- I think they
12 were actually ceramic bricks, and that was the heat of
13 the house as it radiated slowly throughout the 24 hour
14 period.

15 So, time of day charging is by far from a
16 new thing, and I think if we went back and looked at
17 the UK in the 1960s, the issue they were dealing with
18 was load management. Post-war, UK, load management
19 would have been the absolute priority.

20 **Proceeding Time 1:04 p.m. T10**

21 THE CHAIRPERSON: Yes. Yes. I grew up in the UK too and
22 we had a coal fireplace, so we didn't have the silver
23 spoon solution.

24 I think that the -- I think the issue with
25 time of use rates, in many jurisdictions, is even
26 though it's possibly a logical way to deal with the

1 capacity problems you outlined, it's politically not
2 popular to introduce a rate that restricts, you know
3 -- that there is a perception that it can restrict
4 when people can could cook and do their laundry, and
5 so on.

6 That would be my guess, that's the --

7 MR. CAMPBELL: And with SmartMeters, we may ultimately do
8 that.

9 THE CHAIRPERSON: Exactly.

10 MR. CAMPBELL: That may be a reality. But having got
11 two-tier charging -- two-tier billing, in our lives
12 already, the debate over time of use might actually be
13 a completely different discussion now, because if I
14 could manage my time of use to drop out of Tier 2 --

15 THE CHAIRPERSON: Yes.

16 MR. CAMPBELL: -- then that has a different result to the
17 discussion.

18 THE CHAIRPERSON: Absolutely. And that -- you know, that
19 is something that we want to look at in this report,
20 is some creative rate approaches to exactly this
21 problem.

22 MR. CAMPBELL: Okay then. Thank you.

23 THE CHAIRPERSON: Thank you, sir.

24 MS. TURNER: Hello.

25 THE CHAIRPERSON: Hello.

26 **PRESENTATION BY MS. TURNER:**

1 MS. TURNER: I'm Donna Turner, T-U-R-N-E-R. And I'm here
2 representing myself. I do not have an EV and I came
3 to get information, as much as I could.

4 I have two questions. First is, I don't
5 know as part of the Utilities Commission, if solar is
6 part of your purview or not. But it would seem to me
7 that if we could eliminate the drain on
8 hydroelectricity or if we could reduce the amount that
9 residences are using, that would perhaps alleviate
10 some of the problems for you in having to regulate too
11 much in terms of operating charging stations.

12 The second question that I have, or
13 suggestion, perhaps, is that this lady had shown us
14 seven of your stakeholders in part of the process, but
15 I didn't see a stakeholder of any of the vehicle
16 manufacturers. The research that I've done so far has
17 indicated that the battery capacity for a full EV used
18 to be 250 kilometres. It's now up to 383 in the
19 particular vehicle that I was looking at.

20 In two or three years perhaps that capacity
21 will have increased, and therefore the need for
22 charging stations will be reduced, just by virtue of
23 not being concerned. Those are my questions.

24 THE CHAIRPERSON: Yes. Thank you, ma'am. And to answer
25 your questions, if I can. If you're asking about --
26 when you were talking about stakeholders, if you're

1 talking about participants in this proceeding, Tesla
2 is a participant in the proceeding.

3 MS. TURNER: Okay.

4 THE CHAIRPERSON: And I think Tesla is actually -- I
5 think they're primarily a battery manufacturer, and
6 they happen to make vehicles on the side. So they're
7 involved in both aspects of that.

8 MS. TURNER: Okay.

9 THE CHAIRPERSON: And to answer your first question,
10 solar is a source of generation in this province.
11 It's small, granted. There are no utility-grade solar
12 generation projects. But both of our large electric
13 utilities, both Hydro and Fortis, have a net metering
14 program, which encourages people to have their own
15 generation that they use themselves and then sell any
16 excess back into the grid.

17 MS. TURNER: Mm-hmm. Mm-hmm.

18 THE CHAIRPERSON: And both have -- and both of those
19 programs, there's a number of solar facilities.
20 People have solar on their roof.

21 MS. TURNER: Right.

22 THE CHAIRPERSON: And they participate in the net
23 metering program. So we do look at solar, yes.

24 MS. TURNER: Okay. Okay, thank you.

25 THE CHAIRPERSON: Yes. Thank you.

26 **PRESENTATION BY MR. FORESTER:**

1 MR. FORESTER: I'm Bill Forester, F-O-R-E-S-T-E-R. I'm
2 in the mindset of, if you're going to do it, do it. I
3 went from a full-sized pickup truck, cost me \$150 a
4 fill-up, and I went to -- I think Tesla would be the
5 way to go, but I'm not in that category.

6 So I got the next best thing, I went to a
7 Chevy Volt. It's full electric. It does 383
8 kilometres, which 99 percent of my time is fine. I
9 can go to Victoria and back on a charge. I could
10 probably go for a week or two weeks, just around town,
11 and not have to charge it.

12 I purchased a Level 2, 32 amp charger for
13 the house, which came with a plug-in on the wall. I
14 mean, that took two days to charge that, and the 32
15 amp takes 8 or 9 hours, which is fine too. I can plug
16 it in overnight and away you go

17 **Proceeding Time 1:10 p.m. T11**

18 One guy's suggestion for lower rates for
19 overnight would be great. I could -- how much
20 regulation you'd be into if you regulated them. To
21 get more Level 3 chargers would be great. I mean,
22 Tesla's doing 4 hours. I don't know if -- I haven't
23 hit a Level 3 -- well, Wheaton has, I think, a Level 3
24 there at their -- I'm not quite sure how long it would
25 take. Would it be four hours or not with that one.
26 But for -- if I wanted -- I'm planning a trip to

1 Calgary in the summer, and it would take me three
2 days. I'd have to stop after 300 kilometres and find
3 a motel for overnight to charge.

4 So, I mean, four hours, well, you can stop
5 and have a nice, very long leisurely dinner, and keep
6 going. But at this point I'm figuring I'll either fly
7 or rent a car to go.

8 So, I have the feeling I'd get halfway up
9 the Coquihalla and come to a stop. There isn't that
10 many stations along the way. And I was looking at all
11 the stations, and looking at the reviews on them, and
12 regulation on some of them would be great, because
13 half of them say they get there and somebody's parking
14 in the spot with a gas vehicle. It's out of order, or
15 whatever have you, and they can't use it anyway. So,
16 and there's usually one -- if there is, there's only
17 one station.

18 Even in town here there are lots of Level
19 2, but Level 2 comes in many stages too. There's low
20 amp Level 2s, and medium amp. There's not even that
21 many higher -- Woodgrove has a higher one. But people
22 don't seem to know too much about them. Like, I only
23 got the vehicle about a month ago. So I went into
24 Woodgrove, because it said I needed a Chartpoint card
25 to use it. Which is -- I don't know, if you just put
26 your credit card on it, because it does show for that,

1 even, didn't know too much about getting the proper
2 things going.

3 But I used my credit card and it charged me
4 \$1.28 to use the card. So, a lot of places will give
5 you free charging, but you pay for parking. And then
6 some say it's 30 minutes charge for one rate, and then
7 after 30 minutes it's a higher rate. So there is no
8 regulation on it.

9 But yeah, my concern would be see some
10 regulation so there is that there, that they are
11 maintained. They're regulated to be maintained, that
12 they are working, that improper people shouldn't be
13 parking there. A lot of malls have them, and
14 employees that work there park there in the morning,
15 and they leave their car plugged in all day. So --
16 the charge is useless anyway.

17 That part's out, and as the man said, I'd
18 like to see bigger stations so I could use my vehicle
19 over extended periods. So I could get somewhere
20 without having to rent.

21 Thank you.

22 COMMISSIONER FUNG: Thank you.

23 THE CHAIRPERSON: Thank you, sir.

24 **PRESENTATION BY MS. SEREBRIN:**

25 MS. SEREBRIN: Hello again. Shelley Serebrin, S-E-R-E-B-
26 R-I-N.

1 I actually didn't come here to actually
2 make a presentation. Just from listening to some of
3 the comments, very extensive knowledge on rates and
4 things like that. I've had a Leaf for two and a half
5 years, and it's a completely electric car. So I have
6 had my times of range anxiety. So I'm -- I do depend
7 on stations, because I'm in -- a bit of my work, plus
8 going to conferences and holidays and things like
9 that. So I do need stations to be in strategic
10 places.

11 The gentleman that just was speaking, who
12 would like to go to Calgary, I actually went to Banff
13 on my Leaf. I buy -- it took me about a month to plan
14 it. And I am -- I do consult Plug Share on my laptop.

15 **Proceeding Time 12:52 p.m. T12**

16 And yeah, I did come across several
17 difficulties where either -- not so much where
18 somebody else was at the station and I couldn't plug
19 in, but the facility was not up. And hadn't been for
20 months. So, that kind of thing, and I'm not sure if
21 that's something that can be regulated, or
22 recommendations could be made by the Commission having
23 to do with the amount of downtime that a station could
24 have.

25 There also needs to be far more stations to
26 allow for people with a range of about 100 miles or

1 170, 160 kilometres, which my vehicle has. And I'm
2 not somebody who is going to trade it in within two
3 years and just get the bigger model -- or the better,
4 new and improved model. I'm not in that financial
5 bracket, which I think most people aren't. Usually
6 you keep your car for about four years and trade it
7 in. I don't consider myself stuck, but I will not be
8 trading my car in for a better model for another at
9 least two, to two and a half years. Generally, I keep
10 my car for 10 years, just because of I don't -- well,
11 and that also is having to do with, as long as the car
12 can be almost completely recycled and that sort of
13 thing.

14 As far as rates, setting rates, I do agree
15 with the hourly rate, and it being a lower rate at the
16 low peak times. I rent as well, and so it's something
17 that I have to consult with my landlord, and my rent
18 includes utilities, so it's not separate from my rent.
19 So, right now I'm finding that -- because electric
20 cars are becoming a little bit more popular, a tiny
21 bit. And I think that, like 10 years, I don't see any
22 extremely rapid or exponential increase at this time,
23 I think it is going to be very slow. But, within 10
24 years, there will be a huge increase in the number of
25 electric cars, from my research and from my speaking
26 with people.

1 Every time I plug in, somebody comes around
2 and says, "What is happening here? How do you like
3 this? Are you being charged for your charging? Is
4 there a fee," and that sort of thing. So, I am happy
5 to explain that. But I find that the public really
6 doesn't know. So there is a huge education gap there.

7 So, the other thing that's going to come
8 along, and I just experienced it the other day, when
9 somebody had electronically locked the charger in
10 their car? So they had been sitting there for -- as I
11 looked on the charging station, and it said that they
12 had been there for over four hours, and yet I couldn't
13 unplug their car because they had locked it. So,
14 there is an etiquette issues that needs to be
15 addressed that people -- because there is scarcity in
16 the number of charging stations, and that is becoming
17 more and more apparent to me as I do my daily business
18 and travel about. And for me to feel very -- I will
19 never buy a gas car or an assist, gas assist car. I
20 am totally going out of fossil fuels. I've been
21 waiting for this for seven to eight -- actually nine
22 years, because I started saving up for my electric car
23 seven years before I bought it.

24 THE CHAIRPERSON: Is that for environmental reasons?

25 MS. SEREBRIN: Mainly my reason for going electric is
26 environmental. Yeah, I feel that there is a climate

1 crisis and we do need to move fast. And for even
2 ourselves, plus the generations that are children
3 right now, and those who aren't existing yet.

4 So, thank you very much, that's about all I
5 wanted to say.

6 THE CHAIRPERSON: Thank you, ma'am.

7 COMMISSIONER FUNG: Question, Ms. Serebrin, does your
8 landlord allow you to charge at home?

9 MS. SEREBRIN: Yes, there is an agreement that I give him
10 advance notice. Because the plug, I don't have access
11 to the driveway, so I park on the road. So, there is
12 no -- like my charging plug and cord are not long
13 enough, and also there is issues about a cord going
14 across the sidewalk. So, I could be liable if
15 somebody tripped or something like that, or my
16 landlord could be liable. So, I arrange for that
17 ahead of time.

18 The percentage of me charging my car at
19 home is about 10 to 15 percent. Generally I will -- I
20 am a paid customer at the aquatic centre. Whenever I
21 go shopping, I will charge at the charging station if
22 it is available, yeah.

23 COMMISSIONER FUNG: Thank you.

24 MS. SEREBRIN: Thank you.

25 THE CHAIRPERSON: Thank you. Okay, so if there is no one
26 else? Yes, sir.

1 MR. CONNERY: Yes, it's Craig Connery again. As far as
2 time of use goes?

3 THE CHAIRPERSON: Yes.

4 MR. CONNERY: I expect we probably don't have to reinvent
5 the wheel. I've heard of numerous jurisdictions where
6 they have time of use. One of the big energy
7 consumers in my electric house is hot water, and I've
8 heard one of the strategies for time of use is to have
9 a massive, super insulated hot water tank that you
10 heat over night, and then you draw the water, so
11 you're free to use your dishwasher, and your washing
12 machines through the day, but you use lower rate
13 electricity to heat all that water overnight.

14 THE CHAIRPERSON: Yeah.

15 MR. CONNERY: As far as the EV charging goes, you as
16 regulators would have to determine whether any of the
17 current charging stations that you can purchase that
18 report the energy use, of which there is a number of
19 them, They are web enabled, they can send you apps,
20 you can start and stop them. You can find out what
21 your usage is. There is possible monitor the energy
22 on a branch circuit. Whether any devices that do that
23 meet your regulatory requirements, I don't know. But
24 it is possible to isolate the EV from the rest of
25 household load if there was a -- if that was a route
26 they chose rather than say just a strictly a 10, 11

1 o'clock at night we'll let any electricity in the
2 house, regardless of whether it's a car or your
3 washing machine, or whatever.

4 So, just to let you know, because I've been
5 looking at charging stations, and there are numerous
6 ones that will report their energy use. I don't know
7 how accurate they are.

8 **Proceeding Time 1:23 p.m. T13**

9 THE CHAIRPERSON: When you say charging station in that
10 context what do you mean?

11 MR. CONNERY: Sorry, a level 2 charger.

12 THE CHAIRPERSON: I see what you're saying, but a level 1
13 you would not be able to do that? Which is just
14 plugging it into the wall.

15 MR. CONNERY: The ones that come with the car don't do
16 that. They are -- you can purchase third party level
17 1's, which I haven't looked into because they wouldn't
18 improve my life any. I've only been looking at level
19 2's, but there may be level 1's that could report
20 energy usages as well. So, yes, that is a problem, I
21 guess, for -- that would be where you'd just have to
22 have a blanket time of use.

23 THE CHAIRPERSON: Right. So, and on that note, something
24 that hasn't come up here today, but with regard to
25 time of use rates, all things being equal, if before a
26 time of use rate and an after time of use rate, a time

1 of use rate can't only -- can't just lower the cost of
2 electricity after a certain amount of time without
3 also raising the cost in other time periods, all
4 things being equal. Unless the amount of electricity
5 used increases.

6 So, if a time of use rate was implemented
7 for a household it would not -- the only result of it
8 would not be that it would be cheaper to plug your car
9 in overnight than it would have been previously.
10 Another consequence of it it would be that it would
11 also cost you more to use electricity during the peak
12 periods than it would without a time of use rate.
13 Because the same amount of money had to be collected,
14 so you can't just drop the -- yeah.

15 MR. CONNERY: Well, that's a -- I would suggest that
16 that's not absolutely accurate, because you achieve no
17 revenue in the time of use scenario if you don't have
18 -- like at 11 o'clock at night, so most of the homes
19 in the province you do not get any extra revenue in
20 that time. And you suffer the burden of having a
21 system that has to accommodate these massive peaks.
22 So, if you can shift the peak time to an unused time,
23 that's a savings for the utility in their
24 infrastructure. So, I don't see why, you know, why
25 the overall price has to stay the same. You have an
26 opportunity to decrease the load through peak time and

1 shift it. And the incentive for doing that would be
2 to give a lower rate.

3 THE CHAIRPERSON: It can save capital expenditures that
4 would be triggered by, you know, by needing to build a
5 new generating station for example. That's correct.
6 But if a consequence of a time of use rate was not
7 only do you get to charge more cheaply at 11 o'clock
8 than you would at five, not only if you had that
9 consequence but if you also had the consequence that
10 now it would cost you marginally more to cook your
11 dinner at five then -- the earlier gentleman was
12 wondering why time of use rates aren't in more
13 widespread usage. And I would suggest that's possibly
14 one reason why they're not, because that is one of the
15 possible consequence of them.

16 MR. CONNERY: So, is the scenario then that the utility
17 is willing to accept and complain about the lack of
18 ability to meet these peak demands but they're happy
19 because they get extra money because of it?

20 THE CHAIRPERSON: I can't speak for the utility. And I
21 don't think that they would get extra money. The
22 thing is they need to collect the same amount of money
23 regardless of where the load is.

24 MR. CONNERY: Well, no, no. What I'm saying is if you're
25 going to implement electric vehicles, which is a whole
26 new charge on a household.

1 THE CHAIRPERSON: Yes.

2 MR. CONNERY: Didn't exist before. So, I'm going to come
3 home from work, plug in starting at a peak time, the
4 utility is going to sell more electricity, but they're
5 also suffering more load on their system. Whereas
6 they could say, okay, 11 o'clock at night you can have
7 your normal daily rate because we've got surplus, we
8 can't stop the water from going over the dam in the
9 evening even though nobody is using electricity, so
10 therefore we'll give you the -- that's the way I
11 understood time of use was supposed to, in an ideal
12 world, work. It's when there's surplus available
13 we'll give it to you at a lower rate, or at least no
14 higher, not in tier 2.

15 THE CHAIRPERSON: Yeah, if there's surplus available,
16 yes. That's the way it would work if there was
17 surplus available.

18 MR. CONNERY: Which I believe usually in the evening,
19 except maybe through the winter time there -- anyway
20 it's just -- but it can be metered individually.
21 There are ways to do it whether it meets your
22 regulatory requirements for accuracy, I don't know.
23 But there are a number of level 2 charging stations,
24 I've investigated, that do record the electricity.
25 And I know from the industrial place I work in you can
26 monitor a branch circuit, so you could report the

1 electricity that's used on your level 2 charger
2 install.

3 THE CHAIRPERSON: Right.

4 MR. CONNERY: You could even monitor the level 1. Most
5 modern homes there's a requirement for a single outlet
6 that's on its own dedicated breaker. And so, you
7 could monitor that circuit if you wanted.

8 THE CHAIRPERSON: Thank you, sir. Do you have any
9 questions? Thank you.

10 MR. GUTHRIE: Gary Guthrie, again. I think just on the
11 point about, as you're saying there's a certain amount
12 of revenue. What we're talking about here is new
13 revenue. This is revenue they don't have.

14 THE CHAIRPERSON: Yes. To generate new revenue then it
15 changes.

16 MR. GUTHRIE: That changes the situation, and the
17 question is at what rate do we charge for this new
18 revenue. And my point was, well maybe there's some
19 advantage to shifting it to the evening, and I don't
20 know the dynamics of turning water off and on, but
21 certainly if we had a fuel fired system you could save
22 the fuel. You know, you can turn -- you have to pay
23 more fuel, but I think the point is we're talking
24 about additional revenue that's currently not in the
25 system. What is the fairest way to charge that to the
26 users of the system.

1 THE CHAIRPERSON: I agree. Thank you, sir.

2 All right, well I would like to thank
3 everyone very much for coming out. I appreciate your
4 thoughtful comments and please feel free to follow the
5 proceeding on the website, as Patrick mentioned, sign
6 up as an interested party if you want to get e-mail
7 notifications. And on that note, I will wish you all
8 a good afternoon and have a safe drive home, electric
9 vehicle or otherwise. Thank you.

10 **(PROCEEDINGS ADJOURNED AT 1:29 P.M.)**

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I HEREBY CERTIFY THAT THE FORGOING
is a true and accurate transcript
of the proceedings herein, to the
best of my skill and ability.

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A.B. Lanigan, Court Reporter

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April 16th, 2018

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