

Ottawa Light Rail Commission

Roger Schmidt
on Thursday, May 19, 2022



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OTTAWA LIGHT RAIL COMMISSION
OLRT CONSTRUCTOR - ROGER SCHMIDT
MAY 19th, 2022

--- Held via Zoom Videoconferencing, with all
participants attending remotely, on the 19th day
of MAY, 2022, 1:00 p.m. to 4:00 p.m.

1 COMMISSION COUNSEL:

2 Anthony Imbesi & Tara Boghosian: Litigation
3 Counsel Members

4
5 PARTICIPANTS:

6 Roger Schmidt: OLRT Constructor

7 Mannu Chowdhury: Paliare Roland Rosenberg
8 Rothstein LLP

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11

12 ALSO PRESENT:

13 Leila Heckert, Stenographer/Transcriptionist

14 Alicia Sims, Virtual Technician

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INDEX OF EXHIBITS

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1	Curriculum Vitae of Roger Schmidt.	25

* * The following is a list of documents undertaken to be produced, items to be followed up, or questions refused. * *

INDEX OF UNDERTAKINGS

The documents to be produced are noted by U/T and appear on the following page/line: 28/17; 28/24; 54/10.

1 --- Upon commencing at 1:00 p.m.

2 ROGER SCHMIDT: AFFIRMED.

3 ANTHONY IMBESI: Mr. Schmidt, my name
4 is Anthony Imbesi. I'm here with my co-counsel
5 Tara Boghosian on behalf of the Commission.
6 I'll start by reading into the record the
7 parameters of today's interview, and then we can
8 get started.

9 The purpose of today's interview is to
10 obtain your evidence under oath or solemn
11 declaration for use at the Commission's public
12 hearings.

13 This will be a collaborative
14 interview, such that my co-counsel,
15 Ms. Boghosian, may intervene to ask certain
16 questions. If the time permits, your counsel
17 may ask follow-up questions at the end of this
18 interview.

19 This interview is being transcribed
20 and the Commission intends to enter this
21 transcript into evidence at the Commission's
22 public hearings either at the hearings or by way
23 of procedural order before the hearing is
24 commenced.

25 The transcript will be posted to the

1 Commission's public website along with any
2 corrections made to it after it is entered into
3 evidence.

4 The transcript, along with any
5 corrections later made to it, will also be
6 shared with the Commission's participants and
7 their counsel on a confidential basis before
8 being entered into evidence.

9 You will be given the opportunity to
10 review your transcript and correct any typos or
11 other errors before the transcript is shared
12 with the participants or entered into evidence.
13 Any non-typographical corrections made will be
14 appended to the transcript.

15 Pursuant to section 33(6) of the
16 Public Inquiries Act 2009, a witness at an
17 inquiry shall be deemed to have objected to
18 answer any question asked him or her upon the
19 ground that his or her answer may tend to
20 incriminate the witness or may tend to establish
21 his or her liability to civil proceedings at the
22 instance of the Crown or of any person.

23 And no answer given by a witness at an
24 inquiry shall be used or be receivable in
25 evidence against him or her in any trial or

1 other proceedings against him or her thereafter
2 taking place, other than a prosecution for
3 perjury in giving such evidence.

4 As required by section 33(7) of that
5 Act, you are hereby advised that you have the
6 right to object to answer any question under
7 section 5 of the Canada Evidence Act.

8 So with that out of the way, I'll just
9 get you to start by explaining for us at a high
10 level what role was in Stage II of it was LRT.
11 Or excuse me, Stage I of Ottawa's LRT.

12 ROGER SCHMIDT: Well, I was the
13 technical director for the design build
14 contractor for OLRTC. I was in that role from
15 February -- late February 2013 until roughly end
16 of May 2018.

17 ANTHONY IMBESI: And you've provided
18 us with a CV, and I will share my screen to put
19 that up. Can you see what's on my screen?

20 ROGER SCHMIDT: Not yet, no.

21 ANTHONY IMBESI: One moment. Are you
22 able to see what's on my screen?

23 ROGER SCHMIDT: Yes.

24 ANTHONY IMBESI: I can scroll through
25 it if you'd like.

1 Do you recognize this as a copy of the
2 CV that you've provided to us?

3 ROGER SCHMIDT: Yes.

4 ANTHONY IMBESI: Thank you. And so --

5 ROGER SCHMIDT: I think --

6 ANTHONY IMBESI: I'm sorry. Go ahead.

7 ROGER SCHMIDT: Yeah. That's the
8 copy. That looks like the copy I gave to you,
9 yes.

10 ANTHONY IMBESI: And so are you
11 currently with Emplex Consulting?

12 ROGER SCHMIDT: Yes.

13 ANTHONY IMBESI: And were you always
14 involved in the project through Emplex
15 Consulting?

16 ROGER SCHMIDT: Yes.

17 ANTHONY IMBESI: And so can you just
18 explain to us what is Emplex Consulting?

19 ROGER SCHMIDT: Emplex Consulting is a
20 firm that I formed in 2000 to pursue engineering
21 and management work that was there at the time
22 in Vancouver, and was -- suited my skill set and
23 also provided -- filled a niche in the industry.

24 And it's a small company.

25 Predominately myself. At times there's been one

1 or two others. And my niche has been design
2 management and technical management. So the
3 tagline is technical management transportation
4 industry.

5 ANTHONY IMBESI: So in respect of the
6 transportation industry, is that all rail or
7 predominantly rail?

8 ROGER SCHMIDT: It's been probably
9 majority rail, but I have done highway projects,
10 as well.

11 ANTHONY IMBESI: And it's set out in
12 your CV, which we will make an exhibit, just so
13 that evidence is there as to your experience.

14 But could you just give us a brief
15 explanation of your rail transit experience
16 prior to becoming involved in Ottawa's LRT?

17 ROGER SCHMIDT: Yeah. I was involved
18 in the -- a number of rail projects in
19 Vancouver. And in Calgary, I was the owners'
20 engineers' representative on the Millennium Line
21 responsible for the Burnaby and Vancouver
22 segments initially, and then the Vancouver
23 segment going forward for, you know, design
24 development tasks, city interface task, and
25 other -- I was actually an officer and director

1 of RTP 2000, which was the entity set up to
2 deliver that system to the province.

3 I was the technical director for a
4 study that was looking at timing for the Canada
5 Line, whether it should be built in 2010 before
6 the Olympics, or extended to 2021. That was a
7 multiagency study that included the airport YVR
8 City Vancouver, GVR (indiscernible), TransLink.

9 (Reporter seeks clarification.)

10 ROGER SCHMIDT: YVR, sorry. The
11 airport YVR, that's the acronym for Vancouver
12 Airport. City Vancouver, I mentioned,
13 TransLink, GVRD.

14 There was eight partner agencies all
15 basically representing various levels of
16 government. And I was the technical director
17 for that study. That was a technical economic
18 study.

19 And I was the structural design
20 manager for the Canada Line once it got approved
21 and became -- in stages of development. So that
22 was working from the design build contractor.
23 Eight kilometres of elevated guideway, two major
24 river crossings, bridges, first extradosed
25 bridge structure in North America.

1 And then I was design manager for the
2 Calgary West LRT having responsibility during
3 that term for stations and systems.

4 I was involved in the bid preparation
5 or the bid finalization for the Toronto airport
6 rail link for SNC, which was development stage
7 project. And also -- well, in a related P3, was
8 technical director for the South Fraser
9 perimeter road which was 40 kilometres of new
10 highway in Vancouver over soft soils and with
11 various challenges, including archaeological
12 digs and public consultation.

13 So that's a few of the items from my
14 resume that were prior to the Confederation
15 Line.

16 ANTHONY IMBESI: So it sounds like
17 from what you've just described, your
18 involvement was primarily from a technical or
19 design perspective?

20 ROGER SCHMIDT: Well, in all those
21 projects -- well, I would not say that
22 exclusively, no, actually because particularly
23 maybe for the Millennium Line and also for the
24 RAVP study, the timing study of the Canada Line,
25 that had a number of issues that were beyond the

1 scope of purely technical.

2 ANTHONY IMBESI: And you had -- you
3 just alluded to this in what you were just
4 saying, but I take it you have previous P3
5 experience as well?

6 ROGER SCHMIDT: Yes.

7 ANTHONY IMBESI: How many P3 projects
8 have you worked on?

9 ROGER SCHMIDT: I guess three. Well,
10 actually, four that I can recall right now,
11 possibly more.

12 ANTHONY IMBESI: And in the experience
13 that you had prior to or was LRT, did any of
14 your involvement, did it deal with the
15 integration of the various different systems?
16 What was your particular experience in that
17 respect?

18 ROGER SCHMIDT: Well, the Calgary was
19 on the early stages of the integration, Calgary
20 West LRT, but not the final stages. So yes, to
21 some extent, but not to the extent that it
22 was -- that I had the responsibility of the
23 Confederation Line.

24 ANTHONY IMBESI: So we will turn to
25 your role then for the Confederation Line. So

1 you indicated you were working for OLRTC and
2 that you were the technical director.

3 So could you just give us a high-level
4 what the role of the technical director was for
5 OLRTC and your general responsibilities?

6 ROGER SCHMIDT: Well, I was --
7 responsibility for most of the technical
8 aspects, design development, survey control,
9 document control, you know, coordination of the
10 design, you know, ensuring -- there's three main
11 designs.

12 There was Thales, there was our
13 engineering joint venture, and there was Alstom.
14 I did not have responsibility for the Alstom
15 development, but I did have responsibility for
16 the signalling interface to the vehicle and the
17 Thales signalling development.

18 So, you know, design delivery to the
19 City and eventual development of the design to
20 system closure and including development of the
21 testing and commissioning program.

22 ANTHONY IMBESI: So what would have
23 been -- so within that role, what was your level
24 of oversight and responsibility for the systems
25 integration itself?

1 ROGER SCHMIDT: Well, my -- I guess
2 when you say "systems integration", what are you
3 referring to there?

4 ANTHONY IMBESI: I mean, I was
5 speaking generally, but I think for the purposes
6 of this, I'm most interested in signalling
7 system, the rolling stock, and any elements that
8 generally relate to those things.

9 ROGER SCHMIDT: Okay. Well, our -- my
10 role was to, you know, make sure that the
11 system's design and development was carried out,
12 you know, with full transparency between as much
13 as possible between the parties, that there was
14 clear communication, that known issues were
15 resolved, that the experts on both sides were
16 cognizant of the issues, that management on
17 either side was informed of roadblocks or, you
18 know, anything that would prevent, you know,
19 clear development and knowledge of the technical
20 issues.

21 ANTHONY IMBESI: So just so I have a
22 full understanding then of what your role was as
23 it related to the integration component.

24 I understand that for a period of
25 time, I believe starting in 2014, the OLRTC

1 employed a gentleman by the name of Jacques
2 Bergeron as the director of systems integration?

3 ROGER SCHMIDT: Yes.

4 ANTHONY IMBESI: So what would have
5 been the primary distinction between your roles
6 when talking about systems integration in
7 particular?

8 ROGER SCHMIDT: Well, I mean, I had a
9 number of discipline leads reporting to me for
10 various aspects of the technical scope. And
11 Jacques was a senior individual who had a lot of
12 experience, but -- and you could say that we
13 were colleagues.

14 But in the structure, he reported to
15 me on status of the Thales to Alstom
16 integration, and the status of the Thales
17 development, design development.

18 ANTHONY IMBESI: So in the technical
19 hierarchy, he reported to you in that respect?

20 ROGER SCHMIDT: Yes.

21 ANTHONY IMBESI: And who did you
22 report to, or what level of position did you
23 report to?

24 ROGER SCHMIDT: I reported to the
25 deputy project director.

1 ANTHONY IMBESI: And so you had
2 mentioned, as I understand it, that you didn't
3 have a responsibility for the rolling stock,
4 that your responsibility was more related to the
5 integration than of the signalling system and
6 whatever other components with the rolling
7 stock?

8 ROGER SCHMIDT: Right.

9 ANTHONY IMBESI: And so in terms of
10 these systems integration responsibilities --
11 oh, it was OLRTC that had the ultimate
12 responsibility for systems integration, correct?

13 ROGER SCHMIDT: Yes.

14 ANTHONY IMBESI: And what role did the
15 engineering joint venture play in the systems
16 integration piece?

17 ROGER SCHMIDT: Well, the engineering
18 joint venture needed to provide systems design
19 and suitable systems material and, you know,
20 information to allow the systems to be assembled
21 and to be connected and tested.

22 ANTHONY IMBESI: And was there ever an
23 issue or dispute as between the engineering
24 joint venture and the OLRTC as to the extent of
25 each parties' role and responsibility with

1 respect to systems integration?

2 ROGER SCHMIDT: Yes, there was.

3 ANTHONY IMBESI: And I do understand
4 that the nature of the dispute resolution may be
5 subject to a confidentially claim. But just at
6 a high-level from your experience on the
7 project, what was that in relation to, this
8 issue that you had mentioned?

9 ROGER SCHMIDT: Are you talking about
10 which disciplines? Can you clarify that
11 question? What...

12 ANTHONY IMBESI: Sure. I understand
13 from what you'd said that at some point there
14 was some nature of conflict or dispute as
15 between the engineering joint venture and OLRTC,
16 and particularly I'm talking about systems
17 integration.

18 So I suppose I'm just wondering from
19 you what was the nature of that conflict?

20 ROGER SCHMIDT: The nature of the
21 conflict was regarding the ability for the --
22 the traceability of the test plans.

23 ANTHONY IMBESI: Okay. Would those be
24 test plans in respect of the signalling and
25 rolling stock?

1 ROGER SCHMIDT: Most of the signalling
2 and rolling stock test plans were done by
3 Thales. So Thales would have created the bulk
4 of the system integration or site acceptance
5 test or PICO test for their product, and whether
6 it be, you know, land-based product or wayside
7 product or vehicle product, Thales would do
8 their own tests.

9 The test that would involve EJV were,
10 if some of that would be interfacing with some
11 of the equipment that the EJV had specified like
12 guideway intrusion, for example.

13 ANTHONY IMBESI: So some of the other
14 infrastructure then?

15 ROGER SCHMIDT: Yeah. For the most
16 part, the Thales system interfaced primarily
17 with the vehicle system. And there were some
18 areas where the Thales system did interface with
19 some other wayside. But that was more of a
20 secondary feature.

21 ANTHONY IMBESI: And so I believe you
22 had indicated that you joined the project in
23 February, sometime in February of 2013. And I
24 think you mentioned late February?

25 ROGER SCHMIDT: Yes. That's correct.

1 ANTHONY IMBESI: So what was the
2 status of the project then when you arrived?

3 ROGER SCHMIDT: It was just awarded,
4 you know, maybe a week, it was a week or so into
5 award, maybe two weeks past the award date, the
6 formal award date.

7 ANTHONY IMBESI: So at that time, you
8 were there from the outset of the project award
9 essentially or fairly close.

10 How did you view OLRTC's approach to
11 systems integration generally throughout your
12 time on the project?

13 ROGER SCHMIDT: Every project is
14 different. I think it's -- I think that we -- I
15 considered in the initial stages that it was a
16 reasonable approach from what was intended.

17 ANTHONY IMBESI: And so you mentioned
18 that you considered in the initial stage, are
19 you saying that you changed at all over time?

20 ROGER SCHMIDT: Possibly with some
21 aspects, you know, there was definitions of the
22 word "integration" that came into play that, you
23 know, affected my understanding of how the
24 integration was going to be done.

25 ANTHONY IMBESI: And is that as

1 between OLRTC and the engineering joint venture?
2 Is that what you are referring to?

3 ROGER SCHMIDT: Yes.

4 ANTHONY IMBESI: But just in terms
5 generally, you know, in terms of the planning
6 and resources that had been done with respect to
7 systems integration from the outset of the
8 project, did you feel that that was sufficient?

9 ROGER SCHMIDT: At the outset, no. I
10 felt like we needed more resources and, you
11 know, we subsequently obtained more resources on
12 our side, on the OLRTC side to facilitate that
13 integration.

14 ANTHONY IMBESI: And when you're
15 talking about resources, are you talking about
16 personnel?

17 ROGER SCHMIDT: Yes.

18 ANTHONY IMBESI: The number of
19 personnel, the experience of the personnel?
20 What specifically are you referring to?

21 ROGER SCHMIDT: Yeah, both, the number
22 and experience of personnel.

23 ANTHONY IMBESI: And so we'd spoke
24 already about Mr. Bergeron. So he was someone
25 that was brought on in, sometime in 2014 to deal

1 with the systems integration?

2 ROGER SCHMIDT: Yes.

3 ANTHONY IMBESI: And was OLRTC looking
4 to have someone fill the position of director of
5 systems integration prior to the hiring of
6 Jacques Bergeron?

7 ROGER SCHMIDT: Yes.

8 ANTHONY IMBESI: Is there a reason why
9 that, as I understand it, that position hadn't
10 been filled prior to his involvement?

11 ROGER SCHMIDT: Suitable candidates,
12 you know. Look, it's not simple to find a
13 suitable candidate.

14 ANTHONY IMBESI: So was he one of the
15 main aspects then that led you to just say that
16 the resources ultimately improved as the project
17 progressed?

18 ROGER SCHMIDT: Well, he hired people
19 in his group. There was also other related
20 staff to system integration. We had a safety
21 manager, Brian McDonnell. We had other people
22 come on board, John Selke and others as the
23 project progressed. Some of those weren't
24 initially on the org chart, but they were deemed
25 necessary, so they were added.

1 ANTHONY IMBESI: So I take it then, it
2 would have been preferred to have someone in
3 Mr. Bergeron's place earlier on in the project
4 then?

5 ROGER SCHMIDT: I didn't see -- I
6 didn't see his timing as being late. I mean, I
7 saw a need identified and -- or we hired really
8 the first available candidate that was suitable.

9 ANTHONY IMBESI: And sorry. I'd like
10 to talk to you about some of the system. So
11 starting with the Thales signalling system, is
12 there anything unique about the particular
13 Thales signalling system that was utilized on
14 the project?

15 ROGER SCHMIDT: Well, I think it's a
16 common product for Thales, but I think it was
17 unique in that -- well, it was unique in that it
18 hadn't been installed in that particular vehicle
19 before, so that vehicle hadn't been
20 automatically controlled before.

21 ANTHONY IMBESI: So it wasn't a unique
22 or new system, but it was new in the sense of
23 being integrated with that specific vehicle?

24 ROGER SCHMIDT: Right.

25 ANTHONY IMBESI: And so turning to

1 that -- turning to the vehicle then, did you
2 have any view in your role as to whether the
3 Citadis Spirit was a proven LRV vehicle?

4 ROGER SCHMIDT: Well, I understood
5 that it was, and that, you know, I mean, that
6 work would have been done before I got there.

7 But there was evidence, in my
8 understanding, from its usage in Europe and
9 Northern Europe and, yeah, that it was Citadis
10 proven, yeah.

11 ANTHONY IMBESI: And I appreciate what
12 you'd said earlier in terms of, you know, you
13 didn't have the direct responsibility for the
14 rolling stock.

15 But did you get an appreciation of any
16 modifications that needed to be made to the
17 pre-existing Citadis model to meet the
18 requirements of the Ottawa project?

19 ROGER SCHMIDT: Well, I wasn't -- no,
20 I never did any comparison of the previous model
21 to the North America model. But the North
22 American model had a complete new set of
23 suppliers for primary components such as doors
24 and brakes and other things of that nature. So
25 it was quite a few unique aspects just because

1 of that.

2 ANTHONY IMBESI: And do you know
3 whether this project was the first time that a
4 CBTC system was integrated with a low-flow floor
5 LRV?

6 ROGER SCHMIDT: No, I'm not aware if
7 there's -- I'm not aware if there's other low
8 floors that would have...

9 ANTHONY IMBESI: With the fact that
10 the Citadis Spirit is a low floor LRV, does that
11 raise any technical issues or challenges that
12 need to be overcome in terms of integrating CBTC
13 system with the LRV?

14 ROGER SCHMIDT: Well, the low floor --
15 we did have challenges with placing equipment.
16 We needed to find room for, you know, the
17 vehicle onboard computer and other things that
18 were necessary to be placed.

19 The room found within the vehicle for
20 these elements, and the low floor vehicle has
21 not much spare room. There's room above. Most
22 of the equipment on a low floor vehicle is put
23 on the roof.

24 But, you know, other areas and zones
25 are kind of in a premium in terms of space. And

1 that was one aspect that was a challenge
2 although we did make it work.

3 But in terms of incorporating CBTC
4 system into a low floor, you know, I -- there
5 was some challenges on the axle counter but
6 nothing insurmountable.

7 I mean low floor is primary for
8 pedestrian access at street level and, you
9 know...

10 ANTHONY IMBESI: You mentioned space
11 requirements, which I understand. Can you just
12 explain for us you mentioned the axle counter.
13 What is that?

14 ROGER SCHMIDT: It's a -- the CBTC
15 system keeps track of the vehicle's speed by
16 everything is redundant by two or three methods
17 and one of the methods is by counting the
18 revolutions of the axle and there's a counter on
19 there.

20 And there was quite a bit of
21 discussion on Alstom's, you know, equipment and
22 Thales, you know, being happy with it or coming
23 to terms with it. But eventually, they agreed
24 on, you know, the size, the number of teeth, and
25 things like that.

1 ANTHONY IMBESI: And you see I still
2 have your CV up on the screen. So I'll take
3 that down, if we could mark that as Exhibit 1 to
4 the interview today.

5 EXHIBIT NO. 1: Curriculum Vitae of
6 Roger Schmidt.

7 ANTHONY IMBESI: And so we just talked
8 about some issues that were addressed with
9 respect to the CBTC system and the particular
10 rolling stock.

11 So at the outset of the project when
12 you first became involved in the role were there
13 any concerns or issues related to the
14 integration of the rolling stock and signalling
15 system, you know, that you became aware fairly
16 quickly that needed to be worked through beyond
17 what we've just spoken about?

18 ROGER SCHMIDT: Well, my first -- my
19 concern in the early stages was who the operator
20 was and the involvement of the operator. And I
21 didn't find it clear in the documents.

22 I felt that we needed specific
23 operator input from the people that were
24 eventually going to be running the system, and
25 spent quite a bit of effort to try to clarify

1 that which I think -- you know, the system --

2 The system, the railway system is
3 actually a system of components, electrical and
4 human operators and procedures. So the system
5 involves people and procedures as well. And
6 that was my early focus and the biggest, sort
7 of, gap that I saw initially.

8 ANTHONY IMBESI: So I do have a few
9 follow-up questions with respect to that. So
10 the biggest gap that you are referring to, is
11 that the lack of input from the operator in to
12 certain aspects that you thought would be
13 important?

14 ROGER SCHMIDT: Well, the lack of
15 identification of who the operator was and who
16 the operator was represented by, and then who
17 the operator was eventually going to be because
18 some operating -- some operating features are
19 preferential, I mean, because someone, you know,
20 prefers it that way.

21 And we wanted to get -- I wanted to
22 get those things clarified as soon as possible.
23 I wanted to start to speak face to face with the
24 entity, the person, the group that was going to
25 operate to say, you know, how many staff, you

1 know, what are you -- how are you -- what's your
2 preferences in terms of running this thing.

3 ANTHONY IMBESI: And so you would be
4 talking, I take it in this case, the operator
5 would be OC Transpo?

6 ROGER SCHMIDT: We didn't know that at
7 that point.

8 ANTHONY IMBESI: Who --

9 ROGER SCHMIDT: I wrote a significant
10 White paper with the title "Who is the
11 operator?" And we presented that to the City
12 and I believe the works committee, the technical
13 committee, we had a special meeting. And they
14 responded with, you know, give us a list of
15 questions that you want the operator to answer.

16 So they reduced that request to, you
17 know, a list of questions. But anyways, to me,
18 it was more than, you know, answer these
19 questions. It was like, who is the person,
20 right? Who is the entity?

21 And later on they described it --
22 later on, they identified it as OCT, so it was
23 going to be OCT, so that came later. And then a
24 fair a while later, there was an individual
25 installed as, you know, the operations manager

1 and that helped things considerably.

2 ANTHONY IMBESI: Who was this
3 individual that was installed?

4 ROGER SCHMIDT: Oh, I was trying to
5 remember -- Jim. He's from BC. But his name
6 slips my mind right now.

7 ANTHONY IMBESI: Jim something?

8 ROGER SCHMIDT: Yep.

9 ANTHONY IMBESI: Counsel, do you know
10 whether the White paper has been produced?

11 MANNU CHOWDHURY: I am not aware,
12 Mr. Imbesi. But we can certainly look into it
13 and look into producing it.

14 ANTHONY IMBESI: I just ask for an
15 undertaking to either identify it if it has been
16 produced or to produce a copy.

17 U/T MANNU CHOWDHURY: Yes. We will
18 provide that undertaking.

19 ANTHONY IMBESI: And also if
20 Mr. Schmidt is able to identify the last name of
21 Jim that he just referenced in terms of the
22 person that was installed for OC Transpo, that
23 would be helpful as well.

24 U/T MANNU CHOWDHURY: Certainly, we can
25 look into both.

1 ANTHONY IMBESI: Thank you. I'm
2 sorry, Mr. Schmidt, I cut you off there as I was
3 finishing.

4 ROGER SCHMIDT: Well, I don't know
5 that that White paper was ever posted to -- I
6 said it was an internal one to OLRTC.

7 ANTHONY IMBESI: And so you've talk
8 generally about input that you feel would have
9 been important to have from the operator.

10 Can you just give us some examples of
11 what specifics would have been useful to you
12 during that period of time, and I know you
13 mentioned the number of operators.

14 ROGER SCHMIDT: Well, you know, even
15 the role of the driver, the level of presence at
16 the stations. Later on in the process, it was
17 communicated to us that the driver was
18 fundamental and was to be considered a safety
19 critical feature.

20 Like, they wanted drivers to not be,
21 sort of, a redundant feature, but made a
22 significant part of the system. And, you know,
23 that's good information to know as early as
24 possible which we didn't in the beginning.

25 Yeah, so there's a number of things,

1 you know, I guess those are two that I can think
2 of.

3 ANTHONY IMBESI: So just taking, for
4 example, the role of the operator, and I'm just
5 trying to understand.

6 So how would that have changed OLRTC's
7 approach or your approach in your role? What
8 would that information have assisted you with?

9 ROGER SCHMIDT: Well, I think that we
10 were -- we were trying to -- I was trying to
11 start with the end in mind. Like, you know,
12 begin the project with the end in mind, and
13 trying to identify the critical parameters, nail
14 them down so that when we were looking to
15 eventual handover that we were not surprising
16 anybody.

17 And, you know, if the operator, for
18 example, one of the -- you know, we had various
19 crossovers, and those crossovers can affect the
20 way the system is operated. If the operator
21 had, for example, not been happy with those,
22 then we may have had to adjust them or remove
23 them. And I wanted that finalized before we
24 started finalizing our design.

25 ANTHONY IMBESI: And just for me, what

1 is a crossover?

2 ROGER SCHMIDT: It's a switch. You
3 know, it's a way for moving a train from one
4 side of the tracks to the other side of the
5 track.

6 ANTHONY IMBESI: So that could
7 potentially be some design implications --

8 ROGER SCHMIDT: Yes.

9 ANTHONY IMBESI: -- with the desires
10 or input from the operator?

11 ROGER SCHMIDT: Yes.

12 ANTHONY IMBESI: And so you had
13 alluded to OC Transpo eventually becoming more
14 involved in that process and the installation of
15 Jim in that position.

16 Do you recall when approximately that
17 would have been?

18 ROGER SCHMIDT: Not exactly. But, you
19 know, I think past -- maybe past the halfway
20 point, so not until about at least two and half
21 years in from my five-year term.

22 ANTHONY IMBESI: And once OC Transpo
23 did become more involved in that respect, what
24 was your view on their level of knowledge and
25 experience with this type of system?

1 ROGER SCHMIDT: Well, actually, I'm
2 recalling now that they did, sort of, install --
3 before Jim, they had a couple leads, like OCT
4 leads who were identified as kind of the key
5 representative of the operations group.

6 But they weren't that knowledgeable.
7 They were -- you know, of LRT issues. They were
8 knowledgeable about OCT as an organization and
9 about staffing and things, but not about LRT
10 issues.

11 So it wasn't really until Jim was
12 installed that there was a knowledgeable element
13 on the rules and procedures that were preferred.
14 You know, how they intended to operate the
15 system.

16 ANTHONY IMBESI: And so once they
17 became more involved, did you feel that they
18 were able to give you the level of information
19 that you required at that point in time?

20 ROGER SCHMIDT: Well, we -- for
21 example, we had written a complete set of rules
22 and procedures and OCT took them and customized
23 them, and made them their own and almost --
24 probably edited every one to some significant
25 degree.

1 So this is what I expected from the
2 beginning that they were going to put their
3 stamp on things and I wanted it to be sooner
4 rather than later.

5 ANTHONY IMBESI: And when you're
6 talking about the rules and procedures, are
7 those operational rules --

8 ROGER SCHMIDT: Yes.

9 ANTHONY IMBESI: -- rules and
10 procedures?

11 ROGER SCHMIDT: Yes.

12 ANTHONY IMBESI: So for the operation
13 of the vehicles?

14 ROGER SCHMIDT: Yes. And this is --
15 you know, like I mentioned, the system, the
16 system is a combination of electronic and
17 mechanical and human actions, right? So the
18 rules and procedures provide boundaries around
19 the human actions so that they are consistent
20 with the safe and operation of the system.

21 So they're quite important and
22 fundamental, you know, to the whole working of
23 the thing.

24 ANTHONY IMBESI: Right. And as you
25 said that that might dictate some design

1 requirements?

2 ROGER SCHMIDT: Yes. In the end -- in
3 the end, you know, a problem, let's say, can be
4 mitigated by a barrier or electronic monitor or
5 an adjustment to a procedure. There's a number
6 of ways to resolve issues.

7 ANTHONY IMBESI: And do you recall --
8 so speaking of some of those issues then that
9 may have arisen as a result of the potential
10 late delivery of some of this information, do
11 you recall what any implications may have been
12 from that in any particular instances?

13 ROGER SCHMIDT: Well, I think that --
14 I can't recall specifics in terms of anything
15 that was significantly changed. There was some
16 responses like to the guideway intrusion that
17 were iterated and, you know, took longer to
18 complete.

19 But, you know, those -- those are
20 things that need input and discussion. And, you
21 know, the conclusions that we came to on those
22 responses and the development that we made on
23 that, I think was good and solid, so much so
24 that I've seen it used on subsequent projects.

25 So, you know, some of the -- some of

1 the -- the struggle with the newness on OLRTC
2 has been, you know, created things that are
3 being used regularly in the industry now.

4 ANTHONY IMBESI: What specifically?

5 ROGER SCHMIDT: Well, I'm just
6 thinking about a procedure and a functionality
7 for train response to guideway intrusion, for
8 example, which is a complicated, sort of, human
9 train control semiautomatic driver vehicle
10 interaction.

11 So the process that we set up that
12 Jacques worked with that Thales and Alstom
13 incorporated was -- and that OLRTC had, you
14 know, the operator had input into.

15 ANTHONY IMBESI: And so you mentioned
16 because of the newness of the system, so what
17 specifically, and I know we talked about the
18 Thales system not really being new necessarily.

19 So what is it about this Ottawa system
20 when you're referring to newness?

21 ROGER SCHMIDT: Well, I think the low
22 floor, you mentioned that before, and maybe my
23 memory is just tweaking. But there was concerns
24 that the low floor, the low platforms would be
25 more encouraging and enticing for people to step

1 off the platform into the guideway.

2 And the guideway intrusion system had
3 to account for that and to do it in ways that --
4 you know, I don't know if it's completely new,
5 but it was new to the project participants. A
6 lot of which had quite a bit of experience in
7 the North American LRT field. So it was novel
8 in that sense.

9 ANTHONY IMBESI: So is that because it
10 was a lower floor that there might be more
11 likelihood to step between the cab and the
12 platform?

13 ROGER SCHMIDT: Well, no. If you drop
14 your phone, if you're on the platform and you
15 drop your phone, and if you're in Toronto, for
16 example and it's a 2-foot drop to the rail, you
17 might just say, Well, I'm going to get another
18 one.

19 But if it's only 8 inches from the
20 platform to the rail, as it is in Ottawa, you're
21 more tempted to go in there and grab it, and
22 then, you know, you'll get stuck and suddenly
23 you are trapped in there, and it's a potential
24 safety incident, right?

25 ANTHONY IMBESI: I see. So it's the

1 potential to go in the track area when the train
2 is not there at that moment?

3 ROGER SCHMIDT: Yes, that's right.

4 ANTHONY IMBESI: So we talked about,
5 you know, some concerns or focus that you had
6 early in the project about the integration. And
7 I'm talking particularly about the rolling stock
8 and the signalling system, and we discussed a
9 few things that were top of mind for you then.

10 And then as the project progressed,
11 were there any challenges that arose with
12 respect to the integration of the signalling
13 system and the rolling stock? And I'm talking
14 about anything that's of relative significance.

15 ROGER SCHMIDT: I think that, you
16 know, the challenges that were faced were really
17 those that could be expected from trying to
18 amalgamate to sophisticated and, you know,
19 complicated systems.

20 Like, the train control system, you
21 know, when the train control system sends a
22 command to brake, for example, it doesn't brake
23 the train. It sends a signal to the train's
24 computer system, the TCMS, as to say, Now I want
25 the train's computer system to brake the train,

1 so it's like the interface of two systems.

2 And, you know, a lot of -- you know,
3 as you could probably imagine, the testing
4 reveals some problems, as it's supposed to, and
5 there's software updates.

6 And then the software updates create
7 new interfaces and it's just -- it's an ongoing
8 time-consuming challenge to get the systems to,
9 you know -- in spite of the advanced work on all
10 the cabling and the connections and the
11 equipment, there's just a necessary amount of
12 time and struggle to get the systems themselves
13 and the software to interact seamlessly.

14 So that we experienced definitely. We
15 experienced maybe more time than we wanted, but
16 not necessarily more time than would be expected
17 for this type of integration.

18 ANTHONY IMBESI: And was there
19 anything about the vehicle requirements for this
20 project that created any of those integration
21 challenges that needed to be overcome?

22 ROGER SCHMIDT: Well, there was --
23 there were not necessarily the vehicle
24 requirements, but I think the rigidity of the
25 reviewers. I think there was a lot of -- I know

1 from what people reported to me that there was a
2 lot of time spent on answering reviewers'
3 questions.

4 So in that sense, it wasn't really a
5 partnership to solve the overall challenge. It
6 was sort of a compliance enforcement
7 relationship that was a distraction.

8 You know, like, so that -- I mean --
9 that's my recollection.

10 ANTHONY IMBESI: So who are you
11 talking about when you speak about the
12 reviewers?

13 ROGER SCHMIDT: The owners' engineer
14 hired by the City.

15 ANTHONY IMBESI: That would be Capital
16 Transit Partners?

17 ROGER SCHMIDT: Well, and I think for
18 the vehicle particularly was STV.

19 ANTHONY IMBESI: STV. Okay. And so
20 when you're speaking of the rigidity of the
21 process, are you suggesting that they were
22 taking, you know, more of a compliance based
23 approach, you know, check off whether you've met
24 these certain requirements as opposed to a more
25 holistic approach of how do we solve these

1 technical challenges?

2 ROGER SCHMIDT: Yes. And it was, you
3 know, very rigid and very prescriptive. And the
4 one that comes to mind that I remember is the PA
5 prescribed weathering steel for the vehicle.

6 And if you are familiar with
7 weathering steel, it's this brown, dirty, scaly
8 stuff that they use for bridges that, you know,
9 when it reacts with water, it creates this
10 crusting scale that stays on the steel, and then
11 you don't need to paint it. The scale, kind of,
12 performs this protective layer and that's why
13 it's called "weathering steel" it just kind of
14 weathers naturally.

15 But hasn't been used -- I was
16 astounded to see it was specified for vehicles
17 and Paul Tetrault, you know, it was used on
18 like, 20 years ago but massive regret and
19 disappointment. It was a complete failure.

20 But spent hours and number of meetings
21 trying to get that requirement removed, and
22 talking about equivalencies to that requirement,
23 which, in my mind, was a little nonsensical
24 because if it's not a suitable product, then you
25 don't want an equivalent, right? You want

1 something different or better.

2 But that's maybe an extreme example.
3 But there was just quite a few other examples of
4 time -- you know, and you have a limited amount
5 of time on these project. And when you're
6 spending a lot of time arguing about these
7 issues that are either of secondary importance
8 or some of them are trivial, you take time from
9 your more important tasks.

10 ANTHONY IMBESI: And I understand that
11 the steel was ultimately switched with another
12 project, correct?

13 ROGER SCHMIDT: It was -- no. I
14 wouldn't say it that way. I would say the steel
15 that was intended to be used was used from the
16 beginning and the requirement was removed. The
17 requirement that never made sense was eventually
18 stricken or substituted.

19 But I think if you talk to the vehicle
20 supplier, they'd say that they were using the
21 steel they used from the beginning.

22 ANTHONY IMBESI: Right. Just which
23 wasn't that type of steel that was specified.

24 ROGER SCHMIDT: Right.

25 ANTHONY IMBESI: And so in terms of

1 the implications of the rigidity of this review
2 process, I think you talked, it took up
3 resources.

4 Did it cause delays to the design and
5 production of the vehicles, or any other
6 component that they were looking in?

7 ROGER SCHMIDT: Well, that's hard to
8 quantify. But I would say that, you know, in as
9 much as production can't proceed in earnest
10 until design is finalized, and that process
11 tended to -- that extended an onerous review
12 process tended to extend the finalization of
13 design. I would say yes, it did have an effect.

14 And I think there is bigger effect of
15 just basically distraction. You know, like,
16 when the client -- the client is always
17 important and the person that's paying the bills
18 has influence.

19 And when people go home at the end of
20 the week and they feel like they've satisfied
21 the most important person every week, they feel
22 satisfied. But, you know, when that process
23 takes up all the air in the room or all the
24 space on the shelf, it has unintended
25 consequences as well, right?

1 ANTHONY IMBESI: Right. So you're
2 saying that effort had to be focused on that
3 aspect of things when it could've been better
4 served dealing with the rest of the project?

5 ROGER SCHMIDT: Yes.

6 ANTHONY IMBESI: And so you became
7 involved in February 2013. So I take it you had
8 no involvement in the negotiation providing the
9 Alstom or Thales contracts?

10 ROGER SCHMIDT: No.

11 ANTHONY IMBESI: Would you be familiar
12 with both of those contracts or would have been
13 at the time?

14 ROGER SCHMIDT: I became familiar with
15 them, yes, they were -- I -- I read them both.

16 ANTHONY IMBESI: And so as the project
17 unfolded, were there ever any concerns or issues
18 with respect to the alignment of the two
19 contracts? I mean, I'm talking about timelines
20 for deliverables, disputes as to the scope of
21 what was required from each subcontractor,
22 anything of that nature?

23 ROGER SCHMIDT: Yes. I mean,
24 timelines -- you know, timelines that were
25 assumed at the bid didn't materialize as

1 planned, and the schedule needed to be
2 harmonized.

3 ANTHONY IMBESI: And so particularly
4 what comes to mind is, as I understand it, the
5 Alstom subcontract required a finalized CBTC
6 specification by Thales by, I believe, it was
7 April of 2013. Do you have a recollection
8 similar to that?

9 ROGER SCHMIDT: Yes. I don't know the
10 exact -- I can't recall the exact dates. But
11 there were numerous requirements of that nature,
12 yes.

13 ANTHONY IMBESI: Would a requirement
14 like that where a finalized specification was
15 required a few months into the project, is that
16 something that's reasonable or possible in your
17 experience?

18 ROGER SCHMIDT: In my experience, it's
19 not very reasonable. And when things like that
20 are not reasonable in a contract, they don't
21 tend to hold up very well. So they're
22 negotiated and they're improved.

23 ANTHONY IMBESI: And so why is it then
24 from, you know, a technical standpoint as to why
25 that isn't reasonable to have available, a

1 finalized specification at that point in time?

2 ROGER SCHMIDT: There was just
3 development work that has to be done. There's a
4 coordination. I'm not aware of how much of the
5 vehicle and the details of the vehicle that, you
6 know, one party that Thales was aware of, and it
7 takes time to -- specifications are the detail
8 part, right?

9 That's when you know everything enough
10 to supply all its parameters and its performance
11 limits and, you know, you need to understand
12 quite a bit about its interaction and it's usage
13 and the environment, the operational environment
14 before you get there, right?

15 ANTHONY IMBESI: And just at a high
16 level then, what would Thales need to know about
17 the Alstom vehicle in order to get to the point
18 where they could prepare a finalized or close to
19 a finalized specification? What are the
20 components that they are looking forward to
21 implement into their design, into their
22 specification?

23 ROGER SCHMIDT: Well, I'm not going to
24 be exhaustive. But I don't think, you know --
25 but basically they need to know acceleration

1 curves, braking curves; they need to know
2 geometry; they need to know where the equipment
3 is going to fit; they need to know how supply
4 for their equipment in the vehicle; they need to
5 know the response, the intended response in the
6 cab. I mean their Thales system is a big part
7 of what the driver sees in the cab.

8 So when you take all those together,
9 there needs to be a degree of finalization of
10 the large-use system design, there needs to be a
11 look at the human factors, the driver, and also
12 quite a bit of the vehicle development, right?

13 ANTHONY IMBESI: And, so do you recall
14 at what point in time it would have gotten to
15 that level on this project?

16 ROGER SCHMIDT: Well, maybe a year, a
17 year and a half in. I'm just, sort of,
18 guessing. But, you know, often these things are
19 done in a more collaborative approach where you
20 say this is what I need critically to finalize
21 this software build, and the rest can wait.

22 Whereas, you know, the one supplier
23 might say, I want it all at once just because
24 that's simple and easy to write down as a
25 requirement. But the reality is more of a

1 collaborative pace development.

2 ANTHONY IMBESI: And how did you view
3 from your position the relationship and
4 interaction between Alstom and Thales?

5 ROGER SCHMIDT: It was formal and
6 guarded, but it was rigorous and it was
7 professional and well-managed. And, you know,
8 there were occasional flares of personality, but
9 those were rare. And I think it was, for the
10 most part, it was very formal and structured.

11 ANTHONY IMBESI: So you mention that
12 it was a guarded.

13 What was your sense of why that was?

14 ROGER SCHMIDT: Well, initial
15 reluctance to share full plans because they're
16 in the same business. I mean, Alstom has a
17 signalling division, and Thales is seen as a
18 competitor.

19 I'm reading their minds there, so but,
20 you know, I suspect that's the reason.

21 ANTHONY IMBESI: And so you've
22 explained how you perceive the relationship.

23 Did you get the sense that there was
24 that level of collaboration that you mentioned
25 is required in that circumstance?

1 ROGER SCHMIDT: Yes, I did. And I
2 think it's -- when engineers get involved and
3 when they are facilitated by someone who is
4 clearly working towards a goal, I believe
5 Jacques was that day, they tend to be problem
6 solvers and get it done.

7 ANTHONY IMBESI: And so within OLRTC,
8 how were the technical aspects of the Thales and
9 Alstom subcontracts managed?

10 ROGER SCHMIDT: We had -- well,
11 Jacques and his staff had regular meetings. I
12 believe it was weekly. And they had punch lists
13 of items that were either not yet resolved or
14 becoming stubborn.

15 And, you know, if there was, you know,
16 particularly difficult issue, they would hold
17 specific meetings to resolve it. They would try
18 to overcome communication hurdles due to, you
19 know, remote locations or with even just, you
20 know, corporate cultures trying to get beyond,
21 you know, difficulties related to that.

22 ANTHONY IMBESI: And those regular
23 meetings that you mentioned, would those be
24 interface meetings?

25 ROGER SCHMIDT: Yes.

1 ANTHONY IMBESI: And would you have
2 had any involvement in that or would that be
3 left to Jacques and his team?

4 ROGER SCHMIDT: I occasionally
5 attended them when I had time and just to see
6 what was going on. But I was more of a
7 secondary participant. It was Jacques leading
8 on that.

9 ANTHONY IMBESI: And so how would
10 those interface meetings work in practice?

11 ROGER SCHMIDT: They would either be
12 attending in person or one party would be
13 dialing in if necessary and they would be
14 tackling a topic whether it was layout of train
15 lines and connection of devices or software
16 issues or who knows what else.

17 And they would use it as a working
18 meeting to resolve it. And if not, they would
19 table it as an issue that needed to be tracked
20 for future resolution.

21 ANTHONY IMBESI: And so any decisions
22 that were made to overcome these issues that
23 they were dealing with, how would that be
24 reflected in practice following meetings? Is it
25 expected -- was it expected from OLRTC that

1 there would be updated formal ICDs, or another
2 formal document that would be submitted to
3 reflect what had been discussed and agreed upon
4 at the meeting, or how would that work in
5 practice?

6 ROGER SCHMIDT: Submitted to who?
7 Sorry.

8 ANTHONY IMBESI: Would OLRTC be
9 expecting to receive formalized documents,
10 documenting changes that were agreed upon or
11 anything of that nature, the mechanisms for
12 dealing with these issues.

13 How were these decisions implemented
14 is what I'm driving at?

15 ROGER SCHMIDT: Well, I -- we did have
16 a change control board and talked about issues
17 that had change effects that were
18 multi-disciplined.

19 But I, you know -- for the most part
20 it was between Alstom and Thales that was
21 between Jacques. And we also had a contract
22 administrator for both of them. So they would
23 have regular communication and correspondence
24 with the parties through the contract
25 administrator.

1 ANTHONY IMBESI: Would that be to deal
2 with the commercial aspects of the contract?

3 ROGER SCHMIDT: Yes. Well, that was
4 to methodically deal with contract
5 administration. And that, I think, was
6 scheduled. It wasn't just commercial, it was
7 scheduled, it was unresolved technical items.
8 If they needed to be escalated to that level.

9 ANTHONY IMBESI: And were there any
10 times during the project where you felt that
11 these issues weren't overcome as quickly as they
12 should have been as between Thales and Alstom?

13 ROGER SCHMIDT: None that I can think
14 of, no.

15 ANTHONY IMBESI: So in terms of the
16 project, the testing and commissioning, I
17 understand from your CV, it indicates that you
18 established the testing and commissioning
19 program.

20 ROGER SCHMIDT: Yes.

21 ANTHONY IMBESI: So can you just
22 explain to us what that means?

23 ROGER SCHMIDT: Well, testing and
24 commissioning is a fairly complex period of the
25 project and it involves a number of aspects.

1 And one of it is basically temporary operations
2 so you need to set up an operations environment
3 within a construction zone with people that are
4 largely used to construction procedures like,
5 you know, pouring cement or laying rail.

6 Now they have to become familiar with
7 railway operations, even though it's a temporary
8 railway operation, it still is -- it's like a --
9 it is a railway, so you are running trains, you
10 are needing staff, you're needing drivers, you
11 are needing a control room, you're needing
12 temporary operational procedures.

13 So there's that aspect. And then
14 there's also the aspect of arranging the tests
15 and the equipment to do the tests, the schedule
16 for the tests, the personnel, strategy, what's
17 the sequence that you are going to do the tests
18 in.

19 And then there's just basically the,
20 usually, fairly mundane aspects of performing a
21 test as you get, you know, you get a test
22 document and you hook up the electrodes or
23 whatever you're doing, and you record the
24 results.

25 But then you also need test review

1 panel if there's tests that fail, you know, or
2 someone to review the test results. So all that
3 is part of the testing commissioning, sort of,
4 program, and that's what I worked to establish.

5 So hire a testing commissioning
6 manager. He started to facilitate a team, he
7 got equipment onboard, we worked with OCT to do
8 staff training, driver training, to develop
9 temporary operations. We developed -- we
10 established a temporary operations committee.

11 Safety-wise, you know, it can be a
12 dangerous time, too. I mean, often in the
13 construction period that testing commissioning
14 is where there is safety incidents, sometimes
15 fatal.

16 So all that stuff is what is -- what I
17 worked to establish and developed for OLRTC.

18 ANTHONY IMBESI: Who was the testing
19 and commissioning manager that you just
20 mentioned?

21 ROGER SCHMIDT: Mathieu Branconnier.
22 He was subsequently, not replaced, but he was
23 augmented by another testing commissioning
24 manager later on in the project.

25 ANTHONY IMBESI: Who is the later

1 individual?

2 ROGER SCHMIDT: That was somewhat
3 hired by the project director and that was --
4 the guy's name slips my mind right now, but I
5 can get back to you on that.

6 ANTHONY IMBESI: If you are able. I
7 can let your counsel chime in. But if you are
8 able to determine that name, I would certainly
9 appreciate hearing that.

10 U/T MANNU CHOWDHURY: Yes, we can take
11 that as an undertaking as well.

12 ANTHONY IMBESI: Thank you. And you
13 mentioned a test review panel.

14 How did that function and who would
15 have been part of that?

16 ROGER SCHMIDT: Well, we had that
17 internally, and I think we had -- we may have
18 had OCT at that. It was a process that we
19 established and we wrote -- we had a couple
20 before I left, a couple of meetings, initial
21 meetings on that. So it was mainly establishing
22 the process of that.

23 ANTHONY IMBESI: So by the time you
24 had left the project, had the panel done
25 anything in practice or was it --

1 ROGER SCHMIDT: No, I think they --

2 ANTHONY IMBESI: -- (inaudible) to the
3 planning stage?

4 ROGER SCHMIDT: I think they had a
5 meeting, or a meeting or two.

6 ANTHONY IMBESI: You had mentioned
7 something done internally, but you also may have
8 had OC Transpo at that.

9 Was it designed to typically involve
10 the operator in that as well?

11 ROGER SCHMIDT: Yes.

12 ANTHONY IMBESI: So what would have
13 been the reasoning then to have the operator
14 involved on the panel?

15 ROGER SCHMIDT: Well, just, you know,
16 temporary operations. Just that aspect of T&C
17 that it involved operations, it involved -- I
18 think there was, you know, drivers that were
19 from OTC that were participating, so it could
20 involve them.

21 ANTHONY IMBESI: So it wasn't to do
22 with providing them with a level of familiarity
23 of the system and how the testing and
24 commissioning was progressing, it was more
25 related to the fact that they were involved by

1 the nature of -- the operators --

2 ROGER SCHMIDT: Yes.

3 ANTHONY IMBESI: And so would these
4 have been formalized into formal plans. So
5 you've described all the different programs and
6 everything that you had created for testing and
7 commissioning.

8 Would those have been formalized in
9 any way?

10 ROGER SCHMIDT: Yes, I believe so.

11 ANTHONY IMBESI: Testing and
12 commissioning plan or things of that nature?

13 ROGER SCHMIDT: Yes. Safety plan,
14 yeah.

15 ANTHONY IMBESI: And any other plans
16 in particular that come to mind?

17 ROGER SCHMIDT: Well, there was the
18 list of tests, the list of the test procedures.

19 ANTHONY IMBESI: So at a high level
20 then, what would have been, you know, the main
21 categories of the test procedures that would
22 have been done, you know, from a high level,
23 what was it that would fall under the testing
24 and commissioning? Is it all the different
25 systems? How would that work in practice?

1 ROGER SCHMIDT: Well, yeah. Each
2 system had its individual tests to ensure it was
3 operating as per its isolated parameters. Like
4 there was site acceptance tests, there was PICO
5 test, there was various tests that you did that
6 confirm, you know, product as delivered or as
7 supplied by a supplier was operational.

8 And then there was system integration
9 tests which were, you know, confirming that the
10 product operated in integration with other
11 systems that it was connected to. So those are
12 the main groupings of tests.

13 ANTHONY IMBESI: And to what extent
14 would the rolling stock be involved in that?
15 And I appreciate, obviously, the rolling stock
16 isn't involved in the testing overall.

17 But would they be included in this
18 oversight of testing for all the different tests
19 that were required of the vehicles from the
20 outset of the production?

21 ROGER SCHMIDT: Yes. I mean, the
22 Alstom and Thales tests were -- and the vehicle
23 tests were a big part of T&C, yeah.

24 ANTHONY IMBESI: And I'll turn to some
25 of the vehicle testing in a few moments. But

1 would you have been involved at all -- well, I
2 suppose I should ask you this.

3 At the time that you left the project
4 of May of 2018, what was the status of the
5 testing and commissioning? What had been done
6 to that point in time?

7 ROGER SCHMIDT: Well, the processes in
8 the program was established. The means by which
9 to gain availability to track the vehicle tests
10 were ongoing. They were type testing and serial
11 testing.

12 So I think that, you know, after the
13 vehicle had, kind of, got to a certain level of
14 acceptance, then you would start the Thales
15 tests. And then there was, you know, three or
16 four levels of maturity on the Thales tests.

17 So it was -- when I left, I believe
18 that we were just getting past, you know, some
19 of the type tests and the multi, you know, some
20 of the -- I think the MSF Thales tests were
21 done, and we were getting into some of the
22 vehicle-related -- just starting some of the
23 vehicle-related Thales to Alstom maturity tests.

24 ANTHONY IMBESI: And the type tests
25 for the vehicles, is that one of the -- in the

1 grand scheme of the number of different tests
2 that have to occur in a certain progression, is
3 at a relatively early test?

4 ROGER SCHMIDT: Yeah. Yes. So, you
5 know, when you're asking me the progression of
6 the vehicle tests, there's -- I mean, it's a few
7 years back and also, again, this is mainly
8 Jacques who was dealing with this, and so in
9 terms of the details of where they got, I might
10 not get that right.

11 But the type tests are done on, you
12 know, a single vehicle just to prove a system,
13 like, you know, you prove braking or your prove
14 something as a type.

15 And then once that's proven, it's
16 applicable to all the vehicles in general, and
17 they're serially tested to confirm for each
18 vehicle if there's no unique aspects that are
19 going to discount the type tests, right?

20 ANTHONY IMBESI: So the type tests are
21 for specific components to essentially validate
22 them for production, and then there's serial
23 testing on each individual vehicle to make sure
24 it meets certain requirements for the certain
25 components?

1 ROGER SCHMIDT: Yes, exactly.

2 ANTHONY IMBESI: And did you have --
3 in the context of your planning of testing and
4 commissioning, would you have been involved in
5 determining the length of time in the schedule
6 that would have been allocated to do all of
7 these various things?

8 ROGER SCHMIDT: Well, we had rough
9 ideas of how long it would take and we looked
10 to, you know, Thales and Alstom to work together
11 to get a harmonized schedule and an optimized
12 schedule.

13 On a broad sense of how long it might
14 take, I was involved in a detailed sense of
15 working out, you know, the interaction and the
16 optimization, that was others.

17 ANTHONY IMBESI: So speaking of the
18 broad strokes, what would have been in your
19 knowledge then at the time, you know, what
20 general length of time was allocated for testing
21 and commissioning subject to all the
22 optimization and everything.

23 What was your sense of how much time
24 was supposed to be dedicated to testing and
25 commissioning?

1 ROGER SCHMIDT: Well, for the
2 vehicles?

3 ANTHONY IMBESI: For the vehicles and
4 overall.

5 ROGER SCHMIDT: Well, it wasn't my --
6 I wasn't bringing a lot of past experience with
7 me on that. But it was my understanding that it
8 was at least a year. It was, you know, you
9 needed at least a year to go from, you know,
10 production and type test to trial running.

11 ANTHONY IMBESI: And so you talked
12 about, you know, approximately a year from the
13 type tests to trial running. So as that testing
14 and commissioning -- and I'm speaking of how
15 you -- it was envisioned when you were preparing
16 these plans because I appreciate you weren't
17 there past May of 2018.

18 But would there have been a plan to
19 run the trains for a period of time, like a
20 burning in period or something of that nature
21 prior to trial running?

22 ROGER SCHMIDT: We didn't have -- I
23 wasn't familiar with the term "burning in", and
24 we thought we would get quite a bit of usage out
25 of each vehicle for driver training, for various

1 testing applications and my -- I wasn't
2 allocating or planning for, like, a burn in
3 period under the assumptions that all the other
4 tasks would accumulate quite a bit of mileage on
5 each vehicle.

6 And then there were quite a few. We
7 had quite a few discussions on powers of driver
8 training and, you know, various other, you know,
9 testing that was required.

10 ANTHONY IMBESI: And would the driver
11 training occur in tandem to the testing and
12 commissioning? So if you had, you know, a
13 vehicle that was tested and integrated with the
14 Thales signalling system, would that then be
15 used for driver training potentially?

16 Or would you be waiting until you were
17 in a position where you essentially had a fully
18 running system that had not yet reached trial
19 running in order to start the driver training?

20 ROGER SCHMIDT: Well, the plan was to
21 get the vehicle to a point where OCT considered
22 it reasonable and safe to have their drivers use
23 it and then get them involved in their driver
24 training in parallel with the testing
25 commissioning activities wherever possible.

1 ANTHONY IMBESI: So that would be a
2 situation where they, for example, felt one,
3 two, three, a few vehicles were in that state,
4 they were safe to use, it would begin on those
5 vehicles --

6 ROGER SCHMIDT: Yes.

7 ANTHONY IMBESI: -- that were in
8 position where that could happen?

9 ROGER SCHMIDT: Yes. And they also
10 had dedicated track or reserved -- they reserved
11 track for driver training just for its own
12 purposes, right? So when we wouldn't
13 necessarily have been operating a test, but they
14 would be driving vehicles.

15 ANTHONY IMBESI: And was there any --
16 and I'm speaking about the vehicles in
17 particular, was there any dynamic testing plan
18 for winter-weather conditions?

19 ROGER SCHMIDT: Well, you'd have to
20 ask -- I mean, Alstom had their winter and their
21 climate testing. And they had their regime of
22 testing. But I think our testing period went
23 through the winter, so, you know, we felt that
24 we would experience winter conditions as a
25 matter of fact during the T&C period.

1 ANTHONY IMBESI: Right. Just because
2 where that fell at that point in time?

3 THE WITNESS: Um-hmm.

4 ANTHONY IMBESI: And so you've
5 explained how you planned this, planned the
6 testing and commissioning from a high level, and
7 you gave us your broad sense of how long you
8 thought that period of time would take.

9 Did you have any sense by the time you
10 left as to whether the testing and commissioning
11 was proceeding, you know, along the lines of
12 what you had contemplated or were things being
13 delayed and falling behind schedule by the time
14 you left? What was the status of that?

15 ROGER SCHMIDT: I think that it was
16 going slower than was hoped for by the schedule.
17 But in my mind, perhaps not slower than could be
18 anticipated given the, you know, goal of trying
19 to harmonize these systems and, you know, these
20 software-driven systems that take time, you
21 know, and take debugging.

22 And so I felt that it was the, you
23 know, it was the work that was going to be done
24 early that was going to be the learning curve,
25 the early part of the learning curve that was

1 going to allow it to accelerate later. But at
2 the time that I left, I thought it was -- it
3 was -- well, it was going slower than hoped.

4 ANTHONY IMBESI: But were there any
5 reasons for that beyond just overcoming the
6 technical issues that, by their very nature, are
7 associated with integrating these types of
8 systems?

9 Like, were there any other factors
10 that contributed to this falling behind in terms
11 of, you know, were there delays in the delivery
12 of any certain components, or other external
13 factors?

14 ROGER SCHMIDT: No delays in external
15 components. Track availability was provided as
16 much as was possible and, you know, I think that
17 once one vehicle got configured to test, there
18 was, you know, some issue that arose because of
19 it, then it was a challenge to reconfigure
20 another vehicle and took time.

21 So I don't know that anything that
22 was, you know -- there was regular meetings to
23 try to iron out differences or to accelerate
24 schedule or to try to find ways to minimize
25 delays. But nothing that comes to mind that's

1 like additional or external.

2 ANTHONY IMBESI: Were there any issues
3 with track availability in terms of, you know,
4 the amount of track that was able to be provided
5 at a certain period of times or issues with
6 access or power or anything of that nature?

7 ROGER SCHMIDT: There was -- power
8 was, you know, power was provided. We provided
9 -- because of some construction, you know,
10 delays, let's say, in the Rideau station area,
11 we realized that we couldn't really test the
12 whole -- we couldn't test, sort of, a circuit
13 for quite some time if we were waiting for the
14 whole line.

15 And so we, sort of, created this mini
16 system, or using -- using some of the existing
17 crossovers, we created like a system within the
18 system that was mostly on the east end, and so
19 you would be able to do a circuit that was a
20 part of the whole system, but in that circuit
21 you would be able to, hopefully, qualify a
22 number of aspects, like station integration, and
23 multiple vehicle operation, and stopping and,
24 you know, even sort of, maybe headways.

25 And I think that was a good mitigating

1 plan that we had for -- and then once you
2 have -- once you have that mini system running,
3 you know, it would be less onerous to kind of
4 extend it to various further sections because
5 some of this -- some of those features, like
6 approaching station stops and things, had a
7 really been basically qualified.

8 So we adopted that to mitigate
9 track-work availability issues or to make the
10 most out of the track that we had.

11 ANTHONY IMBESI: So the testing and
12 commissioning plan, is it fair to say that it
13 pivoted to a certain extent to have the testing
14 and commissioning done in segments or to
15 maximize the track that you had at that point in
16 time before integrating out the full track and
17 completing the testing and commissioning?

18 ROGER SCHMIDT: Yeah. It I was
19 actually to do as much as possible with the
20 eastern segment as a closed-loop, and then
21 extend that -- extend the benefits gained to the
22 western segment as a time-saving.

23 ANTHONY IMBESI: So beyond, obviously,
24 the inability to have the trains running the
25 full track by virtue of this eastern -- having

1 this eastern segment.

2 Were there any other limitations on
3 the testing, and so really what I'm driving at
4 were the trains able to get up to the speeds
5 that they required, were they able to perform
6 most of the functions that they should be
7 performing for the purposes of testing and
8 commissioning on that smaller segment?

9 ROGER SCHMIDT: As far as I'm aware
10 and for the level that it was operating when I
11 left, I think it was. I mean, there was a few
12 hiccups with the cabs getting too hot, and the
13 drivers not going to work in that environment,
14 and a couple of other things that I recall.

15 But those were more hiccups. So yeah,
16 you question was: Was it successful or?

17 ANTHONY IMBESI: No. Well, if you
18 have a view on whether that was successful, I'd
19 certainly like to hear it.

20 ROGER SCHMIDT: I think it was -- I
21 think my -- I think the comment that I can make
22 is I think it was a good mitigation strategy,
23 and I think at the time that I left, I hadn't
24 fully been able to assess whether it was
25 successful, but I believe it was going to be

1 successful.

2 ANTHONY IMBESI: And so during your
3 time there, and I appreciate you had left before
4 the testing and commissioning would have been
5 completed.

6 But did you get any sense that either
7 the length of the testing and commissioning or
8 its scope was being compressed in any way as a
9 result of any potential delays or slowdowns to
10 the testing and commissioning?

11 ROGER SCHMIDT: I think -- no. I
12 think that the testing commissioning is on most
13 projects is wanting to be compressed to make up
14 for other issues. You know, there's other
15 extensions that happen prior and, you know, it
16 desires to have testing commissioning somehow
17 press to make up for that.

18 But it's -- I think particularly on
19 this project, I think it was not that feasible
20 given the amount of newness that I spoke of,
21 like the new train control system, the new
22 vehicle to North America, it was unlikely in my
23 mind that testing commissioning was going to be
24 compressed.

25 ANTHONY IMBESI: So given the newness

1 that we've already spoken about, the compression
2 really wouldn't have been possible or advisable
3 in those circumstances?

4 ROGER SCHMIDT: Yeah. Well, it was --
5 the word that I used was "unlikely". I mean, it
6 could be planned, it could be attempted, but it
7 was likely going to take the time it was going
8 to take.

9 ANTHONY IMBESI: There was no level of
10 compression or potential compression that you
11 saw before you left that would have given rise
12 to any concerns?

13 ROGER SCHMIDT: No.

14 ANTHONY IMBESI: Was there increased
15 pressure during that phase to meet revenue
16 service availability?

17 ROGER SCHMIDT: Well, there's always
18 pressure to meet revenue service availability.
19 What do you mean by that?

20 ANTHONY IMBESI: I suppose I mean, did
21 any pressure to meet revenue service
22 availability impact in any way on the testing
23 and commissioning phase?

24 ROGER SCHMIDT: No, I don't -- testing
25 commissioning is supposed to be independent and

1 it's supposed to be unbiased, and it should give
2 the results that it gives. And, you know, so
3 wasn't -- I didn't see any attempt to bias the
4 process or make it put up results that it wasn't
5 putting out.

6 Testing and commission also, by being
7 the last process and this sequence, tends to
8 expose, you know, any, sort of, elements that
9 are not quite finished or, you know, you can't
10 test and commission a system or piece of
11 equipment until it's completely installed and
12 ready to go and other features are ready.

13 So it -- by virtue of it being the
14 last process in the sequence, it tends to pick
15 up some of the, you know, delay that is inherent
16 there and having to tie up loose ends.

17 ANTHONY IMBESI: And just the tie off
18 the testing and commissioning then.

19 By the time you had left the project,
20 were you aware of any significant issues with
21 the system that had arisen during testing and
22 commissioning? Was there anything that seemed
23 of significance or stuck out in your mind?

24 ROGER SCHMIDT: There was -- the only
25 thing that stuck out for me was the, you know,

1 final system installation where T&C would come
2 on an area to test or a piece of equipment to
3 test and, for example, all the connections
4 wouldn't have been made.

5 And so they would have to go back and
6 identify the connections need to be finalized.
7 And sometimes the connections hadn't been
8 finalized for various, you know, reasons that
9 made sense in terms of one contractor not
10 wanting the risk of powering something on
11 without approval or whatever.

12 You know, often this, sort of, final
13 stage of installation was just not yet
14 completed, which resulted in the test not being
15 done and having to be rescheduled, and that's
16 the thing that I noticed.

17 ANTHONY IMBESI: So I'm going to
18 switch areas now, so I think this is probably a
19 good time for us to take a break. So we can go
20 off record.

21 -- RECESS TAKEN AT 2:38 P.M.

22 -- RESUME AT 2:49 P.M.

23 ANTHONY IMBESI: I'll just ask before
24 I move on. I'll just ask my co-counsel,
25 Ms. Boghosian if she had any follow-up questions

1 to anything we've spoken about prior to the
2 break.

3 TARA BOGHOSIAN: I don't. I think you
4 covered it.

5 ANTHONY IMBESI: Thank you. Okay.
6 Ms. Schmidt, I'd like to move on and talk to you
7 about the sinkhole. I know that you had alluded
8 to some delays to the Rideau station area
9 previously.

10 And were those the results of the
11 sinkhole that opened in the vicinity of the
12 Rideau station?

13 ROGER SCHMIDT: I think so, yeah.

14 ANTHONY IMBESI: And what involvement,
15 if any, would you have had in and around the
16 sinkhole?

17 ROGER SCHMIDT: Well, you know, I
18 was -- as the technical director, I was
19 responsible for the broad strokes of the
20 temporary support. So, you know, coordinating
21 that design with the permanent design and
22 interfacing with the tunnel support engineers,
23 Dr. Sauer & Partners, making sure that they had
24 presence and were -- you know, any concerns that
25 were being heard.

1 It was also a construction realm, so
2 it was a bit of an area where there is overlap
3 of responsibility technical and construction.
4 But that was the broad aspects so, yeah, I -- it
5 was a big part of my year, that event.

6 ANTHONY IMBESI: And how did you --
7 how did the sinkhole impact the project?

8 ROGER SCHMIDT: Oh, it caused months,
9 months of delay when we were, you know, cleaning
10 up, investigating, going to meetings, talking
11 about, you know, recovery plans.

12 And just the aftermath of it, and the
13 cleanup and the restoration was an event. And
14 then the effect on the mining and completion of
15 the mining in the area. And then the station
16 construction, the Rideau cavern station
17 construction.

18 I mean, I wasn't working on the
19 detailed development of schedules and all of
20 those areas. But it had a noticeable effect on
21 all those areas.

22 ANTHONY IMBESI: And is it fair to say
23 that it had a knock on effect on testing and
24 commissioning as well? We'd already spoken
25 about having to use a more of a segmented

1 approach.

2 ROGER SCHMIDT: Yeah, it had an effect
3 on the testing commissioning strategy.

4 ANTHONY IMBESI: Were there any
5 implications on the testing and commissioning
6 strategy beyond what we've already spoken about?

7 ROGER SCHMIDT: Well, I think the only
8 -- no. The one that we've spoken about that I
9 think is most pertinent is the fact that it was
10 a delay -- in my mind, it was a significant
11 enough delay that testing commissioning couldn't
12 absorb it. You know, you couldn't ask testing
13 and commissioning to absorb a six-month delay,
14 for example.

15 ANTHONY IMBESI: In the sense of
16 compression -- compressing that period of time
17 to accommodate --

18 ROGER SCHMIDT: Exactly.

19 ANTHONY IMBESI: -- the delay
20 associated with that sinkhole?

21 ROGER SCHMIDT: Exactly.

22 ANTHONY IMBESI: Did you have any
23 interaction with the City at any point in time
24 during your involvement?

25 ROGER SCHMIDT: Yes.

1 ANTHONY IMBESI: What would the nature
2 of your involvement have been? I know we spoke
3 about the involvement of the operator.

4 But what else -- what would have been
5 the nature of your involvement with the City?

6 ROGER SCHMIDT: Well, I wasn't -- I
7 was on the management team. But I wasn't part
8 of their works committees or the, sort of,
9 regular committee meetings, and I think that was
10 because I was a consultant, and I wasn't really
11 a member of, you know, Dragados executive or SNC
12 executive, so I didn't really have signing
13 authority in that sense.

14 So I was mainly, I guess, a senior
15 contributor to discussions when they seem to be
16 technical or want that kind of thing at a senior
17 management level.

18 So, but my regular focus was at the
19 more technical meetings, the regular technical
20 coordination meetings with the City's design
21 review leads, the operating maintenance working
22 group, the -- other, sort of, technical working
23 groups that either I attended or chaired.

24 ANTHONY IMBESI: So how would you
25 assess OLRTC's and RTG's relationship with the

1 City in your experience?

2 ROGER SCHMIDT: Oh, very polite and
3 accommodating, and really wanting to serve the
4 City's interests.

5 ANTHONY IMBESI: And did the
6 relationship with the City, did that change at
7 all at any point in time following the sinkhole
8 or any other period of time?

9 ROGER SCHMIDT: No. Well, you know,
10 from my perspective, no, it didn't. And I think
11 that there was a -- there was quite a partnering
12 approach in terms of the face for the public,
13 and, you know, it was consistently shown to be
14 more or less a unified group.

15 ANTHONY IMBESI: And so I think you
16 said that your involvement with the City was
17 primarily from a technical or a design
18 perspective. Is that fair?

19 ROGER SCHMIDT: Yes.

20 ANTHONY IMBESI: And so how would you
21 characterize the level of the City's oversight
22 and involvement in those components that you
23 were dealing with then?

24 ROGER SCHMIDT: Well, they had five --
25 I would characterize it to be as fair and

1 accurate as possible as I think the City was
2 doing a diligent job of what they saw as their
3 main task which was enforcing compliance to the
4 PA.

5 And I think that they had regular
6 meetings, they -- the five design reviews took
7 up a lot of time and they -- by their diligence
8 at their own task, at their perceived task, I
9 think they became a dominant feature of the
10 design and I think they -- I think they created
11 unintended consequences by their focus on
12 enforcement of the PA.

13 ANTHONY IMBESI: In what sense? Can
14 you explain that?

15 ROGER SCHMIDT: Well, I mean, I would
16 come to designers sometimes and look for
17 improvements, or maybe optimizations to the
18 design and they would say, We can't -- well,
19 maybe we could, but we can't because that design
20 has already been approved. And the City
21 wouldn't like the language "approval" because
22 they said they never approved anything.

23 But effectively, you know, in the
24 designer's mind, the main approver, or the main
25 client was the City. And so we -- I felt myself

1 often in competition with the City as a voice of
2 input to the designer.

3 And the PA is very prescriptive and
4 onerous and, you know, it just -- it created a
5 very -- it created a very inflexible environment
6 where -- and, also, I think on reflection, I
7 think it -- well, not only on reflection.

8 I thought that at the time was that it
9 created an environment that -- you know, your
10 primary focus was on achieving the approval of a
11 group who explicitly often stated that when it
12 came down to the eventual running and handover,
13 we're going to have -- we're going to take no
14 responsibility.

15 So, you know, it was an odd situation
16 where they were dominant. There were dominant
17 in the early stages and then disappeared.

18 ANTHONY IMBESI: So just so I can
19 understand that. Is it fair then for me to say
20 that, you know, they were fairly dominant in
21 driving the design to the extent that they
22 demanded rigid compliance with a variety of
23 things, but at the same time, didn't want to
24 sign off or take accountability for what was
25 being imposed?

1 ROGER SCHMIDT: Yeah. And I think
2 that, you know, like the unintended consequences
3 is that the designers came to simplify. But I
4 shouldn't say that. Again, I don't want to put
5 words in people's mouths.

6 But I felt like it leaned towards
7 simplifying the LRT. The LRT design process is
8 chaotic at worst; it's complex, adaptive
9 generally. And you have to get work hard to get
10 it just to be complicated. And the PA is a
11 simple document that is achievable.

12 We were focused on achieving PA
13 compliance, and I think it, you know -- in a
14 design -- you know, I think a good designer is
15 always asking, like, What if? Or they are
16 speculating. They're going, What could go
17 wrong? Have I looked at everything? Could I do
18 it better? Could I do it cheaper?

19 But with the PA mindset, it was
20 reduced. And this was by repetition. I mean, I
21 came to understand that -- like, you know, my
22 question of the operator in the early stages
23 was, you know, seem to be almost, not a
24 reasonable question because it was, like, just
25 do it according to PA, right?

1 I felt like it -- I felt like it
2 changed the focus. It, you know, it did a lot
3 -- it had unintended consequences in a number of
4 ways, you know, reducing creativity,
5 oversimplifying the work, and then changing the
6 focus of, you know -- it almost changed the
7 focus from success to compliance, like, you
8 know.

9 Compliance -- compliance became
10 everything. I mean, I -- I heard it in
11 elevators with senior executives, We're going to
12 make sure you are compliant. It was just -- it
13 was the mantra, compliance was the mantra.

14 ANTHONY IMBESI: I'm just trying to
15 understand then. So what are the knock on
16 effects or implications of that? You've
17 mentioned that it, sort of, stifled the
18 creativity, it maybe oversimplified the process.

19 But how does that play out? What does
20 that mean?

21 ROGER SCHMIDT: Well, if I would --
22 well, just some of my personal challenges. If I
23 would question a document, I would often get,
24 Well, it's compliant, and I've got approval from
25 the City. So it, I wouldn't say it eliminated,

1 but it made more difficult anything that was
2 above and different than the PA, right.

3 You became focused to compliance, and
4 other things were seen as peripheral, that's
5 one. And it locked things in early because
6 after a review cycle, and an approval cycle that
7 was seen as valuable, and you didn't want to,
8 sort of, change something and open it up again
9 to potential rejection. That's another one.

10 And I think it resulted in overdesign,
11 you know, from my perspective wasted -- some
12 wasted money, you know, that is never good
13 because it causes contractors to become in a
14 worse financial position, and they're under
15 stress. So, that kind of thing.

16 Yeah, so I -- and I would like to
17 stress that I don't think it's -- I don't think
18 it was a malicious process, and I don't think it
19 was executed for the intent of distracting. But
20 I do think it was an unintended consequence and
21 it was the culture of the project.

22 ANTHONY IMBESI: And I just wanted to
23 follow up on one thing you said. You talked
24 about overdesign and waste of money,
25 potentially.

1 Is there anything that sticks out in
2 your mind as an example of that?

3 ROGER SCHMIDT: Couple things. I was
4 looking at a glass reduction exercise at one
5 time because from my previous experience, you
6 know, stations that I've been a part of in
7 Vancouver had been termed, you know, crystal
8 palaces in the sky and too much glass and
9 chrome.

10 And I thought we should try to reduce
11 some of this and couldn't -- couldn't reduce a
12 single panel of glass because of those factors -
13 either the approval or the PA compliance or, you
14 know.

15 So and the other one was we had an
16 innovation proposal to reduce a rebar in the
17 tunnel because the tunnel was very
18 conservatively designed and almost all -- well,
19 under compression completely, and rebar is
20 mostly a liability in that scenario because it
21 corrodes or can corrode, and concrete mainly
22 needs rebar for tension, not for compression,
23 doesn't need it at all for compression. So that
24 was rejected.

25 So that probably had time and schedule

1 effects. But, yeah, so just, you know -- I
2 notice -- often, you know, a reviewer's comment,
3 you know, an owner's reviewer's comment about
4 compliance. I think designers are mainly
5 concerned about getting through a project
6 without any harm to their credentials or their
7 reputation.

8 And so if a designer hints that they
9 are taking an approach that is -- if an owner's
10 engineer hints that they're taking an approach
11 that's going to lead to noncompliance, they,
12 instead of resisting, they just make it bigger,
13 and that's the simpler way out.

14 So these, you know -- I came to
15 believe on this project that an owner has an
16 incredible leadership role on a project and
17 whether they -- you know, that will have its
18 effect on some.

19 I believe that -- yeah, so those are
20 the areas that I -- those are the areas that I
21 can think of.

22 ANTHONY IMBESI: And so in your
23 experience, would you have expected a more
24 collaborative approach as opposed to a more
25 strict interpretation and enforcement of the PA?

1 ROGER SCHMIDT: Definitely. That was
2 my experience on previous projects. Because,
3 you know, with strict enforcement approach
4 assumes that the PA is without flaw and that the
5 PA is sufficient.

6 I remember asking a designer when I
7 came early in the project, where is the design
8 manual for the project? And they said, We don't
9 have one. It's the PA. The PA is exhaustive
10 enough that we're using it as a design manual.
11 And...

12 ANTHONY IMBESI: So there was no
13 design manual then for this project?

14 ROGER SCHMIDT: Well, not for the --
15 for the -- that was the response from the EJV.
16 And I'm not saying that's a -- I'm not saying
17 that's an incorrect conclusion they came to.
18 I'm just saying that it's a reality that, you
19 know, the PA was so prescriptive that they
20 understood that creating a design manual would
21 be redundant.

22 ANTHONY IMBESI: So it's not that
23 having a design manual would have had more
24 information or use to you, it's just a sense
25 that the PA was so prescriptive that it was

1 unnecessary or redundant?

2 ROGER SCHMIDT: Yes. And also, then
3 you lose the benefit of having created the
4 design manual because, you know, when you're --
5 in my opinion, when you're working to the PA,
6 you're following someone else's dictates. When
7 you create a design manual, you're defining the
8 dictates for yourself and it makes a huge
9 difference.

10 ANTHONY IMBESI: And did you feel in
11 your interactions with the City that they had
12 the level of technical knowledge that was
13 required or that you would have expected of an
14 owner on this kind of project?

15 ROGER SCHMIDT: No. For the most
16 part, I didn't. I think in some areas in the
17 civil and utilities and in the stations, they
18 were good.

19 And in other areas, like in -- you
20 know, particularly in the handover and the
21 operations and the public consultation, there
22 were not that strong.

23 ANTHONY IMBESI: Are there any
24 implications of that? How does that manifest
25 itself?

1 ROGER SCHMIDT: How did I become aware
2 of it? Or how -- what --

3 ANTHONY IMBESI: No. As I understand,
4 you've said there was a less of a technical
5 level of knowledge as would be expected in
6 certain components of the project.

7 So what are the implications of that?
8 Are there any effects of the owner not having
9 that technical level of expertise?

10 ROGER SCHMIDT: Yeah. I think it --
11 potentially it leads to inefficiency because you
12 initially take their input as having strength,
13 and then when you realize, and maybe when
14 everybody realizes that it needs to be adapted,
15 you've already spent some time and effort
16 following that route, and you have to adjust and
17 go down another route, and it's inefficient.

18 ANTHONY IMBESI: And so I'd like to
19 turn back for a moment to the rolling stock.
20 And through your involvement in the project, did
21 you ever get a sense that production of the
22 rolling stock was delayed in any way?

23 ROGER SCHMIDT: Delayed. Well, some
24 of the -- you know, yeah. Some of the vehicles
25 weren't coming out as quickly as planned. I

1 mean, we -- that was another first on the
2 project, the MSF production of the vehicles.

3 That had an effect. And then, also, I
4 think that you had asked earlier about was there
5 any -- I mean, occasionally, there was, you
6 know, a wish for more useful vehicles on T&C
7 that were available.

8 ANTHONY IMBESI: A more wish for
9 useful vehicles for the testing and
10 commissioning that were made available?

11 ROGER SCHMIDT: Than had been produced
12 or ready to use, yeah.

13 ANTHONY IMBESI: And so my next
14 question for you was going to be did you have
15 any insight as to why the production and the
16 testing of the LRVs was delayed? And I think
17 you were alluding to potential issue with the
18 MSF, the maintenance storage facility.

19 ROGER SCHMIDT: Well, that's the only
20 one I can really point to because the other ones
21 you have to ask Paul or Jacques in terms of the
22 detail. I mean, I know we had monitoring and
23 presence and management of that. But in terms
24 of the reasons you have to ask them.

25 But in terms of the start, I think it

1 was a little bit later. I don't know the amount
2 of weeks or months, but the MSF availability.
3 But the MSF is a critical design component and
4 it's really hard to rush that and to -- it's
5 also out of sequence.

6 Like, the MSF is normally one of the
7 later pieces of design to arrive rather than the
8 first. So that was a particular challenge to
9 get that design and that construction completed
10 in an early stage of the project.

11 ANTHONY IMBESI: So was the issue then
12 the ability to construct and turn over the MSF
13 to Alstom in order to commence the production of
14 the LRVs, is that what you're saying?

15 ROGER SCHMIDT: Well, not the issue,
16 but I just said that's one factor.

17 ANTHONY IMBESI: Was the MSF -- was
18 the turn over delayed to your knowledge?

19 ROGER SCHMIDT: Well, it wasn't the
20 original dates specified. And so -- it wasn't
21 much later. But it was later.

22 ANTHONY IMBESI: And did you have any
23 view as to the suitability of the MSF for LRV
24 assembly?

25 ROGER SCHMIDT: No. Although, you

1 know, it seems suitable to me. I mean, it was
2 designed with Alstom's requirement. And, you
3 know, basically, a building that had to be
4 designed for two purposes, Alstom's and then
5 RTM's later.

6 ANTHONY IMBESI: And correct me if I'm
7 wrong, but I think you mentioned that that was a
8 first. What was a first?

9 ROGER SCHMIDT: Well, in my mind I
10 wasn't aware of another project where the
11 vehicles had been constructed in the eventual
12 maintenance and storage facility.

13 ANTHONY IMBESI: I see. So to your
14 knowledge, that was a first on this type of
15 project?

16 ROGER SCHMIDT: Yeah.

17 ANTHONY IMBESI: And in terms of the
18 -- as I understand it, there would be two, what
19 I will call prototype vehicles that were to
20 produced first by Alstom before the serial
21 assembly. Is that correct?

22 ROGER SCHMIDT: Yeah. There was
23 discussions of that. Again, you know, I can't
24 speak definitively to that.

25 ANTHONY IMBESI: And so would you have

1 any knowledge of the shifting of the location of
2 the assembly of those vehicles?

3 ROGER SCHMIDT: It's secondary
4 knowledge, yeah. As part of other discussions,
5 but not, sort of, direct knowledge.

6 ANTHONY IMBESI: Would you have been
7 aware then that initially they were planned to
8 have been assembled elsewhere other than at the
9 MSF?

10 ROGER SCHMIDT: Yes.

11 ANTHONY IMBESI: And that would have
12 been, as I understand it, initially in France,
13 and subsequently in Hornell, New York.

14 ROGER SCHMIDT: Yes.

15 ANTHONY IMBESI: And do you have any
16 knowledge, secondhand or otherwise, as to why
17 the decision was made to move the assembly of
18 those vehicles from, ultimately, from New York
19 to the MSF?

20 ROGER SCHMIDT: Just -- no. In
21 general, yes. I mean, it was just more
22 beneficial, it was less transfer of skills and
23 things. It was just seemed to be more efficient
24 for the supplier, for Alstom. And that was my
25 understanding.

1 ANTHONY IMBESI: So as I understand
2 it, the vehicles are produced. There's supposed
3 to be some validation testing done.

4 Is there any particular validation
5 type testing that's to be done on the first two
6 LRVs, that's different from the rest?

7 ROGER SCHMIDT: Yeah. I believe that
8 they are the main tools to use to do the bulk of
9 the type testing.

10 ANTHONY IMBESI: And do you have any
11 knowledge as to whether the type testing
12 proceeded as planned. So particularly, I mean,
13 was it done to the extent that it was initially
14 planned, and was it done at the time when it was
15 initially planned to be done?

16 ROGER SCHMIDT: I was aware of no
17 relaxations or modifications to reduced level of
18 type testing, and I can't really speak to that
19 schedule in terms of whether it was longer or
20 not.

21 ANTHONY IMBESI: What about whether it
22 was to be done prior to serial production?

23 ROGER SCHMIDT: I can't really speak
24 to the schedule aspect either.

25 ANTHONY IMBESI: Are you aware of any

1 issues associated or arising out of the Canadian
2 content requirements for the production of the
3 LRVs?

4 ROGER SCHMIDT: Well, the only one
5 that I can think of is the use of the MSF, which
6 I believe is related to that directly. And
7 other than that, I think Alstom provided the
8 certificate and complied with everything that
9 was noted.

10 But in terms of the effect or items of
11 effect, I mean, that seems to be the main one
12 for me.

13 ANTHONY IMBESI: And I think you
14 already indicated you didn't observe any issues
15 associated with the production of the LRVs at
16 the MSF?

17 ROGER SCHMIDT: No, I didn't.

18 ANTHONY IMBESI: So in terms of the
19 evolution of the assembly and the testing and
20 commissioning of the LRVs, was there a number of
21 retrofits that had to be performed with respect
22 to the LRVs?

23 ROGER SCHMIDT: There was some
24 retrofits, yes.

25 ANTHONY IMBESI: And can you just

1 explain, you know, at a high level what those
2 would have been and why?

3 ROGER SCHMIDT: No, I can't go into
4 the details because I don't recall. I think,
5 you know, there's a production of 30-some
6 vehicles and something comes up during the
7 process, whether it's a supplier issue, whether
8 it's an issue from compliance, or some of these
9 meetings, or whether it's an issue that's arisen
10 during testing that requires a modification.

11 And if it's after, you know, vehicles
12 X, Y have already been produced, then they need
13 to be retrofitted. So I don't -- personally, I
14 didn't see that as a -- I saw that is the
15 process working because, you know, a testing
16 plan is meant to identify issues.

17 And, you know, it's a positive if a
18 testing plan -- maybe an integration plan
19 identifies some issue with the way the brake is
20 operating while it's integrated to the vehicle,
21 well, then you need to revise that for the
22 earlier vehicles.

23 That did create a schedule issue as
24 far as I was aware about putting those vehicles
25 back in the line to be retrofitted. But I saw

1 that as the process working.

2 ANTHONY IMBESI: Sorry. You said
3 there was a schedule impact?

4 ROGER SCHMIDT: Well, there would have
5 been because, you know, those vehicles had to be
6 put back in the queue, so to speak, to perform
7 the retrofit.

8 ANTHONY IMBESI: And were the
9 retrofits that arose out of the ongoing
10 integration process between the Thales
11 signalling system and the LRVs?

12 ROGER SCHMIDT: Not that I was aware
13 of.

14 ANTHONY IMBESI: So you wouldn't -- so
15 you don't believe there were more retrofits than
16 would ordinarily have been expected?

17 ROGER SCHMIDT: No, I don't.

18 ANTHONY IMBESI: And so I appreciate
19 you saying that it did have or it would
20 necessarily have a certain impact on scheduling
21 performing these retrofits.

22 At the retrofits were being performed,
23 were they being performed in a timely manner?

24 ROGER SCHMIDT: Yeah. We had -- for a
25 good part of it, we had full-time, you know,

1 monitoring staff of our own resident in the
2 facility. So they were -- yeah, they were
3 timely. As timely as we could manage with our
4 coordination with Alstom, yes.

5 ANTHONY IMBESI: Were there any issues
6 with the installation or the testing that was
7 done by Thales?

8 ROGER SCHMIDT: Any issues? No. I
9 think there was, you know, coordination for them
10 to have access, and sometimes debates as to
11 whether it was Thales or Alstom issue that was
12 causing a specific problem of the day or the
13 week. But that was likely to be expected. I
14 think they generally worked well together.

15 ANTHONY IMBESI: Was Thales delayed at
16 all in any of its work?

17 ROGER SCHMIDT: I can't really answer
18 that. I'm not -- I wasn't really at a point of
19 being deeply involved in the schedule details to
20 that extent.

21 ANTHONY IMBESI: Did you have any
22 involvement in planning for what ultimately
23 became trial running?

24 ROGER SCHMIDT: Yes. As I said in the
25 early stages, we wanted to set up, like, the

1 foundation for testing commissioning. On one of
2 the things I noticed is that there wasn't really
3 a definitive pass-fail criteria for trial
4 running in the PA.

5 And I know that I've been mentioning
6 prescriptive nature of the PA, but I just felt
7 that -- and I think the City agreed that it was
8 better to define those criteria earlier rather
9 than later.

10 So we came up with a change order or a
11 change directive to the PA after quite a bit of
12 discussion that said, you know, this amount of,
13 you know, kilometres, this amount of failure is
14 unacceptable, and this amount of failure is
15 acceptable.

16 So these were -- it's like a
17 negotiation really. But it's like trying to get
18 the subjective issues resolved before the trial
19 running starts. So we did that, and we
20 documented it in a directive.

21 ANTHONY IMBESI: And you just
22 mentioned the nonprescriptive nature of the
23 trial running requirements in the Project
24 Agreement.

25 Would you have expected it to include

1 more detail in the Project Agreement in your
2 experience, or was that not uncommon to see it
3 as it was?

4 ROGER SCHMIDT: Well, I wasn't -- no.
5 I -- you know, it's actually interesting because
6 the Project Agreement is quite silent and weak
7 on handover and transfer of the system in
8 general. In fact, it's almost silent on how to
9 -- who to give it to, how to give it to them,
10 what the process for this, you know, handover.

11 But what it does talk about quite a
12 bit is trial running. So trial running was
13 almost like the proxy for handover, and we were
14 quite concerned about -- I was quite concerned
15 about, you know, making explicit any
16 expectations about handover so that we would
17 meet them if possible.

18 And so in that regard, we just wanted
19 to get that clear so that we'd know when we
20 crossed the line, so to speak. And, yeah, other
21 jurisdictions are different, and it's not so
22 much that it was different from other PAs in
23 that it was just -- that's a sense where we --
24 it was nonprescriptive, and we managed that by
25 discussions, by face to face discussions.

1 Which I think is better, I think is a
2 better process than making it prescriptive to
3 start and then having two parties were most
4 familiar with dealing with it, having to wrestle
5 with third party who also wrote the contract,
6 right? To me, what that shows is a
7 nonprescriptive contract works because people
8 fill in the gaps where they need to.

9 ANTHONY IMBESI: And so you've
10 mentioned requirements for handover, and that
11 you were looking to fill those. Were you just
12 speaking of the trial running requirements, or
13 were you talking about other requirements
14 associated with the transfer and handover?

15 ROGER SCHMIDT: Well, we were interest
16 -- I was interested in all of them, but that was
17 the one that was easiest to tackle. I mean, the
18 regulations -- we were responsible for the
19 regulations. We were -- like I said, you know,
20 it's the same thing as who is the operator,
21 right?

22 It was kind of -- it was a big part of
23 our concern from the beginning is what's the end
24 in this? What are the steps that constitute the
25 end of this project? And because they were, in

1 my mind, not very clear in the PA.

2 ANTHONY IMBESI: And so leaving the
3 trial running requirements aside, then I'll come
4 back to them in a second.

5 What else needed to be addressed in
6 respect of the handover or transfer of the
7 system? What other gaps did you perceive to be
8 in the Project Agreement?

9 ROGER SCHMIDT: I don't know if it was
10 gaps. But we wanted to have a shared
11 understanding of what would constitute safe
12 system because, you know, for example, in other
13 jurisdictions, there's like, the BC Safety
14 Authority that's -- but in Ottawa it was more
15 independent.

16 And so we wanted to define that and,
17 you know, also identify who was assessing this
18 -- who would be assessing the system and, you
19 know, if we would create a suite of documents,
20 who would be reviewing them? That type of
21 thing.

22 ANTHONY IMBESI: So for the suite of
23 documents, what would you be referring to
24 specifically, like, manuals and things to be
25 delivered at handover?

1 ROGER SCHMIDT: Yeah. Well, you know,
2 it can be a number of things. And in other
3 projects, it was, you know, for example, a
4 number of signed letters by all the
5 professionals involved with, you know, the
6 safety certifier's -- you know, our safety
7 certifier's letter on top. I mean, in that
8 sense, I would call it mainly professional
9 guarantees of fitness.

10 Or in other -- you know, there's other
11 processes that are mainly -- like, as we
12 discovered eventually that the City wanted
13 mainly a process or, like, show us a rigorous
14 process. So it can vary as to what -- but
15 usually, there's some level of documents that
16 are required to hand over a system, right.

17 ANTHONY IMBESI: I see. And you were
18 ultimately able to settle on all of that prior
19 to you leaving the project?

20 ROGER SCHMIDT: Yeah. We were, you
21 know, we were pursuing an avenue of
22 certification by professional certification of
23 fitness, and then fairly late in the project we
24 were advised that this was really going to be
25 more process and highly process structured and

1 the certificates were almost going to be
2 non-required.

3 So that's one of those areas where, in
4 my mind, the approach was altered midstream.

5 ANTHONY IMBESI: And just so I
6 understand that then. The initial discussion or
7 the initial approach, at least from RTG and
8 OLRTC's perspective was to have some semblance
9 of certification sign-off by, you know, whatever
10 professionals needed to sign off on certain
11 components. Is that right?

12 ROGER SCHMIDT: Yeah. And, you know,
13 there is language in the PA that talked about
14 other documents like a safety case that was
15 required. You know, our approach was we would
16 have the documents and then those would have a
17 certain weight, and in our mind the professional
18 certification would be, you know, equal weight
19 with those and we present the whole package to
20 this -- whoever was looking at it.

21 For some time, we just referred to the
22 empty room. Like, we put this in the empty room
23 and whoever chose to look at it would be able to
24 do so when they chose.

25 But the process changed to something

1 that was governed by the installation of the
2 safety auditor who really demanded a much more
3 process-driven, like, tightly defined
4 structured, process-driven approach to safety.

5 ANTHONY IMBESI: And so can you just
6 explain that for me then, when you say and
7 process-driven approach to safety? What is it
8 you mean by that?

9 ROGER SCHMIDT: Well, it's where you
10 -- this is my perspective, is where you define
11 where you have a rigorous definition of your
12 requirements and all your safety requirements
13 from the start, and then you have a rigorous
14 process of confirming that all those
15 requirements that have been initially defined
16 have been met through -- all the way through
17 testing and commissioning, right, so that it's
18 fully defined -- a fully defined system with all
19 the safety features at the start, rigorous.

20 And then a tracing of that all the way
21 through to the end to say, Well, my fully
22 rigorously defined system is now complete. So
23 in order to achieve that, we had to basically
24 work to, you know, develop that -- re-create
25 that process from the start after the fact.

1 ANTHONY IMBESI: Did that pose any
2 difficulties?

3 ROGER SCHMIDT: I think it added time
4 and expense and it was unexpected. But I don't
5 -- I don't think it -- I don't think it posed
6 any difficulties on the system. Like I -- you
7 know, no tangible results other than a lot of
8 extra effort and time.

9 ANTHONY IMBESI: And so changing
10 course to that approach from what the OLRTC had
11 initially envisioned, was that something that
12 was discussed and ultimately agreed upon by the
13 parties? How did it come about that that's
14 where you ended up?

15 ROGER SCHMIDT: Well, we had discussed
16 -- we had discussed an approach with the City
17 and got, I would say, general acceptance but not
18 documented acceptance for our approach.

19 But we didn't get -- unlike the --
20 unlike the trial running, we didn't get a change
21 order. We just said -- we just got, sort of,
22 increasing level of general acceptance.

23 And then at some point, maybe a year
24 or so before revenue service, before the initial
25 revenue service availability date, the approach

1 was changed. So it was identified as requiring
2 more, which was this process-driven approach.

3 So I mean, there's a lot of aspects of
4 the process that were valid and would have been
5 included in our approach anyways. But it's just
6 that this was an exhaustive and detailed
7 approach.

8 ANTHONY IMBESI: And that was
9 something that wasn't detailed in the Project
10 Agreement?

11 ROGER SCHMIDT: Well, the Project
12 Agreement talked about a safety auditor. And in
13 my mind, a safety auditor was going to come for
14 a week or a month and review things. But what
15 it eventually developed into being was an
16 independent safety auditor which is indicative
17 of this process approach and which was, you
18 know, something different.

19 They were -- they were, in fact, there
20 for over -- for a couple of years, and were
21 championing this intensive process-driven
22 approach.

23 ANTHONY IMBESI: And turning back to
24 trial running in particular and the criteria,
25 would you have been involved then in devising

1 the trial running criteria that was formalized
2 in a plan in about sometime in 2017?

3 ROGER SCHMIDT: Was that -- 2017
4 sounds like when we talked with -- are these the
5 performance -- acceptable performance limits for
6 trial running?

7 ANTHONY IMBESI: Yes. And I'm
8 speaking to what was formalized in a trial
9 running plan that contained the AVKR and a
10 number of, you know, a number of certain
11 pass-fail --

12 ROGER SCHMIDT: Yes.

13 ANTHONY IMBESI: -- criteria. Okay.
14 So you had direct involvement in the preparation
15 of that?

16 ROGER SCHMIDT: Yes.

17 ANTHONY IMBESI: And what would have
18 been the nature of your involvement in that?

19 ROGER SCHMIDT: Identifying the need
20 for it, coordinating the levels, the limits
21 within our team that we felt were achievable and
22 reasonable. And then negotiating that with the
23 City to, you know, to a level that became
24 agreeable to all parties.

25 ANTHONY IMBESI: And so how would --

1 ultimately, how were those levels determined?

2 ROGER SCHMIDT: Well, you know, you
3 can say they were subjective. They were based
4 on the limitations of any system. I mean, any
5 system is going to have some level of failure.

6 And there's also some maturity growth,
7 like, of reliability that, you know, as a system
8 continues, it grows. So what level is
9 appropriate at trial running. Experience of
10 people on our team, including RTM, we got
11 feedback from our maintainer.

12 So it was just basically, you know,
13 what was a reasonable place to draw the line
14 that would provide indication of successful
15 system.

16 And probably if you went to any detail
17 of that line, you could say it was subjective.
18 But the basis of it what was professional
19 experience.

20 ANTHONY IMBESI: So what input would
21 RTM, Rideau Transit Maintenance, have had into
22 that discussion? What would be the basis of
23 their input?

24 ROGER SCHMIDT: Well, they were
25 interested in a system that operated reasonably

1 well, and they were brought in to make sure that
2 those parameters that we chose would be
3 acceptable to them.

4 ANTHONY IMBESI: Did they have any
5 prescribed level of performance requirements in
6 their contract that dictated what they wanted to
7 see in the trial running plan to your knowledge?

8 ROGER SCHMIDT: Well, there were --
9 there were various things in their contract.
10 But I think not specific enough to trial
11 running. But I think that they did -- we did
12 have iterations with them on the values that
13 were proposed and eventually accepted. So they
14 did have a -- they did have a real input into
15 the process.

16 ANTHONY IMBESI: And in terms of the
17 actual length of what needed to be met for trial
18 running, so I'm speaking of the 12-day
19 requirement. Do you recall?

20 ROGER SCHMIDT: Yeah, vaguely. But,
21 yeah.

22 ANTHONY IMBESI: In your experience is
23 12 days a sufficient period of time for trial
24 running?

25 ROGER SCHMIDT: Well, this was -- this

1 was, you know, the period when you're actually
2 providing the system for acceptance. So it's
3 not that the system is only running for 12 days,
4 but it's that you run it up to a point and then
5 you're willing to subject it to the 12-day test.

6 ANTHONY IMBESI: But would you -- in
7 your experience, is there -- is it typical to
8 have a longer period of time, shorter period of
9 time, is this about average? Do you have any
10 insight --

11 ROGER SCHMIDT: It was -- I mean, the
12 baseline was the PA requirements. So I don't
13 think that we would come back with, you know, a
14 35-day test because we wanted to make it
15 sympathetic or coordinated with the PA. So
16 that's one fact.

17 And then the other fact is I hadn't
18 done trial running on a system before, but it is
19 within the range of my -- of what I've -- you
20 know, sort of, the rule-of-thumb range, so it
21 didn't seem unreasonable either.

22 ANTHONY IMBESI: How would you
23 describe that rule-of-thumb range?

24 ROGER SCHMIDT: Well, you know, two or
25 three weeks, yeah.

1 ANTHONY IMBESI: And how were the
2 pass-fail restart criteria determined to your
3 recollection?

4 ROGER SCHMIDT: It was just -- it was
5 what seemed reasonable because, you know, if you
6 had, you know, what was -- what was enough to
7 penalize the system to restart? You know, so we
8 were just trying to look at -- looking ahead,
9 you know, what would be reasonable for both
10 parties.

11 Again, I have to say, it's like a
12 negotiation, so it's -- if you'd run
13 successfully for, you know, X number of days and
14 you have one issue, does that reasonably
15 constitute the need to start over? Or can that
16 be accommodated in -- you know, it's that type
17 of discussion and negotiation.

18 ANTHONY IMBESI: Would the types of
19 issue impact on that? For example, would a
20 safety issue have greater impact than another
21 type of issue?

22 ROGER SCHMIDT: Generally, yes.

23 ANTHONY IMBESI: So what were, broad
24 strokes, what were the primary parameters then
25 for determining whether something was a restart

1 or a fail? I mean, you mentioned safety is
2 being a critical issue.

3 Were there any other broad stroke
4 categories and issues?

5 ROGER SCHMIDT: I mean, the one that I
6 can recall is, I think station performance was
7 also tied in, and so like if an escalator
8 failed, you want to start trial running over
9 because trial running is mainly for the vehicles
10 and the train control system. You know, it's
11 that type of thing.

12 Is it primary? Is it fundamental to
13 the operation? Is it indicative of a root
14 problem or is it secondary and more, you know,
15 manageable and superficial?

16 ANTHONY IMBESI: So during your time
17 on the project, was there ever any discussion
18 about a soft opening of the system or opening of
19 the system with reduced operations or parallel
20 bus service?

21 ROGER SCHMIDT: No.

22 ANTHONY IMBESI: In your experience,
23 how would you expect it to be started? Would it
24 be a full start on day 1, or would there be any
25 kind of a soft opening?

1 ROGER SCHMIDT: Often -- well, I
2 think, particularly on the system, I think there
3 is precedent for a soft opening because trial
4 running is not done with passengers. And as
5 soon as you introduce passengers, you introduce
6 a new variable that you don't know how it's
7 going to react.

8 And particularly -- well, you can
9 anticipate it, but you don't know exactly. And
10 particular in the City like Ottawa where they
11 don't have LRT experience, I think a soft
12 opening is, you know, a good idea because
13 there's, sort of, a familiarity a growing -- you
14 need to grow familiarity, you need to educate,
15 you need to, you know -- you need to understand
16 how the system works, what it accommodates and
17 what it doesn't accommodate.

18 ANTHONY IMBESI: Was that idea ever
19 expressed by yourself or anyone else, to your
20 knowledge, during your time on the project?

21 ROGER SCHMIDT: Well, we -- well, so,
22 as I said, I wasn't aware of the soft opening.
23 I left, probably, before those discussions
24 happened in detail. But we -- I know from my
25 experience earlier in the project that we were

1 pulled away and given a very small role in
2 public communications.

3 So, you know, we started out believing
4 that we have a larger role and influence, and
5 then, you know, the City indicated fairly early
6 that they were taking a strong lead on that.

7 ANTHONY IMBESI: And so when you say
8 you thought that you had a larger role and
9 influence, what specifically do you mean by
10 that?

11 ROGER SCHMIDT: Well, often, on other
12 projects, you know -- and there's wording in the
13 PA that suggested that the design build
14 contractor has -- you know, takes a lead or a
15 semi-lead role in the communications.

16 It's an important aspect of the
17 project and, you know, we -- I mean, we even --
18 we'd even produced -- in the early stages, we'd
19 produced a video of our own, sort of describing
20 the project and its features for the public, and
21 found out that that was not what was expected
22 and that video was effectively shelved and not
23 used.

24 ANTHONY IMBESI: So it was really, are
25 you saying, from a communication's perspective?

1 ROGER SCHMIDT: Yes.

2 ANTHONY IMBESI: Do you have any view
3 as to whether the Citadis Spirit in particularly
4 the LRV generally was the appropriate vehicle
5 for the system?

6 ROGER SCHMIDT: Do I have a view?
7 Well, it's a low floor vehicle, and I think that
8 the only thing that makes sense for a low floor
9 vehicle is if the system eventually has level
10 crossings or runs in the street outside of the
11 segregated right-of-way, otherwise it does not
12 make sense to me to have a low floor vehicle.

13 And I don't know the City's planning,
14 but I suspect that -- I suspect that they had
15 intentions of running it in the street in the
16 future but those intentions changed.

17 But, you know, those are all the way
18 things have developed. But if you would just
19 limit it to, is the Citadis Spirit as a low
20 floor vehicle ideal for this system, I would say
21 probably not because, you know, it's extra
22 complexity for no real value in the usage that's
23 developed, you know, or materialized.

24 ANTHONY IMBESI: And anything other
25 than the low flow component that comes to mind

1 when you say that?

2 ROGER SCHMIDT: No. I mean, it's --
3 you know, no, I don't really -- I don't really
4 have the knowledge of the other vehicle fleets
5 and everything to adequately compare. I mean --
6 so I can't really say anything more than that.

7 ANTHONY IMBESI: In terms of the
8 infrastructure itself, were there any concerns
9 at any point in time in terms of the
10 installation of the track, and in particular,
11 I'm speaking about rail neutral temperature?

12 ROGER SCHMIDT: No. I mean, we had
13 rail -- we had temperature guidelines in the
14 track installation for, you know, bringing
15 things down or accommodating the neutral
16 temperature and the expansion and contraction.

17 So that's common practice in rail
18 design and installation.

19 ANTHONY IMBESI: So to your knowledge
20 then, no issues associated with that?

21 ROGER SCHMIDT: No. Yeah, to my
22 knowledge, no issues.

23 ANTHONY IMBESI: In terms of what I'll
24 refer to as the track bed, was there ever a
25 discussion of having it be slab-on-grade as

1 opposed to a tie and ballast?

2 ROGER SCHMIDT: It is slab-on-grade in
3 certain areas. And we had quite a few
4 discussions on track form, as it's called,
5 whether to have it on direct fasteners or direct
6 fixation or ballast or slab-on-grade.

7 So that was part of the design effort.
8 And I didn't have any issues with the outcome,
9 and where those various track forms were
10 selected. Because in the tunnel, for example,
11 it's all direct fixation.

12 ANTHONY IMBESI: So that would be the
13 locations where it would be slab-on-grade, would
14 be in the tunnels?

15 ROGER SCHMIDT: Well, it's not really
16 slab-on-grade. It's -- you know, slab-on --
17 there's embedded. Some track is embedded where
18 it's, like, in a streetcar. This is slab with
19 direct fixation fasteners and the rail on top of
20 it. But, yeah, that's in the tunnel.

21 ANTHONY IMBESI: So in terms of the
22 Commission generally, as you may be aware, our
23 role is to investigate the commercial and
24 technical circumstances leading to the
25 breakdowns and derailments.

1 Is there anything in particular beyond
2 what we've talked about already today that you
3 think is important?

4 ROGER SCHMIDT: Yeah. It's quite a
5 broad scope that you've been talking about. But
6 I think I've mentioned -- I'm just -- I've made
7 some notes. I think I mentioned most of the
8 things that -- yeah.

9 I think -- yeah. I think that
10 everything that I've noted from a broad
11 perspective has already been discussed. And,
12 you know, I don't think I have anything further
13 to add.

14 ANTHONY IMBESI: Okay. And as part of
15 his role, the Commissioner is also asked to make
16 recommendations with respect to the
17 circumstances.

18 Is there anything that comes to mind
19 in terms of potential recommendations for the
20 Commission to consider?

21 ROGER SCHMIDT: Yeah, well, I think
22 the big one would be to, you know -- originally,
23 P3s were described as public-private
24 partnerships. And I think that -- I noticed
25 that the contract is called alternate delivery

1 now. And I think they make -- deliver use of a
2 change terminology. For good reason, because I
3 don't think they're structured as partnerships
4 anymore.

5 And I think it -- my recommendation is
6 to recognize that LRT development is a
7 complicated endeavour, and it's more complicated
8 than technical. It's complicated because of
9 human factors and the public and operator
10 influence, all those things.

11 And it can't thrive in a prescriptive
12 and non-partnering environment. I think that
13 LRT development requires partnering and
14 necessarily flexible environment.

15 And I think that that is also the way,
16 in my opinion, to reduce risk and that would be
17 my recommendation is to depart from the
18 enforcement, compliance culture, and move
19 towards a partnering, more flexible arrangement,
20 and -- yeah.

21 ANTHONY IMBESI: And just one
22 follow-up question on that.

23 You mentioned that the P3 model is,
24 sort of, departing away from a partnership.

25 Is that because of a change in

1 structure of the contract as you've seen it or
2 is it more the disposition of the parties
3 involved?

4 ROGER SCHMIDT: Both. Both. And I
5 think that I -- personally, I've noticed it
6 between jurisdictions, you know, and maybe it's
7 a time frames, too, because my work in BC was,
8 you know, previous, like. And some of these
9 things can change very quickly.

10 But, you know, the earlier P3s in
11 other provinces were much more flexible,
12 creative, adaptive and, you know, created
13 success, like, on-time and on-budget projects.

14 So yeah, I think it's both. I think
15 it's -- I think it's the way the contract is
16 written and the way it's managed and
17 administered and enforced.

18 ANTHONY IMBESI: What specifically
19 about the way that is drafted? I mean, is that
20 the enforcement mechanisms? What component of
21 it do you see as being different from driving a
22 true partnership?

23 ROGER SCHMIDT: Well, you know,
24 there's not -- a true partnership would be,
25 here's my job, here's your job, and we'll trust

1 each other to do our jobs and we'll coordinate
2 impacts and, maybe, we'll even coordinate ways
3 to improve things as we go.

4 But I didn't -- I think on the modern
5 contract, I'll call it, is that the risk
6 transfer is excessive so that the City does very
7 -- the owner does very little, even things that
8 it's really suited to do.

9 And I think it's a fallacy to believe
10 that that ultimately reduces risk. So does that
11 answer your question?

12 ANTHONY IMBESI: Yes, it does. Thank
13 you. And I know we are just about a minute away
14 from the end mark. So I will just turn briefly
15 to my colleague. Ms. Boghosian, do you have any
16 follow-up questions for Mr. Schmidt?

17 TARA BOGHOSIAN: No, I don't. I think
18 you've covered it.

19 ANTHONY IMBESI: Thank you. And
20 Mr. Chowdhury, do you have anything for
21 Mr. Schmidt?

22 MANNU CHOWDHURY: Nothing for me.
23 Thank you.

24 ANTHONY IMBESI: Okay. Well, thank
25 you very much, Mr. Schmidt. We can go off

1 record.

2 Concluded at 3:59 P.M.

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